Module Catalogue
for the Subject
Economathematics
as a Master’s with 1 major
with the degree "Master of Science"
(120 ECTS credits)

Examination regulations version: 2016
Responsible: Institute of Mathematics
Responsible: Faculty of Business Management and Economics
# Contents

The subject is divided into

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviations used, Conventions, Notes, In accordance with</td>
<td>13</td>
</tr>
<tr>
<td>Compulsory Electives Mathematics</td>
<td>14</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>15</td>
</tr>
<tr>
<td>Applied Analysis</td>
<td>16</td>
</tr>
<tr>
<td>Numeric of Large Systems of Equations</td>
<td>17</td>
</tr>
<tr>
<td>Basics in Optimization</td>
<td>18</td>
</tr>
<tr>
<td>Control Theory</td>
<td>19</td>
</tr>
<tr>
<td>Numeric of Partial Differential Equations</td>
<td>20</td>
</tr>
<tr>
<td>Selected Topics in Optimization</td>
<td>21</td>
</tr>
<tr>
<td>Discrete Mathematics</td>
<td>22</td>
</tr>
<tr>
<td>Dynamical Systems</td>
<td>23</td>
</tr>
<tr>
<td>Selected Topics in Control Theory</td>
<td>24</td>
</tr>
<tr>
<td>Inverse Problems</td>
<td>25</td>
</tr>
<tr>
<td>Non-linear Analysis</td>
<td>26</td>
</tr>
<tr>
<td>Optimal Control</td>
<td>27</td>
</tr>
<tr>
<td>Learning by Teaching 1</td>
<td>28</td>
</tr>
<tr>
<td>Selected Topics in Mathematics for Economics</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stochastics and Statistics</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Statistics 1</td>
<td>31</td>
</tr>
<tr>
<td>Stochastical Processes</td>
<td>32</td>
</tr>
<tr>
<td>Time Series Analysis 1</td>
<td>33</td>
</tr>
<tr>
<td>Industrial Statistics 2</td>
<td>34</td>
</tr>
<tr>
<td>Statistical Analysis</td>
<td>35</td>
</tr>
<tr>
<td>Time Series Analysis 2</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial and Insurance Mathematics</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stochastic Models of Risk Management</td>
<td>38</td>
</tr>
<tr>
<td>Insurance Mathematics 1</td>
<td>39</td>
</tr>
<tr>
<td>Selected Topics in Financial Mathematics</td>
<td>40</td>
</tr>
<tr>
<td>Insurance Mathematics 2</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compulsory Electives Business Management and Economics</th>
<th>42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Policy</td>
<td>43</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>44</td>
</tr>
<tr>
<td>European Competition Policy</td>
<td>45</td>
</tr>
<tr>
<td>Theory of Social Policy</td>
<td>47</td>
</tr>
<tr>
<td>Labor Market Economics</td>
<td>48</td>
</tr>
<tr>
<td>Public Debt</td>
<td>49</td>
</tr>
<tr>
<td>Social Insurance and the Welfare State</td>
<td>50</td>
</tr>
<tr>
<td>Monetary Policy and the Financial System</td>
<td>51</td>
</tr>
<tr>
<td>Monetary Policy, Foreign Exchange Markets, and the International Monetary System</td>
<td>52</td>
</tr>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>54</td>
</tr>
<tr>
<td>Trade Policy and the World Trading System</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategic Marketing Management</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory</td>
<td>58</td>
</tr>
<tr>
<td>International Marketing</td>
<td>59</td>
</tr>
<tr>
<td>Strategic Marketing</td>
<td>61</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>63</td>
</tr>
<tr>
<td>Strategic Networks in Industry</td>
<td>64</td>
</tr>
<tr>
<td>Brand Management &amp; Market Research</td>
<td>65</td>
</tr>
<tr>
<td>Industrial Management 1</td>
<td>66</td>
</tr>
<tr>
<td>Module Description</td>
<td>Credits</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Strategic Managerial Accounting</td>
<td>67</td>
</tr>
<tr>
<td>Coordination, Budgeting and Incentives in Companies</td>
<td>68</td>
</tr>
<tr>
<td>Business Software 1: IS-based Enterprise Management</td>
<td>69</td>
</tr>
<tr>
<td>Management and Leadership in Organizations</td>
<td>70</td>
</tr>
<tr>
<td>E-Business Strategies</td>
<td>72</td>
</tr>
<tr>
<td>International Trade and the Multinational Firm</td>
<td>73</td>
</tr>
<tr>
<td><strong>Industrial Management</strong></td>
<td>75</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td>76</td>
</tr>
<tr>
<td>Industrial Management 1</td>
<td>77</td>
</tr>
<tr>
<td>Industrial Management 2</td>
<td>78</td>
</tr>
<tr>
<td>Industrial Management 3</td>
<td>79</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>80</td>
</tr>
<tr>
<td>Industrial Management 4</td>
<td>81</td>
</tr>
<tr>
<td>Advanced Operations &amp; Logistics Management</td>
<td>82</td>
</tr>
<tr>
<td>Global Logistics &amp; Supply Chain Management</td>
<td>83</td>
</tr>
<tr>
<td>Managerial Analytics &amp; Decision Making</td>
<td>84</td>
</tr>
<tr>
<td>Theory of Industrial Organization 1</td>
<td>85</td>
</tr>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>87</td>
</tr>
<tr>
<td>Project Management and Control</td>
<td>88</td>
</tr>
<tr>
<td>Decision Support Systems</td>
<td>89</td>
</tr>
<tr>
<td>E-Business Strategies</td>
<td>90</td>
</tr>
<tr>
<td>Business Software 1: IS-based Enterprise Management</td>
<td>91</td>
</tr>
<tr>
<td>Business Software 2: Enterprise- Resource-Planning-Systeme</td>
<td>92</td>
</tr>
<tr>
<td>Analytical Information Systems</td>
<td>94</td>
</tr>
<tr>
<td>Mobile and Ubiquitous Systems</td>
<td>95</td>
</tr>
<tr>
<td>Seminar: Supply Chain Competition</td>
<td>96</td>
</tr>
<tr>
<td>Strategic Management of Global Supply Chains</td>
<td>98</td>
</tr>
<tr>
<td>Global Value Management</td>
<td>99</td>
</tr>
<tr>
<td><strong>Information Management</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td>101</td>
</tr>
<tr>
<td>E-Business Strategies</td>
<td>102</td>
</tr>
<tr>
<td>Information Processing within Organizations</td>
<td>103</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>104</td>
</tr>
<tr>
<td>Adaption and Continuous System Engineering</td>
<td>105</td>
</tr>
<tr>
<td>Analytical Information Systems</td>
<td>107</td>
</tr>
<tr>
<td>Business Service Platforms 1</td>
<td>108</td>
</tr>
<tr>
<td>Business Software 1: IS-based Enterprise Management</td>
<td>109</td>
</tr>
<tr>
<td>Supply Network Information Management</td>
<td>110</td>
</tr>
<tr>
<td>Work and Information</td>
<td>111</td>
</tr>
<tr>
<td>Decision Support Systems</td>
<td>112</td>
</tr>
<tr>
<td>Information systems research</td>
<td>113</td>
</tr>
<tr>
<td>Work Order Planning for Automated Manufacturing</td>
<td>114</td>
</tr>
<tr>
<td>Management and Leadership in Organizations</td>
<td>115</td>
</tr>
<tr>
<td><strong>Logistics &amp; Supply Chain Management</strong></td>
<td>118</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td>119</td>
</tr>
<tr>
<td>Advanced Operations &amp; Logistics Management</td>
<td>120</td>
</tr>
<tr>
<td>Global Logistics &amp; Supply Chain Management</td>
<td>121</td>
</tr>
<tr>
<td>Managerial Analytics &amp; Decision Making</td>
<td>122</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>123</td>
</tr>
<tr>
<td>Seminar: Supply Chain Competition</td>
<td>124</td>
</tr>
<tr>
<td>Seminar: Special Topics in Supply Chain Management</td>
<td>125</td>
</tr>
<tr>
<td>Industrial Management 1</td>
<td>126</td>
</tr>
</tbody>
</table>
### Module Catalogue for the Subject

**Economathematics**

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module Title</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 2</td>
<td>127</td>
</tr>
<tr>
<td>Industrial Management 3</td>
<td>128</td>
</tr>
<tr>
<td>Industrial Management 4</td>
<td>129</td>
</tr>
<tr>
<td>Business Processes Organisation, Business Software and Process Industries</td>
<td>130</td>
</tr>
<tr>
<td>Theory of Industrial Organization 1</td>
<td>131</td>
</tr>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>133</td>
</tr>
<tr>
<td>Project Management and Control</td>
<td>134</td>
</tr>
<tr>
<td>Decision Support Systems</td>
<td>135</td>
</tr>
<tr>
<td>E-Business Strategies</td>
<td>136</td>
</tr>
<tr>
<td>Business Software 1: IS-based Enterprise Management</td>
<td>137</td>
</tr>
<tr>
<td>Business Software 2: Enterprise- Resource-Planning-Systeme</td>
<td>138</td>
</tr>
<tr>
<td>Analytical Information Systems</td>
<td>140</td>
</tr>
<tr>
<td>Mobile and Ubiquitous Systems</td>
<td>141</td>
</tr>
<tr>
<td>Strategic Management of Global Supply Chains</td>
<td>142</td>
</tr>
<tr>
<td><strong>Human Resource Management and Organization</strong></td>
<td>143</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td></td>
</tr>
<tr>
<td>Incentives in Organizations</td>
<td>144</td>
</tr>
<tr>
<td>Human Resource Management and Industrial Relations</td>
<td>145</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>147</td>
</tr>
<tr>
<td>Management and Leadership in Organizations</td>
<td>148</td>
</tr>
<tr>
<td>Employment Law</td>
<td>150</td>
</tr>
<tr>
<td>Advanced Microeconomics</td>
<td>151</td>
</tr>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>152</td>
</tr>
<tr>
<td>Theory of Social Policy</td>
<td>153</td>
</tr>
<tr>
<td>Labor Market Economics</td>
<td>154</td>
</tr>
<tr>
<td>Social Insurance and the Welfare State</td>
<td>155</td>
</tr>
<tr>
<td>Microeconometrics</td>
<td>156</td>
</tr>
<tr>
<td>Econometrics 1</td>
<td>157</td>
</tr>
<tr>
<td>Econometrics 2</td>
<td>159</td>
</tr>
<tr>
<td>Work and Information</td>
<td>160</td>
</tr>
<tr>
<td>Empirical HR Research with Stata</td>
<td>161</td>
</tr>
<tr>
<td><strong>Banking and Finance</strong></td>
<td>162</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td></td>
</tr>
<tr>
<td>Portfolio Selection and Capital Market Theory</td>
<td>163</td>
</tr>
<tr>
<td>Agency Theory</td>
<td>164</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>166</td>
</tr>
<tr>
<td>Option Pricing Theory</td>
<td>167</td>
</tr>
<tr>
<td>Financial Institutions and Financial Regulation</td>
<td>168</td>
</tr>
<tr>
<td><strong>Finance, Accounting and Taxation</strong></td>
<td>169</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>170</td>
</tr>
<tr>
<td>Advanced Financial Accounting (German GAAP, IFRS)</td>
<td>171</td>
</tr>
<tr>
<td>Advanced Auditing</td>
<td>172</td>
</tr>
<tr>
<td>Portfolio Selection and Capital Market Theory</td>
<td>173</td>
</tr>
<tr>
<td>Agency Theory</td>
<td>174</td>
</tr>
<tr>
<td>Economics of Tax Planning</td>
<td>175</td>
</tr>
<tr>
<td>Coordination, Budgeting and Incentives in Companies</td>
<td>176</td>
</tr>
<tr>
<td>Project Management and Control</td>
<td>177</td>
</tr>
<tr>
<td>Selected Topics in Analytical Tax Research</td>
<td>178</td>
</tr>
<tr>
<td>Selected Topics in Financial Accounting and Auditing</td>
<td>179</td>
</tr>
<tr>
<td>Tax Accounting</td>
<td>180</td>
</tr>
<tr>
<td><strong>Public Finance</strong></td>
<td>181</td>
</tr>
<tr>
<td><strong>Compulsory</strong></td>
<td></td>
</tr>
<tr>
<td>Policy of Taxation</td>
<td>182</td>
</tr>
<tr>
<td>Social Insurance and the Welfare State</td>
<td>183</td>
</tr>
<tr>
<td><strong>Compulsory Core Electives</strong></td>
<td>184</td>
</tr>
</tbody>
</table>
### Compulsory Core Electives

Public Debt  
Optimal Tax Theory  
Principles of European Regulation  
European Public Finance  
Computational Economics - Advanced Level  
Theory of Social Policy

### Industrial Economics

**Compulsory**

- Theory of Industrial Organization 1  
- European Competition Policy

**Compulsory Core Electives**

- Advanced Microeconomics  
- Principles of European Regulation  
- Theory of Industrial Organization 2  
- Empirical Industrial Organization  
- Economics of Information and Network Industries  
- Topics in Industrial Organization 1  
- Topics in Industrial Organization 2  
- Topics in Industrial Organization 3  
- Contract Economics  
- Strategic Decisions and Competition  
- German and European Antitrust Law 1  
- German and European Antitrust Law 2

### National and International Monetary Economics

**Compulsory**

- Monetary Policy and the Financial System  
- Monetary Policy, Foreign Exchange Markets, and the International Monetary System

**Compulsory Core Electives**

- DSGE Modelling  
- European Macroeconomic Policy  
- Portfolio Selection and Capital Market Theory  
- Econometrics 1  
- Advanced Macroeconomics  
- Selected Topics of European Integration

### Econometrics

**Compulsory**

- Econometrics 1  
- Econometrics 2

**Compulsory Core Electives**

- Econometrics 3  
- Analysis of Financial Market Data  
- Microeconometrics  
- Empirical HR Research with Stata  
- Empirical Regional- and International Economic Research  
- Computational Economics - Advanced Level  
- Empirical Industrial Organization

### Economic Order and Social Policy

**Compulsory**

- Labor Market Economics  
- Theory of Social Policy

**Compulsory Core Electives**

- Common European Labour Market
Module Catalogue for the Subject
Economathematics
Master's with 1 major, 120 ECTS credits

Advanced Topics in Economic Policy 248
Social Insurance and the Welfare State 249
Human Resource Management and Industrial Relations 250
Incentives in Organizations 251
Work and Information 252

International Economics 253

Compulsory 254
International Trade and the Multinational Firm 255
Trade Policy and the World Trading System 257

Compulsory Core Electives 259
Advanced Macroeconomics 260
Economic Geography 261
Monetary Policy, Foreign Exchange Markets, and the International Monetary System 263
European Macroeconomic Policy 265
European Competition Policy 266
European Public Finance 268
Public Debt 269
Econometrics 1 270
Common European Labour Market 272
Empirical Regional- and International Economic Research 274
Topics in International Economics 1 275
Topics in International Economics 2 276
Topics in International Economics 3 277
Advanced Microeconomics 278

Entrepreneurship and Management 279

Compulsory 280
Entrepreneurship and Management 1 281
Entrepreneurship and Management 2 282

Compulsory Core Electives 283
Employment Law 284
Advanced Microeconomics 285
Strategic Networks in Industry 286
Incentives in Organizations 287
Entrepreneurship and Management 3 288
Entrepreneurship and Management 4 289
IT-Management 290
Economics of Information and Network Industries 292
E-Business Strategies 294

Research Methods 295

Compulsory Core Electives I 296
Advanced Microeconomics 297
Advanced Macroeconomics 298
Managerial Analytics & Decision Making 299
Econometrics 1 300

Compulsory Core Electives II 302
DSGE Modelling 303
Microeconometrics 304
Analysis of Financial Market Data 305
Theory of Industrial Organization 1 307
Theory of Industrial Organization 2 309
Optimal Tax Theory 310
Computational Economics - Advanced Level 311
Econometrics 2 312
Econometrics 3 313
<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 3</td>
<td>314</td>
</tr>
<tr>
<td>Empirical HR Research with Stata</td>
<td>315</td>
</tr>
<tr>
<td>Human Resource Management and Industrial Relations</td>
<td>316</td>
</tr>
<tr>
<td>Accounting and Capital Markets</td>
<td>317</td>
</tr>
<tr>
<td>Information systems research</td>
<td>318</td>
</tr>
<tr>
<td>International Trade and the Multinational Firm</td>
<td>319</td>
</tr>
<tr>
<td>Economic Geography</td>
<td>321</td>
</tr>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>323</td>
</tr>
<tr>
<td>Topics in International Economics 1</td>
<td>324</td>
</tr>
<tr>
<td>Topics in International Economics 2</td>
<td>325</td>
</tr>
<tr>
<td>Topics in International Economics 3</td>
<td>326</td>
</tr>
</tbody>
</table>

**Managerial Accounting**

**Compulsory**

- Coordination, Budgeting and Incentives in Companies
- Strategic Managerial Accounting

**Compulsory Core Electives**

- Theory of Industrial Organization 1
- Incentives in Organizations
- Project Management and Control
- Accounting and Capital Markets
- Industrial Management 1
- Econometrics 1
- Econometrics 2
- Decision Support Systems
- Strategic Decisions and Competition
- Managerial Accounting in the Company Management
- Advanced Financial Accounting (German GAAP, IFRS)
- Information Processing within Organizations

**Applied Decision Theory**

**Compulsory**

- Advanced Microeconomics
- Contract Theorie

**Interdisciplinary Seminars and Workshops**

- Theory of Industrial Organization 1
- Theory of Industrial Organization 2
- Microeconometrics
- Optimal Tax Theory
- Managerial Analytics & Decision Making
- Human Resource Management and Industrial Relations
- International Trade and the Multinational Firm

**Interdisciplinary Seminars and Workshops**

- Research in Groups - Dynamical Systems and Control Theory
- Research in Groups - Measure and Integral
- Research in Groups - Numerical Mathematics and Applied Analysis
- Research in Groups - Robotics, Optimization and Control Theory
- Research in Groups - Time Series Analysis
- Research in Groups - Statistics
- Seminar in Dynamical Systems and Control
- Seminar in Financial and Insurance Mathematics
- Giovanni Prodi Seminar (Master)
- Interdisciplinary Seminar
- Seminar Mathematics in the Sciences
- Seminar in Numerical Mathematics and Applied Analysis
- Seminar in Optimization
- Seminar in Statistics
<table>
<thead>
<tr>
<th>Module Title</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Non-linear Analysis</td>
<td>375</td>
</tr>
<tr>
<td>Advanced Seminar: Banking</td>
<td>376</td>
</tr>
<tr>
<td>Seminar: Selected Topics in Business Management and Economics</td>
<td>377</td>
</tr>
<tr>
<td>Advanced Seminar: Topics in Personnel Economics and Organizational Theory</td>
<td>378</td>
</tr>
<tr>
<td>Advanced Seminar: Selected Problems in Analytical Tax Research</td>
<td>379</td>
</tr>
<tr>
<td>Advanced Seminar: Selected Aspects of Managerial Accounting</td>
<td>380</td>
</tr>
<tr>
<td>Advanced Seminar: Financial Accounting and Auditing</td>
<td>381</td>
</tr>
<tr>
<td>Advanced Seminar: Public Finance</td>
<td>382</td>
</tr>
<tr>
<td>Advanced Seminar: Monetary policy</td>
<td>383</td>
</tr>
<tr>
<td>Advanced Seminar: Industrial Management</td>
<td>384</td>
</tr>
<tr>
<td>Advanced Seminar: Industrial Organization</td>
<td>385</td>
</tr>
<tr>
<td>Seminar: Logistics &amp; Supply Chain Management</td>
<td>386</td>
</tr>
<tr>
<td>Advanced Seminar: Marketing Strategy</td>
<td>387</td>
</tr>
<tr>
<td>Advanced Seminar: Entrepreneurship and Management</td>
<td>388</td>
</tr>
<tr>
<td>Advanced Seminar: Economic Order and Social Policy</td>
<td>389</td>
</tr>
<tr>
<td>Advanced Seminar: Econometrics</td>
<td>390</td>
</tr>
<tr>
<td>Economic and Business Ethics</td>
<td>391</td>
</tr>
<tr>
<td>Seminar: Macroeconomics and Quantitative Economic Research</td>
<td>392</td>
</tr>
<tr>
<td>Seminar: Supply Chain Competition</td>
<td>393</td>
</tr>
<tr>
<td>E-Business Strategies</td>
<td>394</td>
</tr>
<tr>
<td>Business Analytics</td>
<td>395</td>
</tr>
<tr>
<td>Advanced Seminar: Advanced Topics in Contract Theory</td>
<td>396</td>
</tr>
<tr>
<td>Advanced Seminar: Enterprise Systems</td>
<td>397</td>
</tr>
<tr>
<td>Philosophy of Science and Ethics in Business Management and Economics</td>
<td>398</td>
</tr>
<tr>
<td>Seminar: International Economics</td>
<td>399</td>
</tr>
<tr>
<td>Seminar: Applied Decision Theory</td>
<td>400</td>
</tr>
<tr>
<td>Thesis</td>
<td>401</td>
</tr>
<tr>
<td>Master Thesis Mathematics for Economics</td>
<td>402</td>
</tr>
</tbody>
</table>
The subject is divided into

<table>
<thead>
<tr>
<th>section / sub-section</th>
<th>ECTS credits</th>
<th>starting page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory Electives Mathematics</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>0-20</td>
<td>15</td>
</tr>
<tr>
<td>Stochastics and Statistics</td>
<td>min. 10</td>
<td>30</td>
</tr>
<tr>
<td>Financial and Insurance Mathematics</td>
<td>min. 10</td>
<td>37</td>
</tr>
<tr>
<td>Compulsory Electives Business Management and Economics</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Economic Policy</td>
<td>20</td>
<td>43</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>20</td>
<td>44</td>
</tr>
<tr>
<td>Strategic Marketing Management</td>
<td>20</td>
<td>57</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>58</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>63</td>
</tr>
<tr>
<td>Industrial Management</td>
<td>20</td>
<td>75</td>
</tr>
<tr>
<td>Compulsory</td>
<td>15</td>
<td>76</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>5</td>
<td>80</td>
</tr>
<tr>
<td>Information Management</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>101</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>104</td>
</tr>
<tr>
<td>Logistics &amp; Supply Chain Management</td>
<td>20</td>
<td>118</td>
</tr>
<tr>
<td>Compulsory</td>
<td>15</td>
<td>119</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>5</td>
<td>123</td>
</tr>
<tr>
<td>Human Resource Management and Organization</td>
<td>20</td>
<td>143</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>144</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>147</td>
</tr>
<tr>
<td>Banking and Finance</td>
<td>20</td>
<td>162</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>163</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>166</td>
</tr>
<tr>
<td>Finance, Accounting and Taxation</td>
<td>20</td>
<td>169</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>20</td>
<td>170</td>
</tr>
<tr>
<td>Public Finance</td>
<td>20</td>
<td>181</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>182</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>185</td>
</tr>
<tr>
<td>Industrial Economics</td>
<td>20</td>
<td>192</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>193</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>198</td>
</tr>
<tr>
<td>National and International Monetary Economics</td>
<td>20</td>
<td>213</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>214</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>218</td>
</tr>
<tr>
<td>Econometrics</td>
<td>20</td>
<td>226</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>227</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>231</td>
</tr>
<tr>
<td>Economic Order and Social Policy</td>
<td>20</td>
<td>241</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>242</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>245</td>
</tr>
<tr>
<td>Module</td>
<td>Credits</td>
<td>Code</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>International Economics</td>
<td>20</td>
<td>253</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>254</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>259</td>
</tr>
<tr>
<td>Entrepreneurship and Management</td>
<td>20</td>
<td>279</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>280</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>283</td>
</tr>
<tr>
<td>Research Methods</td>
<td>20</td>
<td>295</td>
</tr>
<tr>
<td>Compulsory Core Electives I</td>
<td>15-20</td>
<td>296</td>
</tr>
<tr>
<td>Compulsory Core Electives II</td>
<td>0-5</td>
<td>302</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>20</td>
<td>327</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>328</td>
</tr>
<tr>
<td>Compulsory Core Electives</td>
<td>10</td>
<td>331</td>
</tr>
<tr>
<td>Applied Decision Theory</td>
<td>20</td>
<td>346</td>
</tr>
<tr>
<td>Compulsory</td>
<td>10</td>
<td>347</td>
</tr>
<tr>
<td>Interdisciplinary Seminars and Workshops</td>
<td>10</td>
<td>350</td>
</tr>
<tr>
<td>Interdisciplinary Seminars and Workshops</td>
<td>10</td>
<td>360</td>
</tr>
<tr>
<td>Thesis</td>
<td>30</td>
<td>401</td>
</tr>
</tbody>
</table>
Learning Outcomes

German contents and learning outcome available but not translated yet.

Wissenschaftliche Befähigung

- Die Absolventinnen und Absolventen sind geschult in analytischem Denken, besitzen ein stark ausgeprägtes Abstraktionsvermögen, universell einsetzbarer Problemlösungskompetenz und die Fähigkeit, komplexe ökonomische Zusammenhänge zu strukturieren.
- Die Absolventinnen und Absolventen sind in der Lage, sich selbständig mithilfe von Fachliteratur in aktuelle Forschungsgebiete der Mathematik und Wirtschaftswissenschaften einzuarbeiten.
- Die Absolventinnen und Absolventen sind in der Lage, ihre Kenntnisse, Ideen und Problemlösungen zu komplexen Sachverhalten einem Fachpublikum gegenüber verständlich zu präsentieren.
- Die Absolventinnen und Absolventen besitzen die für selbstständiges wissenschaftliches Arbeiten, insbesondere für ein Promotionsstudium erforderlichen Fachkenntnisse, Denk- und Arbeitsweisen und Methodenkenntnisse.
- Die Absolventinnen und Absolventen kennen die Regeln guter wissenschaftlicher Praxis und sind in der Lage, sie bei umfangreichen Arbeiten zu beachten.
- Die Absolventinnen und Absolventen besitzen weiterführende Kenntnisse aktueller Gebiete der Mathematik und Wirtschaftswissenschaften und können sicher mit fortgeschrittenen Methoden dieser Gebiete umgehen.
- Die Absolventinnen und Absolventen besitzen vertiefte Kenntnisse und Überblick über die aktuelle Forschung in mindestens einem Teilgebiet der Mathematik sowie zwei Teilgebieten der Wirtschaftswissenschaften.
- Die Absolventinnen und Absolventen können in aktuellen Gebieten der Wirtschaftswissenschaften mathematische Methoden zur Anwendung bringen.

Befähigung zur Aufnahme einer Erwerbstätigkeit

- Die Absolventinnen und Absolventen sind geschult in analytischem Denken, besitzen ein stark ausgeprägtes Abstraktionsvermögen, universell einsetzbarer Problemlösungskompetenz und die Fähigkeit, komplexe ökonomische Zusammenhänge zu strukturieren.
- Die Absolventinnen und Absolventen sind in der Lage, ihre Kenntnisse, Ideen und Problemlösungen zielgruppenorientiert verständlich zu formulieren und zu präsentieren.
- Die Absolventinnen und Absolventen sind in der Lage, komplexe volks- und betriebswirtschaftliche Probleme zu erkennen, strukturieren und modellieren, mit mathematischen Methoden Lösungswege zu entwickeln und diese Ergebnisse zu interpretieren und bewerten.
- Die Absolventinnen und Absolventen besitzen ein ausgeprägtes Durchhaltevermögen bei der Lösung komplexer Probleme innerhalb eines vorgegeben Zeitrahmens.
- Die Absolventinnen und Absolventen sind in der Lage, konstruktiv und zielorientiert mit hoher Team- und Kommunikationsfähigkeit in Gruppen zu arbeiten und hierbei Verantwortung zu tragen.
- Die Absolventinnen und Absolventen sind in der Lage, sich neue Wissensgebiete und aktuelle Entwicklungen selbständig, effizient und systematisch zu erschließen.
- Die Absolventinnen und Absolventen besitzen die Fähigkeit, Projekte in interdisziplinär zusammenge setzten Teams im Bereich der Mathematik und Wirtschaftswissenschaften verantwortlich mitzugestalten.

Persönlichkeitsentwicklung

- Die Absolventinnen und Absolventen sind geschult in analytischem Denken, besitzen ein stark ausgeprägtes Abstraktionsvermögen, universell einsetzbarer Problemlösungskompetenz und die Fähigkeit, komplexe ökonomische Zusammenhänge zu strukturieren.
Die Absolventinnen und Absolventen sind in der Lage, in partizipativen Prozessen gestaltend mitzuwirken.

Die Absolventinnen und Absolventen besitzen ein ausgeprägtes Durchhaltevermögen bei der Lösung komplexer Probleme innerhalb eines vorgegeben Zeitrahmens.

Die Absolventinnen und Absolventen sind in der Lage, komplexe Ideen und Lösungsvorschläge allgemeinverständlich zu formulieren und professionell zu präsentieren.
Abbreviations used

Course types: \( E = \) field trip, \( K = \) colloquium, \( O = \) conversatorium, \( P = \) placement/lab course, \( R = \) project, \( S = \) seminar, \( T = \) tutorial, \( Ü = \) exercise, \( V = \) lecture

Term: \( SS = \) summer semester, \( WS = \) winter semester

Methods of grading: \( \text{NUM} = \) numerical grade, \( B/NB = \) (not) successfully completed

Regulations: \( (L)\text{ASPO} = \) general academic and examination regulations (for teaching-degree programmes), \( FSB = \) subject-specific provisions, \( SFB = \) list of modules

Other: \( A = \) thesis, \( LV = \) course(s), \( PL = \) assessment(s), \( TN = \) participants, \( VL = \) prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

\( \text{ASPO2015} \)

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

\( 13-\text{Jan-2016 (2016-3)} \)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.
Compulsory Electives Mathematics
(40 ECTS credits)
Applied Mathematics
(0-20 ECTS credits)
## Module Catalogue for the Subject Economathematics
### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Analysis</td>
<td>10-M=AAAN-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

### ECTS
10

### Method of grading
Numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
Graduate

### Other prerequisites
--

### Contents

### Intended learning outcomes
The student is acquainted with the fundamental notions, methods and results of higher analysis. He/She is able to establish a connection between his/her acquired skills and other branches of mathematics and questions in physics and other natural and engineering sciences.

### Courses
<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (4) + Ü (2)</td>
</tr>
</tbody>
</table>

### Module taught in:
German and/or English

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes, usually chosen)
- b) oral examination of one candidate each (approx. 20 minutes)
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
Creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeric of Large Systems of Equations</td>
<td>10-M=ANGG-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**
Discretisation of elliptic differential equations, classical iteration methods, preconditioners, multigrid methods.

**Intended learning outcomes**
The student is acquainted with the most important methods for solving large systems of equations, and knows the most efficient way to solve a given system of equations.

**Courses**
(type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>(4) + Ü (2)</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

**Module taught in:** German and/or English

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes, usually chosen) or
- b) oral examination of one candidate each (approx. 20 minutes) or
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basics in Optimization</td>
<td>10-M=AOPT-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

Dean of Studies Mathematik (Mathematics)

**Module offered by**

Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

**Contents**

Fundamental methods and techniques in continuous optimization, unrestricted optimization, conditions for optimality, restricted optimization, examples and applications in natural and engineering sciences as well as economics.

**Intended learning outcomes**

The student knows the fundamental methods of continuous optimization, can judge their strengths and weaknesses and can decide which method is the most suitable in applications.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Theory</td>
<td>10-M=ARTH-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**
Introduction to mathematical systems theory: stability, controllability and observability, state feedback and stability, basics in optimal control.

**Intended learning outcomes**
The student is acquainted with the fundamental notions and methods of control theory. He/She is able to establish a connection between these results and broader theories, and learns about the interactions of geometry and other fields of mathematics.

**Courses**
(type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)
Module taught in: German and/or English

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
### Module Catalogue for the Subject Economathematics

#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeric of Partial Differential Equations</td>
<td>10-M=VNPE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Contents

Types of partial differential equations, qualitative properties, finite differences, finite elements, error estimates (numerical methods for elliptic, parabolic and hyperbolic partial differential equations; finite elements method, discontinuous Gelerkin finite elements method, finite differences and finite volume methods).

#### Intended learning outcomes

The student is acquainted with advanced methods for discretising partial differential equations.

#### Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

#### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes, usually chosen) or
- b) oral examination of one candidate each (approx. 20 minutes) or
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English creditable for bonus

#### Allocation of places

--

#### Additional information

--

#### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected Topics in Optimization</td>
<td>10-M=VOPT-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Selected topics in optimization, e.g. inner point methods, semidefinite programs, non-smooth optimization, game theory, optimization with differential equations.

### Intended learning outcomes

The student is acquainted with advanced methods in continuous optimization. He gains the ability to work on contemporary research questions in continuous optimization.

### Courses

(V 4) + Ü (2)

Module taught in: German and/or English

### Method of assessment

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete Mathematics</td>
<td>10-M=VDIM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Advanced methods and results in a selected field of discrete mathematics (e.g. coding theory, cryptography, graph theory or combinatorics)

### Intended learning outcomes

The student is acquainted with advanced results in a selected topic in discrete mathematics.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (3) + Ü (1)  
Module taught in: German and/or English

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title
Dynamical Systems

Abbreviation
10-M=VDSY-161-m01

Module coordinator
Dean of Studies Mathematik (Mathematics)

Module offered by
Institute of Mathematics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Fundamentals of dynamical systems, e.g. stability theory, ergodic theory, Hamiltonian systems.

Intended learning outcomes
The student masters the mathematical methods in the theory of dynamic systems, and is able to analyse their quality.

Courses (type, number of weekly contact hours, language — if other than German)
V (3) + Ü (1)

Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

Allocatable places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected Topics in Control Theory</td>
<td>10-M=VTRT-161-m01</td>
</tr>
<tr>
<td><strong>Module coordinator</strong></td>
<td><strong>Module offered by</strong></td>
</tr>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
<tr>
<td><strong>ECTS</strong></td>
<td><strong>Method of grading</strong></td>
</tr>
<tr>
<td>10</td>
<td>numerical grade</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td><strong>Module level</strong></td>
</tr>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
<tr>
<td><strong>Other prerequisites</strong></td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Selected topics in linear and non-linear control theory, e.g. networked linear control systems, controllability of bilinear systems.

**Intended learning outcomes**

The student gains insight into contemporary research problems in control theory. He/She masters advanced techniques in this field and can apply them to complex problems.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inverse Problems</td>
<td>10-M=VPR-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Linear operator equations, ill-posed problems, regularisation theory, Tikhonov regularisation, iterative regularisation methods, examples of ill-posed problems.

**Intended learning outcomes**

The student can judge whether a given problem is well posed or ill posed. He/She can apply regularisation methods and examine them regarding stability and convergence, and is familiar with selected inverse problems.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (3) + Ü (1)

Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
Non-linear Analysis | 10-M=VNAN-161-m01

Module coordinator | Module offered by
Dean of Studies Mathematik (Mathematics) | Institute of Mathematics

ECTS | Method of grading | Only after succ. compl. of module(s)
--- | --- | ---
5 | numerical grade | --

Duration | Module level | Other prerequisites
--- | --- | ---
1 semester | graduate | --

Contents
Methods in nonlinear analysis (e.g. topological methods, monotony and variational methods) with applications.

Intended learning outcomes
The student is acquainted with the concepts of non-linear analysis, can compare them and assess their applicability on practical problems.

Courses (type, number of weekly contact hours, language — if other than German)
V (3) + Ü (1) Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal Control</td>
<td>10-M=VOST-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>

**Contents**
Basics in optimal control of ordinary and partial differential equations, theory of optimal control, conditions for optimality, methods for numerical solution.

**Intended learning outcomes**
The student is acquainted with advanced methods in optimal control. He gains the ability to work on contemporary research questions in continuous optimization.

**Courses** (type, number of weekly contact hours, language — if other than German)
V (3) + Ü (1)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning by Teaching 1</td>
<td>10-M=ELT1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Supervising a tutorial or study group in the Bachelor’s programme under guidance of the respective lecturer.

**Intended learning outcomes**

The student gains his/her first experience in teaching university mathematics. He/She knows basic didactical methods and can apply them in practical situations.

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>T (0)</th>
</tr>
</thead>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment of tutoring activities by supervising lecturers or exercise supervisors (1 to 2 teaching units)

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module Title

**Selected Topics in Mathematics for Economics**

#### Abbreviation

10-M=ATWM-161-m01

### Module Coordinator

Dean of Studies Mathematik (Mathematics)

### Module Offered by

Institute of Mathematics

### ECTS

<table>
<thead>
<tr>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
</tr>
</tbody>
</table>

### Duration

<table>
<thead>
<tr>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

### Contents

Contemporary topics in mathematics for economics, for example in the field of statistics, finance or insurance mathematics.

### Intended Learning Outcomes

The student is acquainted with fundamental concepts and methods in a contemporary field of mathematics for economics, and is able to apply these skills to complex questions.

### Courses

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (4) + Ü (2)</td>
</tr>
</tbody>
</table>

Module taught in: German and/or English

### Method of Assessment

<table>
<thead>
<tr>
<th>Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)</td>
</tr>
</tbody>
</table>

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

Creditable for bonus

### Allocation of Places

--

### Additional Information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Stochastics and Statistics
(min. 10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Statistics 1</td>
<td>10-M=AIST-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
Dean of Studies Mathematik (Mathematics)

**Module offered by**
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**
Theory of parameter and domain estimates, tests for statistical estimates, distribution models, empirical distribution analysis, comparative analysis, statistical product testing, survey sampling, audit sampling.

**Intended learning outcomes**
The student masters the fundamental statistical methods for industrial applications.

**Courses**
(type, number of weekly contact hours, language — if other than German)
V (4) + Ü (2)
Module taught in: German and/or English

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stochastical Processes</td>
<td>10-M=ASTP-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Markov chains, queues, stochastic processes in $\mathbb{C}[0,1]$, Brownian motion, Donsker's theorem, projective limits.

**Intended learning outcomes**

The student is acquainted with the fundamental notions and methods of stochastical processes and can apply them to practical problems.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English
creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO 1** (examination regulations for teaching-degree programmes)

--
### Module title

**Time Series Analysis 1**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>10-M=AZRA-161-m01</th>
</tr>
</thead>
</table>

### Module coordinator

Dean of Studies Mathematik (Mathematics)

### Module offered by

Institute of Mathematics

### ECTS

<table>
<thead>
<tr>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
</tr>
</tbody>
</table>

### Duration

<table>
<thead>
<tr>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

### Contents

Additive model, linear filters, autocorrelation, moving average, autoregressive processes, Box-Jenkins method.

### Intended learning outcomes

The student is acquainted with the fundamental methods of time series analysis and can apply them to practical problems.

### Courses

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (4) + Ü (2)</td>
</tr>
</tbody>
</table>

Module taught in: German and/or English

### Method of assessment

(a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English
creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
### Module橱 title: Industrial Statistics 2

### Abbreviation: 10-M=VIST-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Linear models, regression analysis, nonlinear regression, experimental design, basics in time series modelling, basics in empirical time series analysis, methods of exponential smoothing, predictions and prediction domains, statistical process monitoring.

### Intended learning outcomes

The student masters advanced statistical methods for industrial applications.

### Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Module taught in: German and/or English

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes, usually chosen) or
- b) oral examination of one candidate each (approx. 20 minutes) or
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
## Module: Statistical Analysis

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistical Analysis</td>
<td>10-M=VSTA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
Contingency tables, categorical regression, one-factorial variance analysis, two-factorial variance analysis, discriminant function analysis, cluster analysis, principal component analysis, factor analysis.

### Intended learning outcomes
The student is acquainted with the fundamental methods in statistical analysis and can apply them to practical problems.

### Courses
- V (4) + Ü (2)
- Module taught in: German and/or English

### Method of assessment
- a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

Credits for bonus: Yes

### Allocation of places
- --

### Additional information
- --

### Referred to in LPO I
- (examination regulations for teaching-degree programmes)
## Module title
Time Series Analysis 2

## Abbreviation
10-M=VZRA-161-m01

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

### ECTS
<table>
<thead>
<tr>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
State-space models, Kalman filter, frequency spaces, Fourier analysis, periodograms, characterisation of autocovariance functions.

### Intended learning outcomes
The student is acquainted with advanced methods in time series analysis. He gains the ability to work on contemporary research questions in this field.

### Courses
V (4) + Ü (2)

Module taught in: German and/or English

### Method of assessment
(a) written examination (approx. 90 to 120 minutes, usually chosen) or
(b) oral examination of one candidate each (approx. 20 minutes) or
(c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
Financial and Insurance Mathematics
(min. 10 ECTS credits)
### Module Title

**Stochastic Models of Risk Management**

### Abbreviation

10-M=ASMR-161-m01

### Module Coordinator

Dean of Studies Mathematik (Mathematics)

### Module Offered by

Institute of Mathematics

### ECTS

10

### Method of Grading

Numerical grade

### Only after Succ. Compl. of Module(s)

--

### Duration

1 semester

### Module Level

Graduate

### Other Prerequisites

--

### Contents

Measure theory, risk diagrams, failure mode and effects analysis, risk assessment in auditing, shortfall measures, value at risk, conditional value at risk, axiomatic of risk measures, modelling of interdependencies, copula, modelling of functional interrelations, regression models, basics in time series modelling, aggregated losses, estimates of shortfall measures, estimates of value at risk and conditional value at risk, basics in empirical time series analysis, methods of exponential smoothing, predictions and prediction domains, estimates of value at risk in time series, elementary empirical regression analysis, simulation methods.

### Intended Learning Outcomes

The student is acquainted with the fundamental methods of stochastic risk analysis.

### Courses

- **V (4) + Ü (2)**

  Module taught in: German and/or English

### Method of Assessment

- a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

  Assessment offered: In the semester in which the course is offered and in the subsequent semester

  Language of assessment: German or English

  Creditable for bonus

### Allocation of Places

--

### Additional Information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
## Module title

**Insurance Mathematics 1**

**Abbreviation**

10-M=AVSM-161-m01

## Module coordinator

Dean of Studies Mathematik (Mathematics)

## Module offered by

Institute of Mathematics

## ECTS

10

## Method of grading

numerical grade

## Duration

1 semester

## Module level

graduate

## Other prerequisites

--

## Contents

The module discusses policies on one life: distributions of future lifetime, life tables, life table approximations, types of benefits, present value, expectation principle, premium calculation, commutation functions, reserves and policy values, expenses, bonus, recursive methods, Thiele’s differential equation.

## Intended learning outcomes

The student is acquainted with the fundamental notions and methods of life insurance mathematics and can apply them to practical problems.

## Courses

(V (4) + Ü (2))

Module taught in: German and/or English

## Method of assessment

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

creditable for bonus

## Allocation of places

--

## Additional information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject Economathematics
### Master’s with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected Topics in Financial Mathematics</td>
<td>10-M=VFNM-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
Selected topics in financial mathematics, e.g. conditional expectation and martingales, fundamental theorem of asset pricing in discrete time for finite spaces, American put, Snell envelope, stopping time, optimal stopping, stochastic integration, stochastic differential equations and Ito calculus, Black-Merton-Scholes model.

### Intended learning outcomes
The student is acquainted with advanced results in financial mathematics. He/She gains the ability to work on contemporary research questions in financial mathematics and can apply his/her skills to complex problems.

### Courses
V (4) + Ü (2)
Module taught in: German and/or English

### Method of assessment
(a) written examination (approx. 90 to 120 minutes, usually chosen) or (b) oral examination of one candidate each (approx. 20 minutes) or (c) oral examination in groups (groups of 2, 15 minutes per candidate)
Assessment offered: In the semester in which the course is offered and in the subsequent semester

### Language of assessment
German or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
# Insurance Mathematics 2

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance Mathematics 2</td>
<td>10-MVVSM-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

Dean of Studies Mathematik (Mathematics)

**Module offered by**

Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

**Contents**

This module discusses modern valuation approaches and multiple decrement models regarding one life or two lives: modern valuation in life insurance mathematics, axiomatic derivation of the product measure approach, Markov chain models, Kolmogorov's differential equations, Thiele's differential equations, numerical applications, joint life policies.

**Intended learning outcomes**

The student is acquainted with advanced methods in insurance mathematics. He gains the ability to work on contemporary research questions in insurance mathematics and can apply his/her skills to complex problems.

**Courses**

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours, language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (4) + Ü (2)</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

**Method of assessment**

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
Compulsory Electives Business Management and Economics
(40 ECTS credits)

Two focuses with 40 ECTS credits
Economic Policy
(20 ECTS credits)
Compulsory Core Electives
(20 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Competition Policy</td>
<td>12-M-WPE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Outline of syllabus:
1. Legal environment, competition laws
2. Market definition
   - Qualitative methods
   - Simple quantitative methods
   - Hypothetical monopoly test
3. Horizontal agreements and collusion: repeated games and factors affecting likelihood of collusion
4. Horizontal mergers and collusion
   - Economic theory
   - Efficiency effects
   - Coordinated effects
5. Vertical relations and contracts
   - Economic analysis of contracts
   - "More economic approach"
6. Abuse of dominant position
   - Classification of abusive conduct
   - Economic analysis of abusive conduct and theory of harm

The course will be taught in English.

### Intended learning outcomes

After completion of the module students can use the advanced concepts introduced in the lecture of competition policy, including the legal framework, the trace models and methods for the study of competition policy issues, as well as understand the approach of European competition policy in high profile cases. When they are confronted with practical problems, they can refer to these cases, and the same logic to practical examples apply by draining the relevant economic theories that identify variables to be measured and methodologies for assessing, and based on that adequate conclusions for appropriate cases. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)</td>
</tr>
</tbody>
</table>

Language of assessment: German and/or English creditable for bonus

### Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master’s degree programme Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.
### Additional information

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
Module title: Theory of Social Policy

Abbreviation: 12-M-TSP-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:
The lecture "Theorie der Sozialpolitik" ("Theory of Social Policy") discusses the concept of social security and the concept of social justice. In the first part of the course, which will deal with social security, students will acquire a general overview of possible market failures in an insurance market. One chapter will then each be devoted to the introduction and characterisation of the three main branches of social insurance (pension, health and unemployment insurance). Subsequently, different options for a reform of the individual branches of social insurance will be introduced and evaluated in terms of efficiency. In the second part of the course, which will deal with social justice, different definitions of the concept of justice will be discussed in more detail. Here, the main focus will be on identifying and critically examining different criteria for the measurement of inequality in a society. In addition, efficiency-oriented justifications for redistributive policies by the government will be addressed and discussed with students.

Intended learning outcomes:
The graduate student has acquired following skills and abilities after completion of the module:

(i) Detailed knowledge of institutional foundations of the German social security system
(ii) Mechanics of an insurance market
(iii) Emergence and problems of adverse selection and moral hazard in the context of social insurances
(iv) Measurement and interpretation of inequality measures, particularly of income inequality
(v) Mechanics and welfare effects of state redistribution
(vi) The impact of state redistribution on macroeconomic variables

Courses:

V (2) + Ü (2)

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title: Labor Market Economics
Abbreviation: 12-M-OEA-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents
Description:
In this course, students will acquire an in-depth understanding of the problems of the German national labour market. The course will discuss economic as well as political-economic theories that can explain the phenomenon of unemployment.

Outline of syllabus:
1. Labour market empirics
2. Why has Germany not been able, for more than two decades, to clear the labour markets?
3. What policy is best suited to tackle labour market problems?
4. How can we break through the rigid political-economic structures in our society?

Basic reading:

Intended learning outcomes
The students receive an understanding of the functioning of the labour market and its institutions. They will also be enabled to identify and to evaluate common approaches to mitigate unemployment.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places --

Additional information --

Referred to in LPO I (examination regulations for teaching-degree programmes) --
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Debt</td>
<td>12-M-F2-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Public Finance

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**

**Description:**
The module provides an introduction to some specific issues of public debt that are in the focus of the public and scientific debate.

**Reading:** lecture notes provided by Chair.

**Outline of syllabus:**
1. Measurement of public debt
2. Growth effects of public debt
3. Intergenerational effects of public debt
4. Public debt in open economies
5. Neutrality of public debt
6. Political economy of public debt
7. Theory of sovereign debtors

**Intended learning outcomes**
After completing the course "National Debt" students are able to distinguish and discuss the most important measurement concepts and problems of public debt. They can discuss the growth and distributional consequences using simple equilibrium models of closed and open economies. They can evaluate the relevance of Ricardian neutrality and know the political economy explanations of rising debt levels and debt overhangs in specific countries.

**Courses**

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)</td>
</tr>
</tbody>
</table>

**Language of assessment:** German and/or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
Module title: Social Insurance and the Welfare State
Abbreviation: 12-M-F3-161-m01

Module coordinator: holder of the Chair of Public Finance
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
Description: This module discusses the economic justification for implementing social security systems in a market economy and provides students with deeper insights into this topic with the help of specific issues of public health and retirement policy.
Reading: lecture notes provided by Chair.

Contents:
1. Public intervention in insurance markets
2. The insurance function of social security
3. Social security and social morale
4. The optimal health insurance contract
5. Alternative financing schemes for public health in Germany
6. Why do we need a public pension system?
7. Funding vs pay-as-you-go financing of public pensions

Intended learning outcomes:
After completing the module "Theorie der Sozialversicherung" students are able to explain the theoretical foundation of the social security system in a market economy. Using simple partial equilibrium models they can discuss the financing and contract structure of the public health and pension system. Finally they are able to analyze the consequences of policy reforms.

Courses:
(type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment:
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
--- | ---
Monetary Policy and the Financial System | 12-M-EG1-161-m01

Module coordinator | Module offered by
holder of the Chair of Monetary Policy and International Economics | Faculty of Business Management and Economics

| ECTS | Method of grading | Only after succ. compl. of module(s) |
--- | --- | ---
5 | numerical grade | -- |

Duration | Module level | Other prerequisites
1 semester | graduate | -- |

Contents
The course deals with the following topics:
1. Intertemporal allocation -- How do households and firms take an optimal decision regarding investments and savings? Why are financial markets efficient? What is the meaning of financial accounting?
2. Banking, financial markets and crisis -- What are the main functions of banks? What are the roles of banks in an economy? What are the reasons and solutions for liquidity and solvency problems of banks?
3. Macroeconomic analysis of banks -- Banks as intermediaries vs. originators of saving deposits. Macro models of banking -- The role of banks during the financial crisis.
4. Money demand -- What are the key determinants of money demand?
5. The monetary transmission channel -- Connection between monetary policy and the real economy in the BMW model. Description of the basic model. Extension of the basic model of fiscal policy.
6. Deflation -- Consequences of deflation on macro variables on the basis of different models.

Intended learning outcomes
By completing this course, students receive a profound understanding of theory and practice of the monetary policy and the financial system. Next to a profound knowledge of banking in general, students learn the monetary transmission channel. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Monetary Policy, Foreign Exchange Markets, and the International Monetary System | 12-M-EG2-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The course deals with the following topics:

The foreign exchange market:
Functioning of foreign exchange markets; market structure, players and evolution; FX transactions; hedging and speculation with FX.

Exchange rate economics:
Theoretical background and empirical validity of covered interest parity (CIP), uncovered interest rate parity (UIP) and purchasing power parity (PPP); Monetary approach: Flexible price monetary model and sticky price (Dornbusch-) overshooting model; Balassa-Samuelson effect; FX valuation via the PPP and the macroeconomic balance approach; Real effective exchange rates; Empirical validity of the exchange rate theories; Exchange rates and the current account.

Exchange rate regimes and monetary policy in open economies:
Classification of exchange rate regimes; the policy trilemma in open economies; historical development of the international monetary system; central bank interventions on the FX market.

Modelling open economy macroeconomics at the intermediate level:
Implications of the Mundell-Fleming model for monetary and fiscal policy under fixed and flexible exchange rates.
The BMW (IS-MP-PC) model of the open economy and its implication for monetary and fiscal policy under fixed and flexible exchange rates; optimum currency areas in the BMW model and in practice.

Currency crises:
International experience with currency crises since the 1970s; modelling currency crises within the Mundell-Fleming framework.

Managed-floating as a solution for the policy trilemma.

Intended learning outcomes

By completing this course, students receive a profound understanding of the functioning of foreign exchange markets, the drivers of exchange rate movements and some exchange rate valuation methods used in practice. Next to a profound knowledge of exchange rate theory the course highlights its practical applicability, e.g. as an investment strategy. In the second part of the course students learn the principles of monetary policy in open economies, including its trade-offs and risks like currency crises. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English
### Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>12-M-ERA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>-</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 10 pages) on empirical analysis prepared by candidates or c) portfolio (approx. 20 pages)
- Language of assessment: German and/or English

**Allocation of places**

- 

**Additional information**

- 

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

-
**Module title**
Trade Policy and the World Trading System

**Abbreviation**
12-M-TP-161-m01

**Module coordinator**
holder of the Chair of International Macroeconomics

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

**Contents**

Content:
Based on a synopsis of the basic arguments in favour of free trade, this module provides a systematic introduction to and analysis of a number of arguments in favour of trade operations and trade policy instruments (duties, quotas etc.). The arguments that will be discussed include market power in international markets, domestic distortions, the strategic trade policy, the infant industry argument and industrial policy. The lecture will also address the political-economic causes of protectionist policies, the logic of international trade agreements as well as current issues of the world trade system.

Outline of syllabus:
1. Development of lines of the world trade system, of world trade and current issues
2. The doctrine of free trade and its challenges
3. Trade policy instruments and their effects under perfect competition
4. Competition effects of market opening
5. Native market failure: trade policy as a second, third, or ... -best
6. Trade policy in market power on the international commodity markets
7. Political economy, international integration and the world trade system

Reading:
- Key text for many sections of the course:
- Lines of development and current issues of the world trade system are described in a clear and understandable way in the following books:
- A basic knowledge of international economics is a prerequisite for participation in this course. Students can refresh their existing knowledge with the help of the two following textbooks:

**Intended learning outcomes**
Students acquire a critical understanding of the benefits of free trade and the possible displayed at various circumstances economic policy arguments. Students are placed in a position to classify current trade policy issues critically-analytically and to present their ideas verbally and economically-intuitive. Students also gain an understanding of the structure and dynamics of the world trade order.

**Courses** (type, number of weekly contact hours, language — if other than German)

Ü (2) + V (2)
**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

| a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages) |
| Language of assessment: German and/or English |

**Allocation of places**

---

**Additional information**

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
Strategic Marketing Management
(20 ECTS credits)
Compulsory
(10 ECTS credits)
Module title: International Marketing
Abbreviation: 12-M-IIM-161-m01

Module coordinator: holder of the Chair of Business Management and Marketing
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: Only after succ. compl. of module(s)

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Description:
The module builds on the knowledge acquired during the Bachelor's degree programme or the Grundstudium (stage I studies). It provides a systematic introduction to strategic marketing decisions in global and international contexts. These are explained mainly by Porter’s diamond and cluster models. Another focus is on internationalisation strategies, which require country analyses and decisions on the selection of national markets as well as a timing of the countries market development. In addition, the module discusses different strategies for market entry and market development.

Outline of syllabus:
1. Internationalisation of the economy and regional integration processes
   - Globalisation
   - Competitiveness of countries, industries and companies in an international context
2. International strategic marketing decisions
   - Market entry forms
   - Market development strategies
   - Timing strategies
   - International organisation structures
3. Theories and strategies of internationalisation
   - Foreign trade theory
   - Multinational enterprise
   - Internationalisation strategies

Reading:

Intended learning outcomes

Students acquire in-depth skills in the field of strategic and operational management with particular attention to the international context. Students achieve particular expertise in the analysis, assessment and implementation of international business decisions and gain skills thus guiding the execution of marketing and management positions in globally-active companies.

Courses

V (2) + Ü (2)

Method of assessment

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

--
<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred to in LPO I (examination regulations for teaching-degree programmes)</td>
</tr>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

Master's with 1 major Economathematics (2016)

JMU Würzburg • generated 03-Apr-2021 • exam. reg. data record Master (120 ECTS) Wirtschaftsmathematik - 2016

Page 60 / 402
Module title | Abbreviation
--- | ---
Strategic Marketing | 12-M-SM-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Marketing</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
The module raises awareness in students of the relevance and necessity of strategic management in a competitive and dynamical competitive process.

**Content:**
Based on the marketing strategies as well as the stakeholder and entrepreneurship approaches, this module discusses the roots of the concept of strategy in marketing based on Drucker, Porter, Ansoff and Mintzberg. The focus of the module is on thinking in competitive advantages, which is directly related to responsible leadership.

**Outline of syllabus:**
1. Competitive dynamics requires strategy and leadership
2. Marketing strategies, stakeholder management and entrepreneurship
3. Objectives and tasks of corporate governance in management practice
4. Competitive forces, strategies and benefits according to Michael Porter
5. Growth strategies and marketing myths
6. Future technologies, new businesses and dynamic capabilities
7. Nature and principles of responsible management

**Reading:**

**Intended learning outcomes**

The students have a deeper understanding of the sustainable corporate management and have the basics of the competitive process and competitive dynamics available. In addition, they can use the acquired knowledge, while taking into account the conventional problems of the strategic and sustainable management, to solve business case studies on their own.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Compulsory Core Electives
(10 ECTS credits)
Module title | Abbreviation
---|---
Strategic Networks in Industry | 12-M-MS-161-m01

Module coordinator | Module offered by
holder of the Chair of Business Management and Marketing | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
The primary object of this course is to gain a detailed understanding of strategic networks and of the phenomenon of clustering in the industrial industry. The example of the international automotive industry is used for clarification of the theoretical contents.

The focus is on marketing in industrial companies and also on CSR - CSR is considered the "driver" of sustainable innovations - as well as the different strategy types of sustainable innovations.

Outline of syllabus:
1. Strategic networks and clusters in industrial industries such as the automotive industry
2. Transaction types of Williamson as well as strategic cooperation between automobile manufacturers and suppliers
3. Management of business types, in particular the business of suppliers in the automotive industry
4. Cluster and entrepreneurship activities
5. Sustainable innovation strategies

Intended learning outcomes
By the end of the course, students gain a profound understanding above the basics of network research. Furthermore, students will acquire sectoral knowledge of the automotive industry as well as detailed cluster skills.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Management &amp; Market Research</td>
<td>12-M-MM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Marketing</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
At the beginning of the 21st century, marketing - until then interpreted as a market-oriented corporate management approach - was further developed to be seen as the entrepreneurial task of creating "shared value" for the organisation on the one hand and - broadly speaking - for society on the other hand. This idea leads to high requirements regarding the strategic sustainable positioning of the brand as well as brand management itself.

**Outline of syllabus:**
1. Brand leadership and brand assessment
2. Brand leadership, identity and relevance according to David Aaker’s approach
3. Brand strategies
4. Consumer behaviour
5. Market research methods and the development of brand strategies
6. Market research methods

**Intended learning outcomes**
Based on the theories of Meffert and Aaker, students will gain a profound understanding for brand leadership, which will be deepened by many practical implications and examples. Provided by cases studies and market research tools, it’s the defined goal of this lecture to convey an in-depth knowledge for consumer behavior and sustainable brand management.

**Courses** (type, number of weekly contact hours, language — if other than German)

| V (2) | Ü (2) |

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- written examination (approx. 60 minutes)
- Language of assessment: German and/or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
**Module title** | **Abbreviation**
--- | ---
Industrial Management 1 | 12-M-SBM-161-m01

**Module coordinator** | **Module offered by**
--- | ---
holder of the Chair of Business Management and Industrial Management | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**
The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

**Intended learning outcomes**
Students learn the principles of performance-oriented optimization of all procurement activities to develop long-term, competitively sensitive potential for success. After completion of the module students are able to prepare structured, to goal-oriented analyze and to respond to performance-oriented issues of strategic procurement based on key instruments. Students are able to accurately classify the tasks of the procurement and to describe and discuss their strategic importance and dominate essential methods and procedures used in this area to apply.

**Courses**
(type, number of weekly contact hours, language — if other than German)
- V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
- a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Managerial Accounting</td>
<td>12-M-INST-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module focuses on controlling instruments, which are applied in the context of the strategic management of enterprises. The module covers analytical and heuristic techniques of planning and control. In the context of these techniques, instruments of target costing, life cycle analysis, value chain analysis and various portfolio techniques are discussed with regard to their theoretical foundation and fields of application.

**Intended learning outcomes**

Initially knowledge about fundamental requirements concerning instruments of decision making and behavior control within enterprises is acquired. What is more the module conveys the obtaining of knowledge about the strengths and weaknesses and therewith fields of application and limits of prevalent instruments of strategic corporate management used by practitioners.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination, Budgeting and Incentives in Companies</td>
<td>12-M-KOBO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This module focuses on accounting-based instruments to control behaviour in decentralised enterprises. The course first discusses the role of accounting in the context of decision making and behavioural controlling as well as informational analyses. Afterwards, the most common instruments of behavioural controlling (budgeting, value-oriented management, transfer prices) are discussed with regard to theory and practice.

**Intended learning outcomes**

This module aims to provide knowledge in the context of behavioral controlling in enterprises. Knowledge about Requirements on instruments used for behavioral controlling are discussed and competencies for deployment, structure and development of coordination tools are provided.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title

**Business Software 1: IS-based Enterprise Management**

<table>
<thead>
<tr>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-GPU-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator

holder of the Chair of Business Management and Business Information Systems

### Module offered by

Faculty of Business Management and Economics

### ECTS | Method of grading | Only after succ. compl. of module(s) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration | Module level | Other prerequisites |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

#### Content:

This module provides students with an overview of the structure of a business information system (SAP Business ByDesign) in depth.

#### Outline of syllabus:

1. Integrated information systems: integration, standard software, system architecture
2. Working with standard business software
3. Consulting in integrated information systems: project management, project organisation, presentation skills

#### Description:

The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

If you would like to register for this course, please submit an application to the consultants (cover letter, CV, certificates; please also specify your degree programme and student ID number).

### Intended learning outcomes

After completing the course "Business Software 1", students will be able to

(i) understand an ERP system in its depth;
(ii) understand the interaction of business processes;
(iii) execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

### Courses (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Ü</td>
<td>(2)</td>
<td></td>
</tr>
</tbody>
</table>

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

(a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English creditable for bonus

### Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

---

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
### Module title

Management and Leadership in Organizations

### Abbreviation

12-MFO-161-m01

### Module coordinator

holder of the Chair of Business Management and Business Information Systems

### Module offered by

Faculty of Business Management and Economics

### ECTS

5

### Method of grading

Numerical grade

### Only after succ. compl. of module(s)

--

### Duration

1 semester

### Module level

Graduate

### Other prerequisites

--

### Contents

#### Part I:

The complexity of the modern work environment and the constantly changing organisational structures of companies lead to a demand for young managers with a high diversity of expertise that are able to play their part in managing the organisational world. The lecture will provide students with an insight into the characteristics, tasks and instruments as well as the challenges of management in organisations and situations that are becoming ever more complex.

Outline of syllabus:
- Introduction -- Power in the daily management routine
- Fundamentals of management in complex organisations
- Tasks and instruments of management
- Leadership in an intercultural context
- Assurance of employability
- Conclusion -- Management of supervisors and colleagues

#### Part II:

Today’s world of work is characterised by continuous change in a global context. Mergers, integrations and acquisitions - these are key terms in this context. The majority of change processes does not have the desired effect or even fails. This is not least due to the fact that not enough attention is paid to the complexity of these processes and to employees. The support and integration of successful change processes is a central responsibility of managers as well as a complex and central task that requires sound preparation.

Outline of syllabus:
- Introduction - typical change scenarios
- Psychological basics and concepts
- Approaches and control in change projects
- Measures and instruments of change management
- The role of management
- Conclusion - example of application acquisitions and cases

### Intended learning outcomes

#### Part I: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding management in complex organizations
- Introduction of essential tasks and instruments of managers and their apply to authentic cases.
- To illustrate and reflect the tensions of management in complex situations and international context

#### Part II: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding changes
- Introduction, suitability of daily use and critical reflection of essential concepts, models and methods
- Foster the understanding for the necessity, complexity of changes as well as their constraints and barriers.

### Courses

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2)</td>
</tr>
</tbody>
</table>
| Method of assessment | written examination (approx. 60 minutes)  
|----------------------|------------------------------------------  
| Language of assessment: | German and/or English creditable for bonus  
| Allocation of places | --  
| Additional information | --  
| Referred to in LPO I | (examination regulations for teaching-degree programmes)  
| -- | --  

**Module Catalogue for the Subject**  
**Economathematics**  
**Master’s with 1 major, 120 ECTS credits**
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Business Strategies</td>
<td>12-M-IBS-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Information Systems Engineering

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**

The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

**Intended learning outcomes**

The module provides students with knowledge of:

(i) Theoretical concepts of strategy development and implementation in e-business context;

(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;

(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**

--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
International Trade and the Multinational Firm | 12-M-ITMF-161-m01

**Module coordinator**
holder of the Chair of International Macroeconomics

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

### Contents

**Description:**
The course starts out with theories of international trade based on comparative advantage (Ricardo and Heckscher-Ohlin) followed by theories based on monopolistic and oligopolistic competition to explain intra-industry trade. The final part covers firm heterogeneity and multinational firms.

**Outline of syllabus:**
1. Structure of the lecture
2. Ricardian trade theory
3. Heckscher-Ohlin trade theory
4. The general neoclassical model
5. Sector-specific factors: the Ricardo-Viner model
6. New trade theory: intra-industry trade, increasing returns to scale and imperfect competition
7. Firm heterogeneity, trade and FDI
8. The multinational firm

**Reading:**

A detailed list of references with further references, journal articles in particular, will be provided with each chapter of the lecture.

**Intended learning outcomes**
The students acquire the ability to critically understand the causes and drivers of world trade and the developments of specialization patterns in the global economy. They learn to analyze, discuss and defend these developments and to apply the tools and methods to evaluate controversies associated with the ongoing deepening of the international division of labor, in particular the repercussions of the global economy on national economies.

### Courses
(type, number of weekly contact hours, language — if other than German)

Ü (2) + V (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--
<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
</table>

---
Industrial Management
(20 ECTS credits)
Compulsory

(15 ECTS credits)
## Module title

**Industrial Management 1**

### Abbreviation

12-M-SBM-161-m01

## Module coordinator

holder of the Chair of Business Management and Industrial Management

## Module offered by

Faculty of Business Management and Economics

## ECTS Method of grading Only after succ. compl. of module(s)

| 5 | numerical grade | -- |

## Duration Module level Other prerequisites

| 1 semester | graduate | -- |

## Contents

The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

## Intended learning outcomes

Students learn the principles of performance-oriented optimization of all procurement activities to develop long-term, competitively sensitive potential for success. After completion of the module students are able to prepare structured, to goal-oriented analyze and to respond to performance-oriented issues of strategic procurement based on key instruments. Students are able to accurately classify the tasks of the procurement and to describe and discuss their strategic importance and dominate essential methods and procedures used in this area to apply.

## Courses

V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

## Method of assessment

a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English creditable for bonus

## Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

## Additional information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)
## Module title
Industrial Management 2

## Abbreviation
12-M-LA-161-m01

### Module coordinator
holder of the Chair of Business Management and Industrial Management

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

## Contents
This module analyses and classifies approaches of production planning and control. In addition, it develops methods and models of lot sizing and scheduling. The focus is on the determination of optimal production and transport volumes as well as the planning of orders and manufacturing orders.

## Intended learning outcomes
Students learn essential concepts, principles and methods of production planning and control with emphasis on the determination of optimal production and transport volumes as well as the planning of production and order sequences. Then, based on this expertise related knowledge broadening and deepening, essential competencies are conveyed, which allow the imaging of realistic situations and problems using mathematical and quantitative models for the derivation and assessment of alternative courses of action. After completion of the module students can answer, analyze and structure questions of production planning and control, goal-oriented. They can also arrange the planning areas in the overall business context and have an in-depth overview of the production planning and control.

## Courses
(type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Ü</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Course type: alternatively eLearning, S, WS

## Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and written elaboration (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

Language of assessment: German and/or English

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and written elaboration (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and written elaboration (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

## Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

## Additional information
--

## Referred to in LPO I (examination regulations for teaching-degree programmes)
--

---

Master’s with 1 major Economathematics (2016)  JMU Würzburg • generated 03-Apr-2021 • exam. reg. data record Master (120 ECTS) Wirtschaftsmathematik - 2016  page 78 / 402
### Module Catalogue for the Subject

**Economathematics**  
**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 3</td>
<td>12-M-SPM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This module will discuss contents and procedures of strategic production management and, in particular, planning and control concepts. Students will become familiar with the essentials of strategic production management. Theoretical and analytical models will be used for analysing both economic and ecological issues. In addition, the module will discuss principles of value structure optimisation and will develop competences regarding the development of integrated mathematical models.

### Intended learning outcomes

After completion of the module students are able to process, to analyze and answer questions of operations strategy structured and goal-oriented in a global context using appropriate methods. Furthermore, they know the main strategic tasks and objectives in production management and evaluate and apply planning and control concepts for the production in realistic application situations.

### Courses

(type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)
- Course type: alternatively eLearning, S, WS

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)
- Language of assessment: German and/or English
- creditable for bonus

### Allocation of places

- 20 places. 1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. 2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. 3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Compulsory Core Electives
(5 ECTS credits)
## Module Catalogue for the Subject

**Economathematics**

Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial Management 4</strong></td>
<td>12-M-BE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
<td>1 semester</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>

### Contents

This course will develop the objectives, principles and structure of electronically supported procurement processes with a special focus on catalogue-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems.

### Intended learning outcomes

The students will be able to describe and evaluate both the potentials and goals of electronic supported procurement systems and will be able to design appropriate systems for real-life applications. Students will get insight into the essentials of operational procurement management, especially e-procurement with a focus on catalog-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems. After completing this module, students can define and analyze the related tasks and processes and show or develop theory-based and application-oriented possible solutions at a high professional level.

### Courses (type, number of weekly contact hours, language — if other than German)

- **V (2) + Ü (2)**
  - Course type: alternatively eLearning, S, WS

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- **a)** written examination (approx. 40 to 60 minutes) or **b)** presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages), weighted 1:1 or **c)** term paper (approx. 30 to 40 pages) or **d)** entirely or partly computerised written examination (approx. 60 minutes)
  - Language of assessment: German and/or English

### Allocation of places

20 places. Should the number of applications exceed the number of available places, 15 places will be set aside for students of the Master's degree programmes Business Management and International Economic Policy or Economics and 5 places will be set aside for students of the Master's degree programme Wirtschaftsinformatik (Business Information Systems).

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Operations &amp; Logistics Management</td>
<td>12-M-AOLM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course "Advanced Operations & Logistics Management" acquaints students with advanced methods for the planning of integrated production and logistics systems and demonstrates the application of these with the help of multiple case studies.

**Intended learning outcomes**

After completing this course students can

(i) analyze and evaluate integrated production and logistics systems;
(ii) develop and apply appropriate methods to plan complex production and logistics systems;
(iii) evaluate the consequences of uncertainties in processes, and
(iv) apply concepts and methods to plan uncertainties processes.

<table>
<thead>
<tr>
<th>Courses (type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title
Global Logistics & Supply Chain Management

### Abbreviation
12-M-GLSC-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
The course "Global Logistics & Supply Chain Management" acquaints students with advanced methods for the planning of global production networks and demonstrates the application of these with the help of multiple case studies.

### Intended learning outcomes
After completing this course students can
(i) analyze and evaluate global production networks;
(ii) develop and apply appropriate methods to plan production networks;
(iii) evaluate the consequences of uncertainties in processes and apply concepts and methods to plan uncertain processes.

### Courses
(Type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment
(Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial Analytics &amp; Decision Making</td>
<td>12-M-MADM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The course "Managerial Analytics & Decision Making" discusses quantitative methods to structure and solve a diverse set of management problems and demonstrates the application of modern methods with the help of multiple case studies.

### Intended learning outcomes

After completing this course students can
(i) better understand and structure problems;
(ii) apply important theoretical and empirical frameworks to practical problems that evaluate good and bad decision making;
(iii) implement advanced analytical methods to support decision making under risk.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 1</td>
<td>12-M-TI1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

**Intended learning outcomes**

Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title
Theory of Industrial Organization 2

Abbreviation
12-M-TI2-161-m01

Module coordinator
holder of the Chair of Industrial Economics

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Description:
This course discusses vertical contracts in supply chains and their impact on competition.

Outline of syllabus:
1. The classic problem of double marginalisation and its solution by non-standard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

Intended learning outcomes
After completing the course students are able to
(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

Courses
(type, number of weekly contact hours, language — if other than German)
V (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
# Module Catalogue for the Subject
## Economathematics
Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management and Control</td>
<td>12-M-PROM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module focuses on the discussion and critical examination of instruments and methods used in the context of project management and controlling within enterprises. It covers characteristic features and structures of projects, their possible success factors, methods and instruments of the controlling and management of projects in various project phases as well as approaches to multi-project management. The theoretical basis as well as potential applications of these instruments are discussed.

**Intended learning outcomes**

Initially knowledge about fundamental requirements concerning instruments of project management and controlling is acquired. What is more the module conveys knowledge about strengths and weaknesses and thereby fields of application and limits of commonly used instruments and methods of practitioners. Competences within the configuration and development of the project management and controlling are obtained as well as skills within the practical use of the project management software MS Project.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
Decision Support Systems | 12-M-DSS-161-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
---|---|---
5 | numerical grade | --

Duration | Module level | Other prerequisites
---|---|---
1 semester | graduate | --

Contents

The course discusses advanced approaches for modelling and solving decision problems in business settings. The acquired insights are used to design and implement decision support systems using standard software tools.

Intended learning outcomes

After successfully completing the course, students should be able to

- Understand the structure of classic business decision problems
- Isolate key elements from general problem descriptions and convert them to quantitative decision models
- Solve different classes of optimization problems (linear, network, integer, multi-objective, non-linear, stochastic)
- Implement spreadsheet-based decision support systems

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
E-Business Strategies | 12-M-IBS-161-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

Intended learning outcomes

The module provides students with knowledge of:
(i) Theoretical concepts of strategy development and implementation in e-business context;
(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;
(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
Language of assessment: German and/or English creditable for bonus

Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title: Business Software 1: IS-based Enterprise Management

Abbreviation: 12-GPU-161-m01

Module coordinator: holder of the Chair of Business Management and Business Information Systems

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Content: This module provides students with an overview of the structure of a business information system (SAP Business ByDesign) in depth.

Outline of syllabus:
1. Integrated information systems: integration, standard software, system architecture
2. Working with standard business software
3. Consulting in integrated information systems: project management, project organisation, presentation skills

Description: The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

If you would like to register for this course, please submit an application to the consultants (cover letter, CV, certificates; please also specify your degree programme and student ID number).

Intended learning outcomes:

After completing the course "Business Software 1", students will be able to
(i) understand an ERP system in its depth;
(ii) understand the interaction of business processes;
(iii) execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

Courses:

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment:

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English creditable for bonus

Allocation of places:

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information:

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title: Business Software 2: Enterprise-Resource-Planning-Systeme
Abbreviation: 12-M-ERP-161-m01

Module coordinator: holder of the Chair of Business Management and Business Information Systems
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: unknown
Other prerequisites: --

Contents:

Content:
This module provides students with an overview of the structure of business information systems in width as well as the selection and implementation of business information systems in organisations.

Outline of syllabus:
1. Integrated information systems: integration, standard software, system architectures, operating models
2. Selection of integrated information systems: methods, cost-benefit analysis
3. Implementation of integrated information systems: project management, project organisation, project marketing

The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

Intended learning outcomes:
After completing the course "Business Software 2", students will be able to

1. differentiate between system architectures and -philosophies;
2. understand the interaction of business processes;
3. come to a selection decision for an ERP system using a structured approach and compare different ERP systems;
4. execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English creditable for bonus

Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information:
--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Information Systems</td>
<td>12-BI-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Information Systems Engineering</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The course provides an overview of the structure and applications of analytical information systems. A special focus is on individual quantitative methods of data analysis. A basic knowledge of statistics and data modelling is a prerequisite for participation in this module.

### Intended learning outcomes

The module provides students with knowledge of:

(i) Data Warehousing & OLAP  
(ii) Operational application areas and methods of data analysis

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)  
Language of assessment: German and/or English  
creditable for bonus

### Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

### Additional information

--

Referred to in LPO I  
(examination regulations for teaching-degree programmes)

--
### Module title
Mobile and Ubiquitous Systems

### Abbreviation
12-M-MUS-161-m01

### Module coordinator
holder of the Chair of Information Systems Engineering

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
The course will provide students with an overview of basic technologies and business applications of mobile and ubiquitous computing. Exercises running in parallel to lectures will present students with an opportunity to gain experience with mobile development platforms.
Prerequisite for participation in this module: knowledge of the basics of e-business; basic experience with software development tools would be an asset for exercises.

### Intended learning outcomes
The module provides students with knowledge of:
(i) Mobile Infrastructure  
(ii) Mobile Business  
(iii) The Auto-ID technologies  
(iv) Smart Metering  
(v) Sensor networks and localization systems

### Courses (type, number of weekly contact hours, language — if other than German)
\( \tilde{U} (2) + V (2) \)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Supply Chain Competition</td>
<td>12-M-SCC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In the seminar "Supply Chain Competition", students participate in an online multi-round simulation and apply methods of operations and supply chain management.

**Intended learning outcomes**

After completing this seminar students

i. selected and applied quantitative models for procurement, production, sales and supply chain management,

ii. faced the practical problems when using real data to feed models,

iii. and understand the challenges to reach a coordinated decision in a company.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 15 to 20 pages) and presentation (approx. 10 minutes), weighted 2:1

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English

**Allocation of places**

12 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Abbreviation: 12-GLP-161-m01
Module coordinator: holder of the Chair of Business Management and Business Information Systems
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents
ERP systems have become key elements of successful companies. Business processes in companies can no longer be managed without using such ERP systems. In financial departments of companies, such systems have been used for a long time, but business processes e. g. for logistical tasks have so far not been supported by ERP solutions. This module explains how this issue could be resolved as well as what constraints and what dependencies have to be considered.

Intended learning outcomes
After completing this module, students should be able to
(i) know about actual business processes in companies;
(ii) understand selected problems in the organization and design of logistical business processes and work out solutions;
(iii) know and design basic data structures and data flows of an ERP system;
(iv) map business processes within an ERP system;
(v) consider the specifics of a certain industry (e. g. the process industry) when organizing business processes;
(vi) map the core business processes within an ERP system.

Courses: V (2) + Ü (2)

Method of assessment: written examination (approx. 60 minutes)
Language of assessment: German and/or English
Creditable for bonus: --

Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I: (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Strategic Management of Global Supply Chains | 12-M-SMGS-161-m01

Module coordinator | Module offered by
holder of the Chair of Logistics and Quantitative Methods in Business Administration | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

Description:
In the course "Strategic Management of Global Supply Chains", students will become familiar with the basic principles of building an efficient global supply chain and will apply what they have learned working on multiple case studies.

Intended learning outcomes

After completing this course students
(i) can apply the basic methods and concepts of supply chain management to practical settings and evaluate the results, and
(ii) understand the effects of global value chains onto strategic company decisions.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Value Management</td>
<td>12-M-GVM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In this course, students will explore selected issues of procurement, production and logistics management.

**Intended learning outcomes**

In addition to the necessary expertise in the management of global value networks, in this seminar (inter-)disciplinary and social competences are taught, because these from procurement, production and logistics management at least partially independent capabilities provide a not important success factor of a successful (global and usually intercultural) cooperation to deal with the complex problems of the global value management.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) term paper (approx. 15 pages)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Information Management
(20 ECTS credits)
Compulsory

(10 ECTS credits)
**Module title** | **Abbreviation**
--- | ---
E-Business Strategies | 12-M-IBS-161-m01

**Module coordinator** | **Module offered by**
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

**Intended learning outcomes**

The module provides students with knowledge of:

(i) Theoretical concepts of strategy development and implementation in e-business context;

(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;

(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Processing within Organizations</td>
<td>12-IV-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Business Information Systems</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Content:**
This course provides students with an in-depth overview of the structure and the application areas of business management information systems in enterprises and public institutions.

**Outline of syllabus:**
1. What is software: concepts, categories, application
2. Software life cycle: duration, phases, steps
3. As-is analysis: tasks, problems
4. To-be concept: system design, data design, dialog design, function design
5. Object orientation: paradigm shift
6. Change management: meaning, methodologies, project management
7. Office automation: tasks, areas of application

**Intended learning outcomes**

After completing the course "Integrated Information Processing", students will be able to
(i) understand the importance of integration in enterprises, especially in information systems;
(ii) assess the progress of development of a software project, estimate cycle costs, know and consider requirements, which brings a software implementation with;
(iii) select the correct procedures or practices in an as-is analysis and target conception and practically apply (with participation in the exercise);
(iv) understand the importance of change management and project management and know the appropriate methods for specific applications.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Compulsory Core Electives

(10 ECTS credits)
Adaption and Continuous System Engineering
12-ACSE-161-m01

Module coordinator
holder of the Chair of Business Management and Business Information Systems

Module offered by
Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
--- | --- | ---
5 | numerical grade | --

Duration | Module level | Other prerequisites
--- | --- | ---
1 semester | graduate | --

Contents

**Business Suite:** The constantly changing environment with its organisational and IT-oriented developments forces companies to adapt their standard business software solutions. With the help of dynamic adaptation (Continuous System Engineering), this process of change can be supported effectively and efficiently. This module discusses both the systematic implementation of adaptation steps (so-called customising) using the example of the mySAP Business Suite and the concept of Continuous System Engineering using various practical examples. **Business Apps:** The course combines theory and practice in the area of cloud computing and ERP. Participants gain an insight into the architecture of the ByDesign platform and are presented with an opportunity to gain practical experience working with the corresponding software development kit.

Content:
- Fundamentals of cloud computing
- Cloud business solutions
- Architecture of the SAP Business ByDesign platform
- Platform adaption and extensibility
- Basics of software development in SAP Cloud Applications Studio
- Hands-on SDK: independently designing and developing a demo app

Intended learning outcomes

Business Suite: Students learn about the various ways of adapting a standard business software solution to the special requirements of a company. They also develop a fundamental understanding of the dynamic adaptation of business software libraries. Based on selected examples from the SAP Business Suite that the acquired knowledge will be deepened by using case studies. Business Apps: The course imparts knowledge and delivers skills in cloud computing for businesses, ERP systems architecture and software development at the example of the SAP Business ByDesign platform. The independent planning, implementation and documentation of a business app trains important core competencies of technology-oriented Business Informatics.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 20 pages) or c) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English

Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Information Systems</td>
<td>12-BI-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Information Systems Engineering</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course provides an overview of the structure and applications of analytical information systems. A special focus is on individual quantitative methods of data analysis. A basic knowledge of statistics and data modelling is a prerequisite for participation in this module.

**Intended learning outcomes**

The module provides students with knowledge of:

(i) Data Warehousing & OLAP
(ii) Operational application areas and methods of data analysis

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
Business Service Platforms 1 | 12-BSA-161-m01

Module coordinator
holder of the Chair of Business Management and Business Information Systems

Module offered by
Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
--- | --- | ---
5 | numerical grade | --

Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents
A next generation of enterprise systems called business service platforms is emerging using new disruptive technologies such as cloud computing, big data and mobility. These business service platforms apply the concept of product platforms to software. They will
1. be services based
2. be offered as a service in the cloud
3. address new classes of users and types of business especially in the service business
4. allow for a high degree of business adaptability and extensibility.
5. be supplemented by a broad offer of partner add-ons supporting accelerated innovation.
These new business service platforms will play a key role in the digital transformation of the software industry.

Intended learning outcomes
Be aware of the big business productivity progress enabled by BIS in the last 50 years. Understand the limitations of these systems in spite of the digital transformation of the software industry ahead. Be able to critically assess the business potential of new IC technologies. Understand the business demand for change. Understand the necessary organizational learning needed to leverage new technology for business change management.

Courses
(type, number of weekly contact hours, language — if other than German)
V (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places
40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Software 1: IS-based Enterprise Management</td>
<td>12-GPU-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Business</td>
<td>Faculty of Business Management and Economics</td>
</tr>
<tr>
<td>Information Systems</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Content:**

This module provides students with an overview of the structure of a business information system (SAP Business ByDesign) in depth.

**Outline of syllabus:**

1. Integrated information systems: integration, standard software, system architecture
2. Working with standard business software
3. Consulting in integrated information systems: project management, project organisation, presentation skills

**Description:**

The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

If you would like to register for this course, please submit an application to the consultants (cover letter, CV, certificates; please also specify your degree programme and student ID number).

**Intended learning outcomes**

After completing the course "Business Software 1", students will be able to

(i) understand an ERP system in its depth;
(ii) understand the interaction of business processes;
(iii) execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO 1** (examination regulations for teaching-degree programmes)

--
### Module title

Supply Network Information Management

### Abbreviation

12-M-SCIM-161-m01

### Module coordinator

holder of the Chair of Business Management and Business Information Systems

### Module offered by

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration

1 semester graduate

### Contents

Since mass production on the assembly line with continuous deliveries (supply chain) revolutionised the procurement process in the 19th century, the usage of information processing has made more flexible operations possible and the demand of customers for individualised products has made more flexible operations necessary. It has become possible to adopt a much more differentiated and sophisticated approach to the electronic supply chain and the planning of the same so that the challenge we are facing today is designing procurement networks (supply networks) that also take into account the delivery sequence for all deterministically procured parts of all suppliers. This module will discuss these conceptual fundamentals of supply management and, in particular, how the managing of procurement activities can be supported by information processing. The module will look at how well ERP systems can support these activities, how new hardware and software technologies can be used to accelerate the currently time-consuming procurement processes and how formerly isolated information systems of individual firms can be integrated into a network of supply management.

### Intended learning outcomes

Students will earn an overall understanding of the complex structure of supply relationships for individual products and their dependencies for a variety of products. Student will also be trained to recognize (from the perspective of the parties involved into the production process) opportunities and to make decisions in these regards. These relations will be of crucial importance for all production-oriented managers because only a solid understanding of these relationships will help to be successful in the marketplace.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>written examination (approx. 60 minutes)</td>
</tr>
<tr>
<td>Language of assessment: German and/or English</td>
</tr>
<tr>
<td>creditable for bonus</td>
</tr>
</tbody>
</table>

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title

Work and Information

Abbreviation

12-ITA-161-m01

Module coordinator

holder of the Chair of Business Management and Business Information Systems

Module offered by

Faculty of Business Management and Economics

ECTS

5

Method of grading

numerical grade

Only after succ. compl. of module(s)

Duration

1 semester

Module level

graduate

Other prerequisites

--

Contents

This module discusses relevant principles, concepts and applications of business information processing and its impact on organisational and process structures in today's business world.

Intended learning outcomes

The expertise gained from other modules related to business management issues can be interpreted and classified in a certain way by participating in this module. For decisions in regards to human resources planning, investment, and a company's strategy, the students will get to know all the relevant concepts and interdependencies, which come with taking information processing into account as the so called "fourth" factor of production.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Support Systems</td>
<td>12-M-DSS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Information Systems Engineering</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course discusses advanced approaches for modelling and solving decision problems in business settings. The acquired insights are used to design and implement decision support systems using standard software tools.

**Intended learning outcomes**

After successfully completing the course, students should be able to

- Understand the structure of classic business decision problems
- Isolate key elements from general problem descriptions and convert them to quantitative decision models
- Solve different classes of optimization problems (linear, network, integer, multi-objective, non-linear, stochastic)
- Implement spreadsheet-based decision support systems

**Courses** (type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
- Language of assessment: German and/or English
- Creditable for bonus

**Allocation of places**

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**

- --

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

- --
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information systems research</td>
<td>12-M-ISR-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Information Systems Engineering

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**
The course provides an overview of theoretical scientific foundations, theories, research topics and methods of international research in business informatics.

**Intended learning outcomes**
The module provides students with knowledge of:
(i) Exploration of classical themes of WI / IS research;
(ii) Getting to know the relevant paradigms, theories and methods;
(iii) Recognition of the interfaces to other areas of business administration and management practice;
(iv) Gain experience in finding and evaluating of scientific literature.

**Courses**
(V (2) + Ü (2))

**Method of assessment**
(a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English
creditable for bonus

**Allocation of places**
40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Work Order Planning for Automated Manufacturing | 12-M-AGAF-161-m01

Module coordinator
holder of the Chair of Business Management and Business Information Systems

Module offered by
Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
---|---|---
5 | numerical grade | --

Duration | Module level | Other prerequisites
---|---|---
1 semester | graduate | --

Contents
The idea of integration of business information systems is primarily practiced and developed as an ERP system in terms of business application areas, their temporal overlap (data warehouse), their spatial relationship (supply network) and connection of legal tasks (eGovernment). However, linking the commercial view of incoming customer orders with the logistic or more technical view of the scheduling of production orders and the resulting consequences for the processes is a critical success factor.

Intended learning outcomes
Linking research and lectures of the Institute of Robotics and Telematics as well as the orientation of the Chair of Business Integration allows students a conceptual as well as practical insight into the challenges of this in the future essential part of the operational automation development.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title

**Management and Leadership in Organizations**

### Abbreviation

12-MFO-161-m01

### Module coordinator

holder of the Chair of Business Management and Business Information Systems

### Module offered by

Faculty of Business Management and Economics

### ECTS

5

### Method of grading

numerical grade

### Only after succ. compl. of module(s)

--

### Duration

1 semester

### Module level

graduate

### Other prerequisites

--

### Contents

#### Part I:

The complexity of the modern work environment and the constantly changing organisational structures of companies lead to a demand for young managers with a high diversity of expertise that are able to play their part in managing the organisational world. The lecture will provide students with an insight into the characteristics, tasks and instruments as well as the challenges of management in organisations and situations that are becoming ever more complex.

Outline of syllabus:
- Introduction -- Power in the daily management routine
- Fundamentals of management in complex organisations
- Tasks and instruments of management
- Leadership in an intercultural context
- Assurance of employability
- Conclusion -- Management of supervisors and colleagues

#### Part II:

Today’s world of work is characterised by continuous change in a global context. Mergers, integrations and acquisitions - these are key terms in this context. The majority of change processes does not have the desired effect or even fails. This is not least due to the fact that not enough attention is paid to the complexity of these processes and to employees.

The support and integration of successful change processes is a central responsibility of managers as well as a complex and central task that requires sound preparation.

Outline of syllabus:
- Introduction - typical change scenarios
- Psychological basics and concepts
- Approaches and control in change projects
- Measures and instruments of change management
- The role of management
- Conclusion - example of application acquisitions and cases

### Intended learning outcomes

#### Part I: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding management in complex organizations
- Introduction of essential tasks and instruments of managers and their apply to authentic cases.
- To illustrate and reflect the tensions of management in complex situations and international context

#### Part II: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding changes
- Introduction, suitability of daily use and critical reflection of essential concepts, models and methods
- Foster the understanding for the necessity, complexity of changes as well as their constraints and barriers.

### Courses

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>(2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>written examination (approx. 60 minutes)</td>
</tr>
<tr>
<td></td>
<td>Language of assessment: German and/or English</td>
</tr>
<tr>
<td></td>
<td>creditable for bonus</td>
</tr>
<tr>
<td>Allocation of places</td>
<td>--</td>
</tr>
<tr>
<td>Additional information</td>
<td>--</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>(examination regulations for teaching-degree programmes)</td>
</tr>
<tr>
<td></td>
<td>--</td>
</tr>
</tbody>
</table>
Module title

Abbreviation
12-GLP-161-m01

Module coordinator
holder of the Chair of Business Management and Business Information Systems

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
ERP systems have become key elements of successful companies. Business processes in companies can no longer be managed without using such ERP systems. In financial departments of companies, such systems have been used for a long time, but business processes e.g. for logistical tasks have so far not been supported by ERP solutions. This module explains how this issue could be resolved as well as what constraints and what dependencies have to be considered.

Intended learning outcomes
After completing this module, students should be able to
(i) know about actual business processes in companies;
(ii) understand selected problems in the organization and design of logistical business processes and work out solutions;
(iii) know and design basic data structures and data flows of an ERP system;
(iv) map business processes within an ERP system;
(v) consider the specifics of a certain industry (e.g. the process industry) when organizing business processes;
(vi) map the core business processes within an ERP system.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English creditable for bonus

Allocation of places
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Logistics & Supply Chain Management
(20 ECTS credits)
Compulsory

(15 ECTS credits)
Module title | Abbreviation
--- | ---
Advanced Operations & Logistics Management | 12-M-AOLM-161-m01

Module coordinator | Module offered by
holder of the Chair of Logistics and Quantitative Methods in Business Administration | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
The course "Advanced Operations & Logistics Management" acquaints students with advanced methods for the planning of integrated production and logistics systems and demonstrates the application of these with the help of multiple case studies.

Intended learning outcomes
After completing this course students can
(i) analyze and evaluate integrated production and logistics systems;
(ii) develop and apply appropriate methods to plan complex production and logistics systems;
(iii) evaluate the consequences of uncertainties in processes, and
(iv) apply concepts and methods to plan uncertainties processes.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title
Global Logistics & Supply Chain Management

Abbreviation
12-M-GLSC-161-m01

Module coordinator
holder of the Chair of Logistics and Quantitative Methods in Business Administration

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
The course "Global Logistics & Supply Chain Management" acquaints students with advanced methods for the planning of global production networks and demonstrates the application of these with the help of multiple case studies.

Intended learning outcomes
After completing this course students can
(i) analyze and evaluate global production networks;
(ii) develop and apply appropriate methods to plan production networks;
(iii) evaluate the consequences of uncertainties in processes and apply concepts and methods to plan uncertain processes.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English
credible for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title
Managerial Analytics & Decision Making

### Abbreviation
12-M-MADM-161-m01

### Module coordinator
holder of the Chair of Logistics and Quantitative Methods in Business Administration

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
The course "Managerial Analytics & Decision Making" discusses quantitative methods to structure and solve a diverse set of management problems and demonstrates the application of modern methods with the help of multiple case studies.

### Intended learning outcomes
After completing this course students can
(i) better understand and structure problems;
(ii) apply important theoretical and empirical frameworks to practical problems that evaluate good and bad decision making;
(iii) implement advanced analytical methods to support decision making under risk.

### Courses
(type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
Compulsory Core Electives

(5 ECTS credits)
### Seminar: Supply Chain Competition

**Module title**

Seminare: Supply Chain Competition

**Abbreviation**

12-M-SCC-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In the seminar "Supply Chain Competition", students participate in an online multi-round simulation and apply methods of operations and supply chain management.

**Intended learning outcomes**

After completing this seminar students

i. selected and applied quantitative models for procurement, production, sales and supply chain management,

ii. faced the practical problems when using real data to feed models,

iii. and understand the challenges to reach a coordinated decision in a company.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 15 to 20 pages) and presentation (approx. 10 minutes), weighted 2:1

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English

**Allocation of places**

12 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
## Seminar: Special Topics in Supply Chain Management

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Special Topics in Supply Chain Management</td>
<td>12-M-TSC-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator
holder of the Chair of Logistics and Quantitative Methods in Business Administration

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
unknown

### Other prerequisites
--

### Contents
No information on contents available.

### Intended learning outcomes
No information on intended learning outcomes available.

### Courses (type, number of weekly contact hours, language — if other than German)
S (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 15 to 20 pages) and presentation (approx. 10 minutes), weighted 2:1
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English

### Allocation of places
12 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 1</td>
<td>12-M-SBM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

**Intended learning outcomes**

Students learn the principles of performance-oriented optimization of all procurement activities to develop long-term, competitively sensitive potential for success. After completion of the module students are able to prepare structured, to goal-oriented analyze and to respond to performance-oriented issues of strategic procurement based on key instruments. Students are able to accurately classify the tasks of the procurement and to describe and discuss their strategic importance and dominate essential methods and procedures used in this area to apply.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

**Method of assessment** (type, scope, language — if other than German, examination offered — If not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
**Module title** | **Abbreviation**  
---|---  
Industrial Management 2 | 12-M-LA-161-m01

**Module coordinator**  
holder of the Chair of Business Management and Industrial Management  
**Module offered by**  
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This module analyses and classifies approaches of production planning and control. In addition, it develops methods and models of lot sizing and scheduling. The focus is on the determination of optimal production and transport volumes as well as the planning of orders and manufacturing orders.

**Intended learning outcomes**

Students learn essential concepts, principles and methods of production planning and control with emphasis on the determination of optimal production and transport volumes as well as the planning of production and order sequences. Then, based on this expertise related knowledge broadening and deepening, essential competencies are conveyed, which allow the imaging of realistic situations and problems using mathematical and quantitative models for the derivation and assessment of alternative courses of action. After completion of the module students can answer, analyze and structure questions of production planning and control, goal-oriented. They can also arrange the planning areas in the overall business context and have an in-depth overview of the production planning and control.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)  
Course type: alternatively eLearning, S, WS

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and written elaboration (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module Catalogue for the Subject

Economathematics

Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 3</td>
<td>12-M-SPM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This module will discuss contents and procedures of strategic production management and, in particular, planning and control concepts.

Students will become familiar with the essentials of strategic production management. Theoretical and analytical models will be used for analysing both economic and ecological issues. In addition, the module will discuss principles of value structure optimisation and will develop competences regarding the development of integrated mathematical models.

### Intended learning outcomes

After completion of the module students are able to process, to analyze and answer questions of operations strategy structured and goal-oriented in a global context using appropriate methods. Furthermore, they know the main strategic tasks and objectives in production management and evaluate and apply planning and control concepts for the production in realistic application situations.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

Course type: alternatively eLearning, S, WS

### Method of assessment

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)</td>
</tr>
</tbody>
</table>

Language of assessment: German and/or English

### Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)
**Module title** | **Abbreviation**
--- | ---
Industrial Management 4 | 12-M-BE-161-m01

**Module coordinator**
holder of the Chair of Business Management and Industrial Management

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This course will develop the objectives, principles and structure of electronically supported procurement processes with a special focus on catalogue-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems.

**Intended learning outcomes**

The students will be able to describe and evaluate both the potentials and goals of electronic supported procurement systems and will be able to design appropriate systems for real-life applications. Students will get insight into the essentials of operational procurement management, especially e-procurement with a focus on catalog-based procurement systems, electronic tendering systems, electronic (reverse) auctions, e-marketplaces, supplier relationship management systems and eSupply chain management systems. After completing this module, students can define and analyze the related tasks and processes and show or develop theory-based and application-oriented possible solutions at a high professional level.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages), weighted 1:1 or c) term paper (approx. 30 to 40 pages) or d) entirely or partly computerised written examination (approx. 60 minutes)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. Should the number of applications exceed the number of available places, 15 places will be set aside for students of the Master's degree programmes Business Management and International Economic Policy or Economics and 5 places will be set aside for students of the Master's degree programme Wirtschaftsinformatik (Business Information Systems).

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Processes Organisation, Business Software and Process Industries</td>
<td>12-GLP-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Business Information Systems</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

ERP systems have become key elements of successful companies. Business processes in companies can no longer be managed without using such ERP systems. In financial departments of companies, such systems have been used for a long time, but business processes e. g. for logistical tasks have so far not been supported by ERP solutions. This module explains how this issue could be resolved as well as what constraints and what dependencies have to be considered.

**Intended learning outcomes**

After completing this module, students should be able to
(i) know about actual business processes in companies;
(ii) understand selected problems in the organization and design of logistical business processes and work out solutions;
(iii) know and design basic data structures and data flows of an ERP system;
(iv) map business processes within an ERP system;
(v) consider the specifics of a certain industry (e. g. the process industry) when organizing business processes;
(vi) map the core business processes within an ERP system.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Theory of Industrial Organization 1
Abbreviation: 12-M-TI1-161-m01

Module coordinator: holder of the Chair of Industrial Economics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
- Theory of industrial organisation:
  1. Monopoly pricing
  - Nonlinear pricing and mechanism design
  - Dynamic pricing: experience goods, durable goods
  2. Oligopoly pricing
  - Static price and quantity competition in homogeneous and differentiated goods markets
  - Comparative statics
  - Equilibrium market structure
  3. Dynamic competition in oligopoly markets
  - Repeated games and collusion
  - Markov perfect equilibrium and models of dynamic competition
  4. Strategic behaviour by incumbent firms
  - Entry deterrence and predation
  - Signalling and reputation
  5. Auctions
  - Second price auctions
  - First price auctions
  6. Advertising and product design

The course will be taught in English.

Intended learning outcomes:
Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English
credible for bonus

Allocation of places
--

Additional information
--

Master's with 1 major Economathematics (2016)
Referred to in LPO I  (examination regulations for teaching-degree programmes)
### Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>12-M-TI2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
This course discusses vertical contracts in supply chains and their impact on competition.

**Outline of syllabus:**
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

**Intended learning outcomes**

After completing the course students are able to
(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

### Courses

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)</td>
</tr>
</tbody>
</table>

**Assessment offered:** In the semester in which the course is offered

**Language of assessment:** German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management and Control</td>
<td>12-M-PROM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The module focuses on the discussion and critical examination of instruments and methods used in the context of project management and controlling within enterprises. It covers characteristic features and structures of projects, their possible success factors, methods and instruments of the controlling and management of projects in various project phases as well as approaches to multi-project management. The theoretical basis as well as potential applications of these instruments are discussed.

### Intended learning outcomes

Initially knowledge about fundamental requirements concerning instruments of project management and controlling is acquired. What is more the module conveys knowledge about strengths and weaknesses and thereupon fields of application and limits of commonly used instruments and methods of practitioners. Competences within the configuration and development of the project management and -controlling are obtained as well as skills within the practical use of the project management software MS Project.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

- written examination (approx. 60 minutes)
- Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

( examination regulations for teaching-degree programmes)
### Decision Support Systems

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Support Systems</td>
<td>12-M-DSS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Information Systems Engineering</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The course discusses advanced approaches for modelling and solving decision problems in business settings. The acquired insights are used to design and implement decision support systems using standard software tools.

### Intended learning outcomes

After successfully completing the course, students should be able to

- Understand the structure of classic business decision problems
- Isolate key elements from general problem descriptions and convert them to quantitative decision models
- Solve different classes of optimization problems (linear, network, integer, multi-objective, non-linear, stochastic)
- Implement spreadsheet-based decision support systems

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

- a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
- Language of assessment: German and/or English
- creditable for bonus

### Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
E-Business Strategies | 12-M-IBS-161-m01

Module coordinator
holder of the Chair of Information Systems Engineering

Module offered by
Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
---|---|---
5 | numerical grade | --

Duration | Module level | Other prerequisites
---|---|---
1 semester | graduate | --

Contents
The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

Intended learning outcomes
The module provides students with knowledge of:
(i) Theoretical concepts of strategy development and implementation in e-business context;
(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;
(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

Allocation of places
40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title

**Business Software 1: IS-based Enterprise Management**

### Abbreviation

12-GPU-161-m01

### Module coordinator

holder of the Chair of Business Management and Business Information Systems

### Module offered by

Faculty of Business Management and Economics

### ECTS

5

### Method of grading

numerical grade

### Only after succ. compl. of module(s)

--

### Duration

1 semester

### Module level

graduate

### Other prerequisites

--

### Contents

#### Content:

This module provides students with an overview of the structure of a business information system (SAP Business ByDesign) in depth.

#### Outline of syllabus:

1. Integrated information systems: integration, standard software, system architecture
2. Working with standard business software
3. Consulting in integrated information systems: project management, project organisation, presentation skills

#### Description:

The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

If you would like to register for this course, please submit an application to the consultants (cover letter, CV, certificates; please also specify your degree programme and student ID number).

### Intended learning outcomes

After completing the course "Business Software 1", students will be able to

(i) understand an ERP system in its depth;
(ii) understand the interaction of business processes;
(iii) execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English creditable for bonus

### Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
Business Software 2: Enterprise-Resource-Planning-Systeme | 12-M-ERP-161-m01

Module coordinator | Module offered by
---|---
holder of the Chair of Business Management and Business Information Systems | Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
---|---|---
5 | numerical grade | --

Duration | Module level | Other prerequisites
---|---|---
1 semester | unknown | --

Contents

Content:
This module provides students with an overview of the structure of business information systems in width as well as the selection and implementation of business information systems in organisations.

Outline of syllabus:
1. Integrated information systems: integration, standard software, system architectures, operating models
2. Selection of integrated information systems: methods, cost-benefit analysis
3. Implementation of integrated information systems: project management, project organisation, project marketing

The lecture will be accompanied by an exercise that will present students with an opportunity to access, in small groups, the enterprise resource planning system operated by the Chair in its ERP laboratory and to work with the software, dealing with a wide variety of business processes.

Intended learning outcomes

After completing the course "Business Software 2", students will be able to
1. differentiate between system architectures and -philosophies;
2. understand the interaction of business processes;
3. come to a selection decision for an ERP system using a structured approach and compare different ERP systems;
4. execute business tasks and processes in an ERP system independently (after participation in the practice lessons).

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 10 to 15 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: Once a year, summer semester

Language of assessment: German and/or English creditable for bonus

Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

---
Module Catalogue for the Subject
Economathematics
Master's with 1 major, 120 ECTS credits

Referred to in LPO I (examination regulations for teaching-degree programmes)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Information Systems</td>
<td>12-BI-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Information Systems Engineering</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The course provides an overview of the structure and applications of analytical information systems. A special focus is on individual quantitative methods of data analysis. A basic knowledge of statistics and data modelling is a prerequisite for participation in this module.

### Intended learning outcomes

The module provides students with knowledge of:

(i) Data Warehousing & OLAP  
(ii) Operational application areas and methods of data analysis

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
</table>
| written examination (approx. 60 minutes)  
Language of assessment: German and/or English  
creditable for bonus |

### Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title: Mobile and Ubiquitous Systems
Abbreviation: 12-M-MUS-161-m01

Module coordinator: holder of the Chair of Information Systems Engineering
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s) --

Duration: 1 semester
Module level: graduate
Other prerequisites --

Contents:
The course will provide students with an overview of basic technologies and business applications of mobile and ubiquitous computing. Exercises running in parallel to lectures will present students with an opportunity to gain experience with mobile development platforms.
Prerequisite for participation in this module: knowledge of the basics of e-business; basic experience with software development tools would be an asset for exercises.

Intended learning outcomes:
The module provides students with knowledge of:
(i) Mobile Infrastructure
(ii) Mobile Business
(iii) The Auto-ID technologies
(iv) Smart Metering
(v) Sensor networks and localization systems

Courses:
(2) Ü + V (2)

Method of assessment:
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
Language of assessment: German and/or English

Allocation of places --

Additional information --

Referred to in LPO I (examination regulations for teaching-degree programmes) --
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Management of Global Supply Chains</td>
<td>12-M-SMGS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
In the course "Strategic Management of Global Supply Chains", students will become familiar with the basic principles of building an efficient global supply chain and will apply what they have learned working on multiple case studies.

**Intended learning outcomes**
After completing this course students
(i) can apply the basic methods and concepts of supply chain management to practical settings and evaluate the results, and
(ii) understand the effects of global value chains onto strategic company decisions.

**Courses**
(type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- written examination (approx. 60 minutes)
- Language of assessment: German and/or English
- creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)

--
Human Resource Management and Organization
(20 ECTS credits)
Compulsory
(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives in Organizations</td>
<td>12-M-AO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Anreize in Organisationen" ("Incentives in Organisations") is based on the principal agent theory. This theory will be used to develop financial and economic solutions to help overcome the conflict of interests between employers and employees. In addition to the most widely used theories, estimation techniques and empirical results are also introduced and discussed. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area incentives in organisation on the basis of scientific literature.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--

--
**Module title**  
Human Resource Management and Industrial Relations  
Abbreviation: 12-M-HRM-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Human Resource Management und Industrielle Beziehungen" ("Human Resource Management and Industrial Relations") introduces advanced theories, estimation techniques and empirical results from the areas of human resources and institutional frameworks such as industrial relations. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area human resource management and industrial relations on the basis of scientific literature.

**Courses**  
(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**  
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I**  
(examination regulations for teaching-degree programmes)

--
Compulsory Core Electives

(10 ECTS credits)
Module title: Management and Leadership in Organizations
Abbreviation: 12-MFO-161-m01

Module coordinator: holder of the Chair of Business Management and Business Information Systems
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:

Part I:
The complexity of the modern work environment and the constantly changing organisational structures of companies lead to a demand for young managers with a high diversity of expertise that are able to play their part in managing the organisational world. The lecture will provide students with an insight into the characteristics, tasks and instruments as well as the challenges of management in organisations and situations that are becoming ever more complex.

Outline of syllabus:
- Introduction -- Power in the daily management routine
- Fundamentals of management in complex organisations
- Tasks and instruments of management
- Leadership in an intercultural context
- Assurance of employability
- Conclusion -- Management of supervisors and colleagues Part II: Today's world of work is characterised by continuous change in a global context. Mergers, integrations and acquisitions - these are key terms in this context. The majority of change processes does not have the desired effect or even fails. This is not least due to the fact that not enough attention is paid to the complexity of these processes and to employees.

The support and integration of successful change processes is a central responsibility of managers as well as a complex and central task that requires sound preparation.

Outline of syllabus:
- Introduction - typical change scenarios
- Psychological basics and concepts
- Approaches and control in change projects
- Measures and instruments of change management
- The role of management
- Conclusion - example of application acquisitions and cases

Intended learning outcomes:

Part I: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding management in complex organisations
- Introduction of essential tasks and instruments of managers and their apply to authentic cases.
- To illustrate and reflect the tensions of management in complex situations and international context Part II: Course objectives:
- Provide a widespread insight into the current status of theory and practice regarding changes
- Introduction, suitability of daily use and critical reflection of essential concepts, models and methods
- Foster the understanding for the necessity, complexity of changes as well as their constraints and barriers.

Courses (type, number of weekly contact hours, language — if other than German)
V (2)
<table>
<thead>
<tr>
<th><strong>Method of assessment</strong> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>written examination (approx. 60 minutes)</td>
</tr>
<tr>
<td>Language of assessment: German and/or English</td>
</tr>
<tr>
<td>creditable for bonus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Allocation of places</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Additional information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Referred to in LPO I</strong> (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
<tr>
<td>Module title</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Employment Law</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of the Faculty of Business Management and Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

[a) written examination (approx. 120 minutes) and b) talk (approx. 30 minutes), weighted 3:2] or [a) written examination (approx. 120 minutes) and b) presentation (approx. 15 minutes) and c) written elaboration of presentation (approx. 10 pages), weighted 3:1:1]

**Allocation of places**

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module Catalogue for the Subject

**Economathematics**
Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Microeconomics</td>
<td>12-M-AM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economics, Information and Contract Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as:

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

### Intended learning outcomes

After completing the course students are able to

1. explain essential findings of microeconomic theory,
2. apply the involved methods to given simple examples on their own,
3. recognize, in which real life situations and how the results can be applied.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)</td>
</tr>
</tbody>
</table>

Language of assessment: German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>12-M-TI2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
This course discusses vertical contracts in supply chains and their impact on competition.

**Outline of syllabus:**
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

**Intended learning outcomes**

After completing the course students are able to

(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
Theory of Social Policy | 12-M-TSP-161-m01

Module coordinator | Module offered by
holder of the Chair of Economic Order and Social Policy | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

Duration | Module level
1 semester | graduate

Contents
The lecture "Theorie der Sozialpolitik" ("Theory of Social Policy") discusses the concept of social security and the concept of social justice. In the first part of the course, which will deal with social security, students will acquire a general overview of possible market failures in an insurance market. One chapter will then each be devoted to the introduction and characterisation of the three main branches of social insurance (pension, health and unemployment insurance). Subsequently, different options for a reform of the individual branches of social insurance will be introduced and evaluated in terms of efficiency. In the second part of the course, which will deal with social justice, different definitions of the concept of justice will be discussed in more detail. Here, the main focus will be on identifying and critically examining different criteria for the measurement of inequality in a society. In addition, efficiency-oriented justifications for redistributive policies by the government will be addressed and discussed with students.

Intended learning outcomes
The graduate student has acquired following skills and abilities after completion of the module:
(i) Detailed knowledge of institutional foundations of the German social security system
(ii) Mechanics of an insurance market
(iii) Emergence and problems of adverse selection and moral hazard in the context of social insurances
(iv) Measurement and interpretation of inequality measures, particularly of income inequality
(v) Mechanics and welfare effects of state redistribution
(vi) The impact of state redistribution on macroeconomic variables

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Market Economics</td>
<td>12-M-OEA-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

holder of the Chair of Economic Order and Social Policy

**Module offered by**

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
In this course, students will acquire an in-depth understanding of the problems of the German national labour market. The course will discuss economic as well as political-economic theories that can explain the phenomenon of unemployment.

**Outline of syllabus:**
1. Labour market empirics
2. Why has Germany not been able, for more than two decades, to clear the labour markets?
3. What policy is best suited to tackle labour market problems?
4. How can we break through the rigid political-economic structures in our society?

**Basic reading:**

**Intended learning outcomes**
The students receive an understanding of the functioning of the labour market and its institutions. They will also be enabled to identify and to evaluate common approaches to mitigate unemployment.

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Ü (2) + V (2)</th>
</tr>
</thead>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
## Module title
Social Insurance and the Welfare State

### Abbreviation
12-M-F3-161-m01

### Module coordinator
holder of the Chair of Public Finance

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
graduate

### Contents
**Description:**
This module discusses the economic justification for implementing social security systems in a market economy and provides students with deeper insights into this topic with the help of specific issues of public health and retirement policy.

**Reading:** lecture notes provided by Chair.

**Contents:**
1. Public intervention in insurance markets
2. The insurance function of social security
3. Social security and social morale
4. The optimal health insurance contract
5. Alternative financing schemes for public health in Germany
6. Why do we need a public pension system?
7. Funding vs pay-as-you-go financing of public pensions

### Intended learning outcomes
After completing the module "Theorie der Sozialversicherung" students are able to explain the theoretical foundation of the social security system in a market economy. Using simple partial equilibrium models they can discuss the financing and contract structure of the public health and pension system. Finally they are able to analyze the consequences of policy reforms.

### Courses
(type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Microeconometrics | 12-M-MIK-161-m01

Module coordinator | Module offered by
holder of the Chair of International Macroeconomics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents
The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus
I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

Intended learning outcomes
Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Econometrics 1 | 12-M-OE1-161-m01

Module coordinator | Module offered by
holder of the Chair of Econometrics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

Description:
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the model's explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions. Linear algebra is used as a formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

Intended learning outcomes

The students acquire knowledge of the basics, concepts, and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate, and interpret the coefficients, standard errors, and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business, and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Micro-econometrics" and "Financial Econometrics".

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title | Abbreviation
-------------|-------------
Econometrics 2 | 12-M-OE2-161-m01

Module coordinator | Module offered by
holder of the Chair of Econometrics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

Description:
This module deals with the basics, concepts and methods of the generalised least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedasticity and autocorrelation.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Specification analysis
2. Multicollinearity
3. Heteroskedasticity
4. Autocorrelated disruptive terms
5. Generalised least squares (GLS)

Intended learning outcomes

Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalized linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) so that they are able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the Estimation methods in scientific work and to work independently on adequate implementation of empirical analyzes to answer selected (economic) scientific issues if available data with the above-mentioned involve problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" and "Financial Econometrics".

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English
credible for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
## Module Catalogue for the Subject
### Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work and Information</td>
<td>12-ITA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
<tr>
<td>and Business Information Systems</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This module discusses relevant principles, concepts and applications of business information processing and its impact on organisational and process structures in today's business world.

### Intended learning outcomes

The expertise gained from other modules related to business management issues can be interpreted and classified in a certain way by participating in this module. For decisions in regards to human resources planning, investment, and a company's strategy, the students will get to know all the relevant concepts and interdependencies, which come with taking information processing into account as the so called “fourth” factor of production.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2)

<table>
<thead>
<tr>
<th>Method of assessment</th>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)</td>
<td>Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical HR Research with Stata</td>
<td>12-M-EPF-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

holder of the Chair of Human Resource Management and Organisation

**Module offered by**

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The seminar "Empirische Personalforschung" ("Empirical Personnel Economics") introduces and discusses the most important estimation problems and their application in the software package STATA. In addition, students learn, with the help of basic problems of personnel economics, how estimation programs are programmed in STATA.

Reading list to be provided in class.

**Intended learning outcomes**

The aim of the seminar is to enable students to understand and apply the most important estimation programs and their application in STATA with a focus on problems in personnel economics.

**Courses** (type, number of weekly contact hours, language — if other than German)

Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 10 pages)

Assessment offered: Once a year as announced

Language of assessment: German and/or English

**Allocation of places**

12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Banking and Finance
(20 ECTS credits)
Compulsory
(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Selection and Capital Market Theory</td>
<td>12-M-B1a-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

## Contents

Content:
This course deals with the fundamentals of individual investment decisions (portfolio selection), the capital market equilibrium and the resulting CAPM.

Outline of syllabus:
1. Fundamentals of decision theory
2. Portfolio selection
3. CAPM
4. Information efficiency and event analysis

## Intended learning outcomes

After completing the course "Portfolio Selection and Capital Market Theory", the students will be able
(i) to explain the optimal capital market position of an investor given the different investment opportunities and its individual utility function in theory and calculate it;
(ii) to understand the central propositions made by the CAPM and use the CAPM for valuating assets and firms.

## Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

## Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

## Allocation of places

--

## Additional information

--

## Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject
### Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency Theory</td>
<td>12-M-B1b-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Content:**
This course deals with the fundamentals of agency theory and financial contracting with information symmetric and information asymmetric.

**Outline of syllabus:**
1. Agency theory
2. Financial contracting

### Intended learning outcomes

After completing the course "Agency Theory and Financial contracting", the students will be able
(i) to understand the fundamentals of agency theory and solve problems concerning optimal financial contracting given e.g. different capital endowments;
(ii) to understand the central problems of controlling work assignments in theory and solve basic case studies;
(iii) to generate and evaluate financial contracting given a non-trivial risk allocation and the resulting agency problems.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Compulsory Core Electives
(10 ECTS credits)
### Module Catalogue for the Subject
Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option Pricing Theory</td>
<td>12-M-B2-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Business Management, Banking and Finance

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Content:**
The module deals with the nature of stock options using the Black Scholes and Binominal models. It assesses companies as well as shares as derivative financial instruments and discusses delta hedging to hedge equity portfolios.

**Outline of syllabus:**
1. Share options
2. Other financial derivatives
3. Immunising portfolios against interest rate changes

### Intended learning outcomes

After completing the course "Option pricing", the students will be able
(i) to price options using the Black-Scholes formula and the binominal model;
(ii) to understand the use of options as a part of compensation and for share hedging.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 120 minutes)

Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
### Module title

**Financial Institutions and Financial Regulation**

### Abbreviation

12-M-B3-161-m01

### Module coordinator

holder of the Chair of Entrepreneurship and Management

### Module offered by

Faculty of Business Management and Economics

### ECTS

<table>
<thead>
<tr>
<th>Content</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration

<table>
<thead>
<tr>
<th>Content</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This module will be discontinued, no courses are offered currently or will be offered in future.

This may be due to one of the following reasons:

- the module belongs to a version of the examination regulations that no longer has any enrolled students
- the lecturer who offered the course is no longer employed at the University of Würzburg
- the contents are no longer taught and were substituted with comparable offers

For more information, please contact the Office of the Dean of Studies of the Faculty of Business Management and Economics.

### Intended learning outcomes

Due to the lack of relevance, no learning outcomes description is available because no courses are held for this module.

### Courses

- **V (2) + Ü (2)**

### Method of assessment

- written examination (approx. 120 minutes)
- Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Finance, Accounting and Taxation
(20 ECTS credits)
Compulsory Core Electives

(20 ECTS credits)
Module title
Advanced Financial Accounting (German GAAP, IFRS)

Abbreviation
12-M-ER-161-m01

Module coordinator
holder of the Chair of Business Management and Account-
ing

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Content: This course deals with selected complex financial accounting problems according to national German GAAP (German Commercial Code, Handelsgesetzbuch).

Outline of syllabus: Theoretical and empirical foundations of financial accounting; selected topics of advanced financial accounting, e.g. pension accounting, fair value accounting (financial instruments, biological assets, hedge accounting; purchase price allocation and impairment test; leasing; deferred taxes in individual and group financial statements; capital consolidation in multilevel corporate groups; presentation of equity changes; statement of cash flow and segment reporting; notes and management report.

Reading list to be provided during course.

Intended learning outcomes
After completing this course, students will be able to
1. analyze complex financial accounting problems according to national and international financial reporting standards and develop predominantly self-directed solutions for these problems;
2. evaluate independently selected research contribution to the theory of financial accounting and design research- or application-oriented projects.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 to 120 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Auditing</td>
<td>12-M-WPF-161-M01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Content:
The course discusses business-risk oriented financial statement audits according to International Standards on Auditing (IASs). Selected topics of testing theory are also addressed.

Outline of syllabus:
1. Review process
   - Conditions, order taking, audit planning, risk model-based testing methods
   - Development of the risk-based audit approach
   - Fraud and going concern
   - Judgment, reporting and documentation
2. Testing theory
   - Overview of the state of research
   - The auditor’s independence
   - Audit fees, concentration, competition

Reading:
Other reading to be specified in class.

**Intended learning outcomes**

After completion of the module "Auditing for advanced" students can
(i) represent the risk-based audit approach, establish and analyze critical;
(ii) analyze selected complex audit issues on the basis of national and international audit standards and, based largely develop self-directed solutions;
(iii) judge selected research papers examining theory independently and, building design research or application-oriented projects.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Selection and Capital Market Theory</td>
<td>12-M-B1a-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Content:**
This course deals with the fundamentals of individual investment decisions (portfolio selection), the capital market equilibrium and the resulting CAPM.

**Outline of syllabus:**
1. Fundamentals of decision theory
2. Portfolio selection
3. CAPM
4. Information efficiency and event analysis

### Intended learning outcomes

After completing the course "Portfolio Selection and Capital Market Theory", the students will be able
(i) to explain the optimal capital market position of an investor given the different investment opportunities and its individual utility function in theory and calculate it;
(ii) to understand the central propositions made by the CAPM and use the CAPM for valuating assets and firms.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
## Module title
Agency Theory

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>12-M-B1b-161-m01</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Content:**
This course deals with the fundamentals of agency theory and financial contracting with information symmetric and information asymmetric.

**Outline of syllabus:**
1. Agency theory
2. Financial contracting

### Intended learning outcomes

After completing the course "Agency Theory and Financial contracting", the students will be able
(i) to understand the fundamentals of agency theory and solve problems concerning optimal financial contracting given e.g. different capital endowments;
(ii) to understand the central problems of controlling work assignments in theory and solve basic case studies;
(iii) to generate and evaluate financial contracting given a non-trivial risk allocation and the resulting agency problems.

### Courses (type, number of weekly contact hours, language — if other than German)

| V (2) + Ü (2) |

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- written examination (approx. 60 minutes)
- Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title                  
Economics of Tax Planning

Abbreviation                
12-M-SP-161-m01

Module coordinator           
holder of the Chair of Business Taxation

Module offered by            
Faculty of Business Management and Economics

ECTS     Method of grading    Only after succ. compl. of module(s)
5        numerical grade       --

Duration        Module level    Other prerequisites
1 semester        graduate       --

Contents
This course deals with tax effects on fundamental economic decisions. Taxes are integrated into standard models for investment decisions, financing decisions, firm valuation, dividend policy and remuneration of employees. Therefore, the interaction of corporate and personal income taxes is analysed. A reading list in English is available on request.

Intended learning outcomes
This course enables students to
(i) combine their knowledge of tax law with microeconomic analyses in the areas of corporate and personal finance;
(ii) understand the effect of taxes on fundamental economic decisions, e.g. investment and financing decisions, evaluation of investment, financial assets, forms of remuneration for employees including managing and assessing;
(iii) read and discuss primary scientific literature.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) or c) oral examination of one candidate each (approx. 20 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
# Module Catalogue for the Subject
## Economathematics
### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination, Budgeting and Incentives in Companies</td>
<td>12-M-KOBO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

## Contents
This module focuses on accounting-based instruments to control behaviour in decentralised enterprises. The course first discusses the role of accounting in the context of decision making and behavioural controlling as well as informational analyses. Afterwards, the most common instruments of behavioural controlling (budgeting, value-oriented management, transfer prices) are discussed with regard to theory and practice.

## Intended learning outcomes
This module aims to provide knowledge in the context of behavioral controlling in enterprises. Knowledge about Requirements on instruments used for behavioral controlling are discussed and competencies for deployment, structure and development of coordination tools are provided.

## Courses
(V (2) + Ü (2)

<table>
<thead>
<tr>
<th>Method of assessment</th>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>written examination</td>
<td>(approx. 60 minutes) Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

## Allocation of places
--

## Additional information
--

## Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Project Management and Control | 12-M-PROM-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The module focuses on the discussion and critical examination of instruments and methods used in the context of project management and controlling within enterprises. It covers characteristic features and structures of projects, their possible success factors, methods and instruments of the controlling and management of projects in various project phases as well as approaches to multi-project management. The theoretical basis as well as potential applications of these instruments are discussed.

Intended learning outcomes

Initially knowledge about fundamental requirements concerning instruments of project management and controlling is acquired. What is more the module conveys knowledge about strengths and weaknesses and thereby fields of application and limits of commonly used instruments and methods of practitioners. Competences within the configuration and development of the project management and -controlling are obtained as well as skills within the practical use of the project management software MS Project.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th><strong>Module title</strong></th>
<th><strong>Abbreviation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected Topics in Analytical Tax Research</td>
<td>12-M-TBS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Module coordinator</strong></th>
<th><strong>Module offered by</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Taxation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ECTS</strong></th>
<th><strong>Method of grading</strong></th>
<th><strong>Only after succ. compl. of module(s)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Duration</strong></th>
<th><strong>Module level</strong></th>
<th><strong>Other prerequisites</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This module serves the purpose of transferring credits from:

- courses taken at other German or non-German universities
- additional courses offered on a short-term basis
- courses offered by new Chairs that are yet to be included in the FSB (subject-specific provisions)

The holders of the respective Chairs will ensure that the courses are eligible for credit transfer.

**Intended learning outcomes**

As a result of accrediting multiple kinds of modules, a description of acquired skills cannot be given.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) or c) oral examination of one candidate each (approx. 20 minutes)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected Topics in Financial Accounting and Auditing</td>
<td>12-M-ATRW-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

No information on contents available.

No information on intended learning outcomes available.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 to 120 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
### Module title
Tax Accounting

### Abbreviation
12-M-STB-161-m01

### Module coordinator
holder of the Chair of Business Taxation

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
This module introduces the various methods of income recognition in the German Income Tax Code (Einkommensteuergesetz, EStG). It discusses the main reporting and valuation provisions as well as the specific problems and techniques of income calculation for partnerships.

### Intended learning outcomes
Students have in-depth knowledge of tax accounting of companies and are able to solve moderate to complex problems of tax accounting in particular of sole proprietorships and partnerships using legal source.

### Courses
(type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Ü</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 minutes) or
- b) term paper (approx. 15 pages) or
- c) oral examination of one candidate each (approx. 20 minutes)

Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
Public Finance
(20 ECTS credits)
Compulsory

(10 ECTS credits)
### Module Catalogue for the Subject Economathematics

#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy of Taxation</td>
<td>12-M-F1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**

In this module, students will acquire a basic understanding of the tax system and structure applied to households in Germany. In addition, the course will include simple tax incidence analyses of specific tax policies.

Reading: lecture notes provided by Chair.

**Contents:**

1. Fiscal harmonisation system in Germany
2. Mechanics and problems of the VAT system
3. Tax incidence analysis
4. Income tax code
5. Taxation of married couples and families
6. Progressive taxation and income leveling
7. Taxation and household decisions

### Intended learning outcomes

After completing the course “Tax Policy” students know the most important tax revenues in Germany and how they are divided between the Federation and the federal provinces. They are able to explain the incidence of specific taxes using simple case studies. Finally, they can discuss tax-induced distortions of individual decisions using simple partial equilibrium models.

### Courses

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language (if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Ü</td>
<td>(2)</td>
<td></td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope</th>
<th>Language (if other than German)</th>
<th>Examination offered (if not every semester)</th>
<th>Information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>written examination (approx. 60 minutes)</td>
<td>German and/or English</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>b)</td>
<td>term paper (approx. 15 pages)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Language of assessment:** German and/or English

### Allocation of places

---

### Additional information

---

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Insurance and the Welfare State</td>
<td>12-M-F3-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
This module discusses the economic justification for implementing social security systems in a market economy and provides students with deeper insights into this topic with the help of specific issues of public health and retirement policy.

**Reading:** lecture notes provided by Chair.

**Contents:**
1. Public intervention in insurance markets
2. The insurance function of social security
3. Social security and social morale
4. The optimal health insurance contract
5. Alternative financing schemes for public health in Germany
6. Why do we need a public pension system?
7. Funding vs pay-as-you-go financing of public pensions

**Intended learning outcomes**
After completing the module "Theorie der Sozialversicherung" students are able to explain the theoretical foundation of the social security system in a market economy. Using simple partial equilibrium models they can discuss the financing and contract structure of the public health and pension system. Finally they are able to analyze the consequences of policy reforms.

**Courses**
(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
Compulsory Core Electives
(10 ECTS credits)
### Module Catalogue for the Subject
Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Debt</td>
<td>12-M-F2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
The module provides an introduction to some specific issues of public debt that are in focus of the public and scientific debate.

**Reading:** lecture notes provided by Chair.

**Outline of syllabus:**
1. Measurement of public debt
2. Growth effects of public debt
3. Intergenerational effects of public debt
4. Public debt in open economies
5. Neutrality of public debt
6. Political economy of public debt
7. Theory of sovereign debtors

### Intended learning outcomes

After completing the course "National Debt" students are able to distinguish and discuss the most important measurement concepts and problems of public debt. They can discuss the growth and distributional consequences using simple equilibrium models of closed and open economies. They can evaluate the relevance of Ricardian neutrality and know the political economy explanations of rising debt levels and debt overhangs in specific countries.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--

---
### Module Catalogue for the Subject

**Economathematics**

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal Tax Theory</td>
<td>12-M-F4-161-m01</td>
</tr>
</tbody>
</table>

#### Module coordinator
holder of the Chair of Public Finance

#### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Contents

**Description:**
The course will discuss the design of an optimal tax system. First, students will learn what criteria have to be met for a tax system to be optimal. Lectures will introduce key rules for taxing commodities as well as income and capital.

Examining specific taxation issues such as eco-tax, family taxation and the taxation of international enterprises, students will then gain more in-depth insights into these rules.

**Reading:** Lecture notes will be provided.

**Outline of syllabus:**
1. Optimal commodity taxation
2. Optimal income taxation
3. Optimal taxation of families
4. International tax competition

#### Intended learning outcomes

After completing this module students have a basic understanding of what is meant with "optimal taxation". They are able to apply this concept to specific normative questions of tax policy in practice. Students also learn to prepare and present short papers, where they discuss specific normative policy issues in groups.

#### Courses
(type, number of weekly contact hours, language — if other than German)

**V (2) + Ü (2)**

#### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

#### Allocation of places
--

#### Additional information
--

#### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
**Module title** | **Abbreviation**
--- | ---
Principles of European Regulation | 12-M-PRE-161-m01

**Module coordinator** | **Module offered by**
--- | ---
holder of the Chair of Industrial Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Description:
This module examines the regulation of traditional network industries (railroads, electricity, telecommunications) in Europe: theory and practice

Outline of syllabus:
1. Overview of the regulation of railroads in Germany and Europe in practice
2. Overview of the regulation of the electricity industry in Germany and Europe in practice
3. Overview of the regulation of the telecommunications industry in Germany and Europe in practice
4. Political economy of regulation
5. Natural monopoly and price regulation under ideal conditions
6. Price regulation under realistic circumstances
7. Procurement: advantages and disadvantages
8. Network access regulation

**Intended learning outcomes**

After successfully completing this module, students will be able to
(i) describe central problems in regulation of the traditional network industries;
(ii) identify and apply the appropriate results from Industrial Organization;
(iii) assess the advantages and disadvantages of existing regulatory mechanisms by using results from the industrial organization theory.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title
European Public Finance

### Abbreviation
12-M-EFP-161-m01

### Module coordinator
holder of the Chair of Public Finance

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
In this course, students will acquire a basic understanding of the financial system of the European Union as well as selected aspects of European agricultural, tax and climate policy.

**Reading:** lecture notes provided by Chair.

**Outline of syllabus:**
1. The budget of the European Union
2. The Common Agricultural Policy (CAP)
3. The Stability and Growth Pact (SGP)
4. Tax competition or tax coordination in Europe?
5. Emissions trading and European climate policy

### Intended learning outcomes

After completing the course "Europäische Finanzpolitik" students know the central revenues and expenditures of the budget of the European Union. They also know the most important instruments of the agricultural policy and the debt problem within the European currency union. Finally they will be able to discuss international tax policy and climate issues using simple partial equilibrium models.

### Courses (type, number of weekly contact hours, language — if other than German)

| Ü (2) + V (2) |

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

### Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programme Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
### Module title
Computational Economics - Advanced Level

### Abbreviation
12-M-NGM-161-m01

### Module coordinator
holder of the Chair of Public Finance

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

## Contents

**Description:**
This course will mostly be concerned with the analysis of public policy (in areas such as taxation, social security etc.). Providing students with state-of-the-art techniques for quantitative macroeconomic research in this very field and familiarising them with the relevant literature, this course will teach students how such policies redistribute between different generations and also within generations, how they may improve risk sharing when markets are incomplete and how they can trigger distortions and therefore hurt the aggregate economy.

**Outline of syllabus:**
1. Programming with FORTRAN and application of numerical methods
2. Solution techniques for dynamic programming problems
3. The overlapping generations model (OLG) with uninsurable income risk
3. Policy analysis in the stochastic OLG model

**Reading:**
Lecture notes will be provided.

### Intended learning outcomes
After completing the course "Computational Economics - Advanced Level" students will be able to
(i) edit and solve stochastic economic problems using advanced numerical techniques;
(ii) implement small scale economic models on the computer;
(iii) simulate tax and social security policy reforms and interpret the quantitative results in economic term.

### Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title: Theory of Social Policy
Abbreviation: 12-M-TSP-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
The lecture "Theorie der Sozialpolitik" ("Theory of Social Policy") discusses the concept of social security and the concept of social justice. In the first part of the course, which will deal with social security, students will acquire a general overview of possible market failures in an insurance market. One chapter will then each be devoted to the introduction and characterisation of the three main branches of social insurance (pension, health and unemployment insurance). Subsequently, different options for a reform of the individual branches of social insurance will be introduced and evaluated in terms of efficiency. In the second part of the course, which will deal with social justice, different definitions of the concept of justice will be discussed in more detail. Here, the main focus will be on identifying and critically examining different criteria for the measurement of inequality in a society. In addition, efficiency-oriented justifications for redistributive policies by the government will be addressed and discussed with students.

Intended learning outcomes:
The graduate student has acquired following skills and abilities after completion of the module:
(i) Detailed knowledge of institutional foundations of the German social security system
(ii) Mechanics of an insurance market
(iii) Emergence and problems of adverse selection and moral hazard in the context of social insurances
(iv) Measurement and interpretation of inequality measures, particularly of income inequality
(v) Mechanics and welfare effects of state redistribution
(vi) The impact of state redistribution on macroeconomic variables

Courses:
V (2) + Ü (2)

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes):
--
Industrial Economics
(20 ECTS credits)
Compulsory
(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 1</td>
<td>12-M-TI1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

**Intended learning outcomes**

Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--
<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
<tr>
<td>Module title</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>European Competition Policy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Outline of syllabus:
1. Legal environment, competition laws
2. Market definition
   - Qualitative methods
   - Simple quantitative methods
   - Hypothetical monopolist test
3. Horizontal agreements and collusion: repeated games and factors affecting likelihood of collusion
4. Horizontal mergers and collusion
   - Economic theory
   - Efficiency effects
   - Coordinated effects
5. Vertical relations and contracts
   - Economic analysis of contracts
   - "More economic approach"
6. Abuse of dominant position
   - Classification of abusive conduct
   - Economic analysis of abusive conduct and theory of harm

The course will be taught in English.

### Intended learning outcomes

After completion of the module students can use the advanced concepts introduced in the lecture of competition policy, including the legal framework, the basic models and methods for the study of competition policy issues, as well as understand the approach of European competition policy in high profile cases. When they are confronted with practical problems, they can refer to these cases, and the same logic to practical examples apply by draining the relevant economic theories that identify variables to be measured and methodologies for assessing, and based on that adequate conclusions for appropriate cases. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English

Creditable for bonus

### Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.
<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred to in LPO I</td>
</tr>
<tr>
<td>(examination regulations for teaching-degree programmes)</td>
</tr>
</tbody>
</table>
Compulsory Core Electives

(10 ECTS credits)
## Module Catalogue for the Subject Economathematics

### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Microeconomics</td>
<td>12-M-AM-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator

holder of the Chair of Economics, Information and Contract Economics

### Module offered by

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

### Intended learning outcomes

After completing the course students are able to

1. explain essential findings of microeconomic theory,
2. apply the involved methods to given simple examples on their own,
3. recognize, in which real life situations and how the results can be applied.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English

creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of European Regulation</td>
<td>12-M-PRE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
This module examines the regulation of traditional network industries (railroads, electricity, telecommunications) in Europe: theory and practice

**Outline of syllabus:**
1. Overview of the regulation of railroads in Germany and Europe in practice
2. Overview of the regulation of the electricity industry in Germany and Europe in practice
3. Overview of the regulation of the telecommunications industry in Germany and Europe in practice
4. Political economy of regulation
5. Natural monopoly and price regulation under ideal conditions
6. Price regulation under realistic circumstances
7. Procurement: advantages and disadvantages
8. Network access regulation

**Intended learning outcomes**
After successfully completing this module, students will be able to
(i) describe central problems in regulation of the traditional network industries;
(ii) identify and apply the appropriate results from Industrial Organization;
(iii) assess the advantages and disadvantages of existing regulatory mechanisms by using results from the industrial organization theory.

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>(2)</td>
<td></td>
</tr>
</tbody>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English
Creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>12-M-TI2-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Industrial Economics  

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**ECTS**
graduate

**Contents**

Description:
This course discusses vertical contracts in supply chains and their impact on competition.

Outline of syllabus:
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

**Intended learning outcomes**

After completing the course students are able to
(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

**Courses**

(type, number of weekly contact hours, language — if other than German)
V (2)

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
Module title: Empirical Industrial Organization
Abbreviation: 12-M-EIO-161-m01

Module coordinator: holder of the Chair of Industrial Economics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Outline of syllabus:
1. Recap of econometric methods
   - Identification and estimation of simultaneous equation models
   - Endogeneity
   - Variants of GMM and ML estimation
2. Estimation of demand
   - Representative consumer models
   - Discrete choice models with individual data
   - Discrete choice models with aggregate data
   - Demand models with consumer heterogeneity
3. Estimation of static market models
   - Supply and demand estimation: NEIO framework
   - Inferring/estimation of marginal costs
4. Applications
   - Market definition
   - Empirical merger analysis

The course will be taught in English.

Intended learning outcomes

The students taking this class will learn modern empirical methods in studying questions related to industry outcomes. They will become familiar with methods used in estimating demand and during exercises will learn how one can do it in practice. They will have a thorough understanding of the so-called New Empirical Industrial Organization (NEIO) methodology. They will become familiar with methods used in estimating demand and imperfect competition models among firms. They will learn how to use such models to infer marginal costs as well as constructing policy simulations based on the estimated models to evaluate the effects of changes in the competitive environment, such as mergers. A student which successfully completes this course will not only be able to read empirical academic papers but will also implement a few important models in computer exercises. Furthermore, they will be able to draw implications of empirical studies for economic policy in areas such as antitrust and regulation.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--
<table>
<thead>
<tr>
<th>Module Catalogue for the Subject Economathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s with 1 major, 120 ECTS credits</td>
</tr>
</tbody>
</table>

Referred to in LPO I (examination regulations for teaching-degree programmes)

---
Module title | Abbreviation
---|---
Economics of Information and Network Industries | 12-M-EIN-161-m01

Module coordinator
holder of the Chair of Industrial Economics

Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
Outline of syllabus:
1. Network effects
   - Consumer demand in markets with network effects and rational expectations
   - Monopoly pricing
   - Competition in markets with network effects
   - Compatibility and multihoming
   - Dynamic competition
   - Competition policy issues in industries with network effects
2. Competition in markets with switching costs
   - Simple two period models of markets with switching costs
   - Various modelling possibilities for switching costs
   - Switching costs and long-run prices
3. Two(Multi)-Sided Markets and Platforms
   - Monopoly pricing in platform markets
   - Competition in platform markets
   - Divide and conquer strategies
   - Non-price strategies
   - Competition policy issues in platform markets
4. Access pricing in network industries
   - Network competition and role of access prices
   - Regulation of access prices

The course will be taught in English.

Intended learning outcomes
After completion of the module students can understand and explain themselves the in the lecture introduced advanced concepts of economics, information and network industries (including their mathematical representation form). They will be able to refer to the modeling examples from the practice by impute obvious corporate strategies and can predict the market outcome, evaluate information and network industries from the perspective of the state and, if necessary, appropriate policy action alternatives derived. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

Courses
(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

Allocation of places
--
## Additional information

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
### Module Catalogue for the Subject

**Economathematics**  
Master’s with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in Industrial Organization 1</td>
<td>12-M-TIO1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Module coordinator</strong></th>
<th><strong>Module offered by</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

### Courses

**(type, number of weekly contact hours, language — if other than German)**

V (2) + Ü (2)

### Method of assessment

**(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)**

- a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
  
  Assessment offered: In the semester in which the course is offered
  
  Language of assessment: German and/or English
  
  creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in Industrial Organization 2</td>
<td>12-M-TIO2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

### Courses (type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
- Assessment offered: In the semester in which the course is offered
- Language of assessment: German and/or English
- creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in Industrial Organization 3</td>
<td>12-M-TIO3-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Economics</td>
<td>12-M-CE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economics, Information and Contract</td>
<td>Faculty of Business Management and</td>
</tr>
<tr>
<td>Economics</td>
<td>Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Contract theory deals with contracts among relatively few -- often just two -- trading partners. This makes it possible to search for the optimal contract for these partners, and is the trademark of contract theory. Typical topics:

1. Static moral hazard
2. Dynamic moral hazard
3. Incomplete contracts
4. Adverse selection
5. Relational contracts and career concerns

**Intended learning outcomes**

After completing the course students are able to

1. explain the essential results of contract theory,
2. apply the involved methods to given simple examples on their own,
3. recognised, in which real life situations and how the results can be applied.

**Courses**

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)</td>
</tr>
</tbody>
</table>

Assessment offered: Once a year, summer semester

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Decisions and Competition</td>
<td>12-M-SDC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
- Assessment offered: In the semester in which the course is offered
- Language of assessment: German and/or English
- creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
German and European Antitrust Law 1

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>German and European Antitrust Law 1</td>
<td>02-N-P-W13-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Faculty of Law</td>
<td>Faculty of Law</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>undergraduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

German contents available but not translated yet.


**Intended learning outcomes**

German intended learning outcomes available but not translated yet.

Die Studierenden haben grundlegende Kenntnisse des Deutschen und Europäischen Kartellrechts erworben. Sie können Problematiken aus diesen Bereichen in den Kontext der deutschen und europäischen Regelungen einsortieren.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 120 minutes) or b) oral examination (approx. 15 minutes)

Assessment offered: Usually once a year, winter semester

**Allocation of places**

10 places. There are no restrictions with regard to available places for students of the degree programme Rechtswissenschaft (Law) pursuing the degree Erste Juristische Staatsprüfung (first state examination in law) as well as Bachelor’s students with the minor Privatrecht (Private Law). A total of 10 places will be allocated to students of the Master’s degree programme Economics. Should there be more than 10 applications, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>German and European Antitrust Law 2</td>
<td>02-N-P-W21-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Faculty of Law</td>
<td>Faculty of Law</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
No information on contents available.

Intended learning outcomes
No information on intended learning outcomes available.

Courses (type, number of weekly contact hours, language — if other than German)
V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 120 minutes) or b) oral examination (approx. 15 minutes)
Assessment offered: Usually once a year, summer semester

Allocation of places
There are no restrictions with regard to available places for students of the degree programme Rechtswissenschaft (Law) pursuing the degree Erste Juristische Staatsprüfung (first state examination in law) as well as Bachelor’s students with the minor Privatrecht (Private Law). A total of 10 places will be allocated to students of the Master’s programme International Economic Policy or Economics, Business Management as well as Wirtschaftsmathematik (Mathematics for Economics). Should there be more than 10 applications, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
National and International Monetary Economics
(20 ECTS credits)
Compulsory

(10 ECTS credits)
Module title | Abbreviation
---|---
Monetary Policy and the Financial System | 12-M-EG1-161-m01

Module coordinator | Module offered by
holder of the Chair of Monetary Policy and International Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The course deals with the following topics:
1. Intertemporal allocation -- How do households and firms take an optimal decision regarding investments and savings? Why are financial markets efficient? What is the meaning of financial accounting?
2. Banking, financial markets and crisis -- What are the main functions of banks? What are the roles of banks in an economy? What are the reasons and solutions for liquidity and solvency problems of banks?
3. Macroeconomic analysis of banks -- Banks as intermediaries vs. originators of saving deposits. Macro models of banking -- The role of banks during the financial crisis.
4. Money demand -- What are the key determinants of money demand?
5. The monetary transmission channel -- Connection between monetary policy and the real economy in the BMW model. Description of the basic model. Extension of the basic model of fiscal policy.
6. Deflation -- Consequences of deflation on macro variables on the basis of different models.

Intended learning outcomes

By completing this course, students receive a profound understanding of theory and practice of the monetary policy and the financial system. Next to a profound knowledge of banking in general, students learn the monetary transmission channel. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

---

Referred to in LPO I (examination regulations for teaching-degree programmes)

---
Monetary Policy, Foreign Exchange Markets, and the International Monetary System

Module title

Abbreviation

12-M-EG2-161-m01

Module coordinator

holder of the Chair of Monetary Policy and International Economics

Module offered by

Faculty of Business Management and Economics

ECTS

Method of grading

5

numeral grade

Only after succ. compl. of module(s)

Duration

Module level

1 semester

graduate

Other prerequisites

--

Contents

The course deals with the following topics:

The foreign exchange market:
Functioning of foreign exchange markets; market structure, players and evolution; FX transactions; hedging and speculation with FX.

Exchange rate economics:
Theoretical background and empirical validity of covered interest parity (CIP), uncovered interest rate parity (UIP) and purchasing power parity (PPP); Monetary approach: Flexible price monetary model and sticky price (Dornbusch-) overshooting model; Balassa-Samuelson effect; FX valuation via the PPP and the macroeconomic balance approach; Real effective exchange rates; Empirical validity of the exchange rate theories; Exchange rates and the current account.

Exchange rate regimes and monetary policy in open economies:
Classification of exchange rate regimes; the policy trilemma in open economies; historical development of the international monetary system; central bank interventions on the FX market.

Modelling open economy macroeconomics at the intermediate level:
Implications of the Mundell-Fleming model for monetary and fiscal policy under fixed and flexible exchange rates.
The BMW (IS-MP-PC) model of the open economy and its implication for monetary and fiscal policy under fixed and flexible exchange rates; optimum currency areas in the BMW model and in practice.

Currency crises:
International experience with currency crises since the 1970s; modelling currency crises within the Mundell-Fleming framework.

Managed-floating as a solution for the policy trilemma.

Intended learning outcomes

By completing this course, students receive a profound understanding of the functioning of foreign exchange markets, the drivers of exchange rate movements and some exchange rate valuation methods used in practice. Next to a profound knowledge of exchange rate theory the course highlights its practical applicability, e.g. as an investment strategy. In the second part of the course students learn the principles of monetary policy in open economies, including its trade-offs and risks like currency crises. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English
**Allocation of places**

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
Compulsory Core Electives
(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSGE Modelling</td>
<td>12-M-DMM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course offers an introduction to "Dynamic Stochastic General Equilibrium Modelling" (DSGE). These models are designed to describe the business cycle at the macro level. In a first step, we analyse the behaviour of a representative household. In particular, we describe how consumption, asset allocation and labour supply plans are formulated. In a second step, we focus on the firm sector and address how firms solve for optimal production plans. In a third step, we explain what role the central bank plays in stabilising the business cycle. Thereby, we show how changes in interest rates interact with optimal decisions taken by households and firms. We also discuss hot topics such as CAPM models and monetary policy in the euro area.

**Intended learning outcomes**

The course offers analytical tools designed to solve DSGE models. These analytical skills encompass:

- Solving of intertemporal optimization problems (e.g., consumption Euler-equations).
- Linearization methods (e.g., Taylor-expansions).
- Solving linear difference expectations by minimum state variabel techniques (MSV-solution).
- Basic time series concepts such as impulse response functions, variance decompositions.
- Basic insights in MATLAB/ Dynare programming: specifying, solving and estimating DSGE models.

**Courses**

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: European Macroeconomic Policy
Abbreviation: 12-M-EMP-161-m01

Module coordinator: holder of the Chair of Monetary Policy and International Economics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Duration: 1 semester
Method of grading: numerical grade
Only after succ. compl. of module(s)
Module level: graduate
Other prerequisites

Contents
Description:
The course provides students with an overview of the macroeconomic conditions and consequences of European integration and monetary union. The course thus helps students gain a deeper understanding of the current crisis in the euro area as well as the debate on the future of European economic integration.

Content:
The first part of the course provides students with an overview of the history of European integration with a focus on economic and monetary integration. We then discuss the institutional framework of the European Monetary System, the predecessor of the euro area in the period from 1979 to 1998. Next, the criteria for admission to the European Monetary Union (EMU) and the monetary policy strategy of the European Central Bank will be presented and discussed. Building on the traditional Mundell-Fleming model, the course will make students familiar with the theory of the optimum monetary area and will then provide them with deeper insights into this theory on the basis of a simple New Keynesian model. Students will thus be able to make a well-founded assessment of the advantages and disadvantages of monetary union as well as the conditions under which monetary union can be successful. In the final part of the course, we analyse the coordination and incentive problems that arise for fiscal policy in a monetary union. In particular, we deal with the question of how these issues are addressed within the European Monetary Union. Current macroeconomic developments within the euro area as well as the causes and consequences of the euro crisis are discussed at various points in the course.

Intended learning outcomes
After completing this course students will have gained a profound understanding of the costs and benefits of monetary integration in general and specifically in the EMU. Thus, they will enhance their general macroeconomic understanding by applying it to real world problems. In addition, students will have knowledge of the institutions of common fiscal and monetary policy in Europe.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
20 places. There are no restrictions with regard to available places for students of the Master’s degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

Additional information

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
# Module Catalogue for the Subject Economathematics

## Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Selection and Capital Market Theory</td>
<td>12-M-B1a-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Banking and Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

## Contents

Content:
This course deals with the fundamentals of individual investment decisions (portfolio selection), the capital market equilibrium and the resulting CAPM.

Outline of syllabus:
1. Fundamentals of decision theory
2. Portfolio selection
3. CAPM
4. Information efficiency and event analysis

## Intended learning outcomes

After completing the course "Portfolio Selection and Capital Market Theory", the students will be able
(i) to explain the optimal capital market position of an investor given the different investment opportunities and its individual utility function in theory and calculate it;
(ii) to understand the central propositions made by the CAPM and use the CAPM for valuating assets and firms.

## Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

## Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

## Allocation of places

--

## Additional information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title: Econometrics 1
Abbreviation: 12-M-OE1-161-m01

Module coordinator: holder of the Chair of Econometrics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Description:
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the models explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

Intended learning outcomes

The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconometrics" and "Financial Econometrics".

Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

--

Additional information

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
Advanced Macroeconomics | 12-M-MFF-161-m01

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus

I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

Intended learning outcomes

Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject
Economathematics
Master's with 1 major, 120 ECTS credits

### Module title
Selected Topics of European Integration

### Abbreviation
12-M-SEI-161-m01

### Module coordinator
holder of the Chair of Monetary Policy and International Economics

### Module offered by
Faculty of Business Management and Economics

### ECTS
5

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
The module provides students with a more in-depth understanding of specific problems of macroeconomics and current economic policy.

### Intended learning outcomes
After the seminar, students can
(i) consolidate acquired knowledge and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a scientific paper;
(iii) deal with the working papers of other participants;
(iv) prepare better for the processing of the master's thesis.

### Courses
(type, number of weekly contact hours, language — if other than German)
S (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 15 pages) and presentation (approx. 15 minutes), weighted 2:1
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English

### Allocation of places
15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
Econometrics
(20 ECTS credits)
Compulsory

(10 ECTS credits)
Module title: Econometrics 1

Abbreviation: 12-M-OE1-161-m01

Module coordinator: holder of the Chair of Econometrics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Description:
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the models explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

Intended learning outcomes

The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconomics" und "Financial Econometrics".

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--
<table>
<thead>
<tr>
<th>Referred to in LPO I</th>
<th>(examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Module title</td>
<td>Abbreviation</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Econometrics 2</td>
<td>12-M-OE2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Econometrics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

## Contents

**Description:**
This module deals with the basics, concepts and methods of the generalised least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedastiticy and autocorrelation. Linear algebra is used as formal aid.

**Outline of syllabus:**
1. Specification analysis
2. Multicollinearity
3. Heteroskedastiticy
4. Autocorrelated disruptive terms
5. Generalised least squares (GLS)

## Intended learning outcomes

Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalised linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) so that they are able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the Estimation methods in scientific work and to work independently on adequate implementation of empirical analyzes to answer selected (economic) scientific issues if available data with the above-mentioned Involve problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" und "Financial Econometrics".

## Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

## Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English creditable for bonus

## Allocation of places

--

## Additional information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Compulsory Core Electives
(10 ECTS credits)
Module title
Econometrics 3

Abbreviation
12-M-OE3-161-m01

Module coordinator
holder of the Chair of Econometrics

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
Only after succ. compl. of module(s)

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents

Description:
This module deals with advanced econometric methods and concepts based on the classical and the generalised least squares estimator discussed in Ökonometrie I and II (Econometrics I and II). In particular, this includes the instrumental variable (IV) estimator, the generalised method of moments (GMM) estimator, distributed lag models as well as basic methods and concepts used in uni and multivariate econometric times series analysis, including (non)stationarity, integration, cointegration. Linear algebra is used as formal aid.

Outline of syllabus:
1. Error-in-variables
2. IV estimation
3. Generalised least squares estimation
4. Distributed lag models
5. Stationary uni and multivariate processes
6. Deterministic and stochastic trends
7. Integrated and cointegrated processes

Intended learning outcomes
The students acquire thorough understanding of advanced methods and concepts in econometrics. They are familiarized with diverse error-in-variables issues and capable of handling them appropriately. After the course, students understand the generalized methods of moment (GMM) and the instrumental variable (IV) estimator to an extent that they can discuss their pros and cons, apply these to selected questions in quantitative economics, and understand scientific papers using these methods. Furthermore, they become acquainted with selected time series issues, such as distributed lag models, non-stationarity, spurious correlation, and cointegrated processes, enabling them to conduct a comprehensive time series analysis. In brief, the course enables students to apply the above mentioned methods and concepts to real life questions, assess their appropriateness, and address their theoretical and practical benefits and shortcomings.

Courses
V (2) + Ü (2)

Method of assessment
(a) written examination (approx. 60 minutes) or (b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
**Module title**  
Analysis of Financial Market Data

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>12-M-FMO-161-m01</th>
</tr>
</thead>
</table>

**Module coordinator**  
holder of the Chair of Econometrics

**Module offered by**  
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Method of grading**  
Only after succ. compl. of module(s)

<table>
<thead>
<tr>
<th>Numerical grade</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
The module covers the fundamentals, methods and concepts for the empirical analysis of financial market data. The concept of market efficiency is explained and critically examined with reference to the random walk hypothesis. To test this hypothesis, a number of parametric and non-parametric methods are proposed and applied in practice. Based on the findings, market microstructure models that can explain some important empirical findings will be discussed. In addition, the course describes event studies for testing the significant impact of corporate news on the share price and discusses issues of univariate time series analysis such as AR(I)MA and ARCH / GARCH models that are indispensable for modelling financial market data. In the final part of the course, the CAPM is discussed and examined, in particular, with regard to its empirical applicability.

**Outline of syllabus:**
1. Information efficiency  
2. Random walk  
3. Theoretical market models  
4. Event studies  
5. Univariate modelling of time series data  
6. Models to explain volatility (ARCH and GARCH)  
7. Estimation of the capital asset pricing model

**Reading:**

**Intended learning outcomes**
Students have significant knowledge of the fundamentals, methods and concepts that are needed for the empirical analysis of financial market data. They can autonomously perform statistical test decisions with statistics programs such as EViews or Gretl and critically analyze in terms of their economic importance. In addition, the students learn the independent handling of empirical capital market data and have at the end of the course the ability to develop also own functions and routines, for example for EViews.

**Courses**
(type, number of weekly contact hours, language — if other than German)

| V (2) + Ü (2) |

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

| a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) |

Language of assessment: German and/or English

creditable for bonus
Module Catalogue for the Subject
Economathematics
Master’s with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Allocation of places</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>
Module title: Microeconometrics
Abbreviation: 12-M-MIK-161-m01

Module coordinator: holder of the Chair of International Macroeconomics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Other prerequisites: --
Duration: 1 semester
Module level: graduate

Contents:
The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus:
I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

Intended learning outcomes:
Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

Courses (type, number of weekly contact hours, language — if other than German):
Ü (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus):
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English
creditable for bonus

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes):
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical HR Research with Stata</td>
<td>12-M-EPF-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The seminar "Empirische Personalforschung" ("Empirical Personnel Economics") introduces and discusses the most important estimation problems and their application in the software package STATA. In addition, students learn, with the help of basic problems of personnel economics, how estimation programs are programmed in STATA.

Reading list to be provided in class.

**Intended learning outcomes**

The aim of the seminar is to enable students to understand and apply the most important estimation programs and their application in STATA with a focus on problems in personnel economics.

**Courses** (type, number of weekly contact hours, language — if other than German)

| Ü (2) |

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 10 pages)

Assessment offered: Once a year as announced

Language of assessment: German and/or English

**Allocation of places**

12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>12-M-ERA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 10 pages) on empirical analysis prepared by candidates or c) portfolio (approx. 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Computational Economics - Advanced Level
Abbreviation: 12-M-NGM-161-m01

Module coordinator: holder of the Chair of Public Finance
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

Description:
This course will mostly be concerned with the analysis of public policy (in areas such as taxation, social security etc.). Providing students with state-of-the-art techniques for quantitative macroeconomic research in this very field and familiarising them with the relevant literature, this course will teach students how such policies redistribute between different generations and also within generations, how they may improve risk sharing when markets are incomplete and how they can trigger distortions and therefore hurt the aggregate economy.

Outline of syllabus:
1. Programming with FORTRAN and application of numerical methods
2. Solution techniques for dynamic programming problems
3. The overlapping generations model (OLG) with uninsurable income risk
3. Policy analysis in the stochastic OLG model

Reading:
Lecture notes will be provided.

Intended learning outcomes
After completing the course "Computational Economics - Advanced Level" students will be able to
(i) edit and solve stochastic economic problems using advanced numerical techniques;
(ii) implement small scale economic models on the computer;
(iii) simulate tax and social security policy reforms and interpret the quantitative results in economic term.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Industrial Organization</td>
<td>12-M-EIO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outline of syllabus:</td>
</tr>
<tr>
<td>1. Recap of econometric methods</td>
</tr>
<tr>
<td>- Identification and estimation of simultaneous equation models</td>
</tr>
<tr>
<td>- Endogeneity</td>
</tr>
<tr>
<td>2. Estimation of demand</td>
</tr>
<tr>
<td>- Representative consumer models</td>
</tr>
<tr>
<td>- Discrete choice models with individual data</td>
</tr>
<tr>
<td>- Discrete choice models with aggregate data</td>
</tr>
<tr>
<td>- Demand models with consumer heterogeneity</td>
</tr>
<tr>
<td>3. Estimation of static market models</td>
</tr>
<tr>
<td>- Supply and demand estimation: NEIO framework</td>
</tr>
<tr>
<td>- Inferring/estimation of marginal costs</td>
</tr>
<tr>
<td>4. Applications</td>
</tr>
<tr>
<td>- Market definition</td>
</tr>
<tr>
<td>- Empirical merger analysis</td>
</tr>
</tbody>
</table>

The course will be taught in English.

<table>
<thead>
<tr>
<th>Intended learning outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The students taking this class will learn modern empirical methods in studying questions related to industry outcomes. They will become familiar with methods used in estimating demand and during exercises will learn how one can do it in practice. They will have a thorough understanding of the so-called New Empirical Industrial Organization (NEIO) methodology. They will become familiar with methods used in estimating demand and imperfect competition models among firms. They will learn how to use such models to infer marginal costs as well as constructing policy simulations based on the estimated models to evaluate the effects of changes in the competitive environment, such as mergers. A student who successfully completes this course will not only be able to read empirical academic papers but will also implement a few important models in computer exercises. Furthermore, they will be able to draw implications of empirical studies for economic policy in areas such as antitrust and regulation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses (type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages) Language of assessment: German and/or English creditable for bonus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allocation of places</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
<tr>
<td>Referred to in LPO I (examination regulations for teaching-degree programmes)</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>--</td>
</tr>
</tbody>
</table>
Economic Order and Social Policy

(20 ECTS credits)
Compulsory
(10 ECTS credits)
Module title: Labor Market Economics

Abbreviation: 12-M-OEA-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Description:
In this course, students will acquire an in-depth understanding of the problems of the German national labour market. The course will discuss economic as well as political-economic theories that can explain the phenomenon of unemployment.

Outline of syllabus:
1. Labour market empirics
2. Why has Germany not been able, for more than two decades, to clear the labour markets?
3. What policy is best suited to tackle labour market problems?
4. How can we break through the rigid political-economic structures in our society?

Basic reading:

Intended learning outcomes
The students receive an understanding of the functioning of the labour market and its institutions. They will also be enabled to identify and to evaluate common approaches to mitigate unemployment.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places: --

Additional information: --

Referred to in LPO I (examination regulations for teaching-degree programmes): --
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Social Policy</td>
<td>12-M-TSP-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economic Order and Social Policy</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Theorie der Sozialpolitik" ("Theory of Social Policy") discusses the concept of social security and the concept of social justice. In the first part of the course, which will deal with social security, students will acquire a general overview of possible market failures in an insurance market. One chapter will then each be devoted to the introduction and characterisation of the three main branches of social insurance (pension, health and unemployment insurance). Subsequently, different options for a reform of the individual branches of social insurance will be introduced and evaluated in terms of efficiency. In the second part of the course, which will deal with social justice, different definitions of the concept of justice will be discussed in more detail. Here, the main focus will be on identifying and critically examining different criteria for the measurement of inequality in a society. In addition, efficiency-oriented justifications for redistributive policies by the government will be addressed and discussed with students.

**Intended learning outcomes**

The graduate student has acquired following skills and abilities after completion of the module:

(i) Detailed knowledge of institutional foundations of the German social security system  
(ii) Mechanics of an insurance market  
(iii) Emergence and problems of adverse selection and moral hazard in the context of social insurances  
(iv) Measurement and interpretation of inequality measures, particularly of income inequality  
(v) Mechanics and welfare effects of state redistribution  
(vi) The impact of state redistribution on macroeconomic variables

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)  
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Compulsory Core Electives
(10 ECTS credits)
Module title: Common European Labour Market

Abbreviation: 12-M-EW-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents

Description:
This course provides an overview of the current situation on the European labour markets, their institutions as well as common and country-specific regulations in the area of structural and social policy. In addition, students are introduced to economic theories that can explain the concentration of economic activity.

Outline of syllabus:
1. European integration - an introduction
2. European labour markets - overview and explanations
3. The common European labour market - European regulations
4. The impact of European structural funds
5. Public cluster policy - a new miracle solution?

Basic reading:

Intended learning outcomes

The students gain knowledge about the impact of the process of the European Integration on the national labour markets. They receive an overview of the possible labour market measures and they can discuss approaches aimed to reduce income disparities within the European Union. Additionally the students will be enabled to understand the emergence of geographically and economically concentrated areas. Subsequently possible public policies to intervene in the process of concentration are evaluated.

Courses
(type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

Additional information
--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Master's with 1 major Economathematics (2016)

JMU Würzburg • generated 03-Apr-2021 • exam. reg. data record Master (120 ECTS) Wirtschaftsmathematik - 2016

page 247 / 402
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Topics in Economic Policy</td>
<td>12-M-SPÜ-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economic Order and Social Policy</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module "Sozialpolitische Übungen" ("Advanced Topics in Economic Policy") deals with current economic policy issues and intends to launch an open discussion with the students.

**Intended learning outcomes**

The discussion of current economic policy issues enables the students to gain a profound understanding of how economic and political markets function. Furthermore, autonomous use of research results in economic policy is fostered.

**Courses**

(type, number of weekly contact hours, language — if other than German)

Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
**Module title**
Social Insurance and the Welfare State

**Abbreviation**
12-M-F3-161-M01

**Module coordinator**
holder of the Chair of Public Finance

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Contents**

_Description:_ This module discusses the economic justification for implementing social security systems in a market economy and provides students with deeper insights into this topic with the help of specific issues of public health and retirement policy.

_Reading:_ lecture notes provided by Chair.

_Contents:_
1. Public intervention in insurance markets
2. The insurance function of social security
3. Social security and social morale
4. The optimal health insurance contract
5. Alternative financing schemes for public health in Germany
6. Why do we need a public pension system?
7. Funding vs pay-as-you-go financing of public pensions

**Intended learning outcomes**

After completing the module "Theorie der Sozialversicherung" students are able to explain the theoretical foundation of the social security system in a market economy. Using simple partial equilibrium models they can discuss the financing and contract structure of the public health and pension system. Finally they are able to analyze the consequences of policy reforms.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

_Language of assessment:_ German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resource Management and Industrial Relations</td>
<td>12-M-HRM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Human Resource Management und Industrielle Beziehungen" ("Human Resource Management and Industrial Relations") introduces advanced theories, estimation techniques and empirical results from the areas of human resources and institutional frameworks such as industrial relations. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area human resource management and industrial relations on the basis of scientific literature.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

**Allocation of places**

20 places. There are no restrictions with regard to available places for students of the Master’s degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Incentives in Organizations
Abbreviation: 12-M-AO-161-m01

Module coordinator: holder of the Chair of Human Resource Management and Organisation
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:
The lecture "Anreize in Organisationen" ("Incentives in Organisations") is based on the principal agent theory. This theory will be used to develop financial and economic solutions to help overcome the conflict of interests between employers and employees. In addition to the most widely used theories, estimation techniques and empirical results are also introduced and discussed. Reading list to be provided in class.

Intended learning outcomes:
The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area incentives in organisation on the basis of scientific literature.

Courses:
V (2) + Ü (2)

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes):
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work and Information</td>
<td>12-ITA-161-m01</td>
<td>holder of the Chair of Business Management and Business Information Systems</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This module discusses relevant principles, concepts and applications of business information processing and its impact on organisational and process structures in today's business world.

### Intended learning outcomes

The expertise gained from other modules related to business management issues can be interpreted and classified in a certain way by participating in this module. For decisions in regards to human resources planning, investment, and a company's strategy, the students will get to know all the relevant concepts and interdependencies, which come with taking information processing into account as the so called "fourth" factor of production.

### Courses (type, number of weekly contact hours, language — if other than German)

V (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
International Economics

(20 ECTS credits)
Compulsory

(10 ECTS credits)
Module title: International Trade and the Multinational Firm  
Abbreviation: 12-M-ITMF-161-m01

Module coordinator: holder of the Chair of International Macroeconomics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:

Description:
The course starts out with theories of international trade based on comparative advantage (Ricardo and Heckscher-Ohlin) followed by theories based on monopolistic and oligopolistic competition to explain intra-industry trade. The final part covers firm heterogeneity and multinational firms.

Outline of syllabus:
1. Structure of the lecture
2. Ricardian trade theory
3. Heckscher-Ohlin trade theory
4. The general neoclassical model
5. Sector-specific factors: the Ricardo-Viner model
6. New trade theory: intra-industry trade, increasing returns to scale and imperfect competition
7. Firm heterogeneity, trade and FDI
8. The multinational firm

Reading:

A detailed list of references with further references, journal articles in particular, will be provided with each chapter of the lecture.

Intended learning outcomes:
The students acquire the ability to critically understand the causes and drivers of world trade and the developments of specialization patterns in the global economy. They learn to analyze, discuss and defend these developments and to apply the tools and methods to evaluate controversies associated with the ongoing deepening of the international division of labor, in particular the repercussions of the global economy on national economies.

Courses: (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment: (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places: --

Additional information: --
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Policy and the World Trading System</td>
<td>12-M-TP-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

#### Context:
Based on a synopsis of the basic arguments in favor of free trade, this module provides a systematic introduction to and analysis of a number of arguments in favor of trade operations and trade policy instruments (duties, quotas etc.). The arguments that will be discussed include market power in international markets, domestic distortions, the strategic trade policy, the infant industry argument and industrial policy. The lecture will also address the political-economic causes of protectionist policies, the logic of international trade agreements as well as current issues of the world trade system.

#### Outline of syllabus:
1. Development of lines of the world trade system, of world trade and current issues
2. The doctrine of free trade and its challenges
3. Trade policy instruments and their effects under perfect competition
4. Competition effects of market opening
5. Native market failure: trade policy as a second, third, or ... -best
6. Trade policy in market power on the international commodity markets
7. Political economy, international integration and the world trade system

#### Reading:
- Key text for many sections of the course:
- Lines of development and current issues of the world trade system are described in a clear and understandable way in the following books:
- A basic knowledge of international economics is a prerequisite for participation in this course. Students can refresh their existing knowledge with the help of the two following textbooks:

#### Intended learning outcomes
Students acquire a critical understanding of the benefits of free trade and the possible displayed at various circumstances economic policy arguments. Students are placed in a position to classify current trade policy issues critically-analytically and to present their ideas verbally and economically-intuitive. Students also gain an understanding of the structure and dynamics of the world trade order.

#### Courses
(type, number of weekly contact hours, language — if other than German)

| Ü (2) + V (2) |

---

Master's with 1 major Economathematics (2016)
**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English

<table>
<thead>
<tr>
<th>Allocation of places</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referred to in LPO 1 (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>
Compulsory Core Electives
(10 ECTS credits)
## Advanced Macroeconomics

**Abbreviation:** 12-M-MFF-161-m01

<table>
<thead>
<tr>
<th>Module title</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

**Module coordinator:** holder of the Chair of International Macroeconomics

**ECTS:** 5

**Method of grading:** numerical grade

**Duration:** 1 semester

**Module level:** graduate

### Contents

The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

**Outline of syllabus**

I Facts and the Solow growth model  
II Infinite-horizon Ramsey-Cass-Koopmans model  
III Endogenous growth  
IV Human capital, social infrastructure and beyond  
V Applications (urban and regional growth; growth, resources and the environment)

### Reading:

The course draws strongly on the following textbook:  
We will also use journal articles and research papers at several points of the lecture.

### Intended learning outcomes

Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

### Courses

| (type, number of weekly contact hours, language — if other than German) |
| V (2) + Ü (2) |

### Method of assessment

| (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) |
| a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) |

Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title: Economic Geography  
Abbreviation: 12-M-EG-161-m01

Module coordinator: holder of the Chair of International Macroeconomics

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents

Description:
The course covers the determinants of economic activity in space: basics of urban and regional economics; the origins of the new economic geography and model tools involving mobile labour and mobile capital; applications to trade, tax and regional policy issues are examined and the empirics of agglomeration and trade are discussed.

Outline of syllabus:
1. Introduction
2. Economic activity in space: basics
3. From the new trade theory to the new economic geography
4. The core-periphery model and beyond
5. The footloose-capital model and applications
6. Housing, welfare and regional policy
7. The empirics of agglomeration and trade
8. Policy issues
9. Where to go from here?

Reading:
The course uses a combination of textbooks and journal articles. The main textbooks used are:
Krugman, P.R., 1991, Geography and Trade, MIT Press.

Intended learning outcomes

Students acquire a knowledge of the forces which determine the allocation of economic activity in space and they learn to apply fundamental models of agglomeration to understand and analyze policy issues involving trade, taxation and regional policy questions both analytically and in an economic intuitive way.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places

Additional information

---
<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
</table>

---
Module title: Monetary Policy, Foreign Exchange Markets, and the International Monetary System
Abbreviation: 12-M-EG2-161-m01

Module coordinator: holder of the Chair of Monetary Policy and International Economics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s)

Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents

The course deals with the following topics:

The foreign exchange market:
Functioning of foreign exchange markets; market structure, players and evolution; FX transactions; hedging and speculation with FX.

Exchange rate economics:
Theoretical background and empirical validity of covered interest parity (CIP), uncovered interest rate parity (UIP) and purchasing power parity (PPP); Monetary approach: Flexible price monetary model and sticky price (Dornbusch-) overshooting model; Balassa-Samuelson effect; FX valuation via the PPP and the macroeconomic balance approach; Real effective exchange rates; Empirical validity of the exchange rate theories; Exchange rates and the current account.

Exchange rate regimes and monetary policy in open economies:
Classification of exchange rate regimes; the policy trilemma in open economies; historical development of the international monetary system; central bank interventions on the FX market.

Modelling open economy macroeconomics at the intermediate level:
Implications of the Mundell-Fleming model for monetary and fiscal policy under fixed and flexible exchange rates.
The BMW (IS-MP-PC) model of the open economy and its implication for monetary and fiscal policy under fixed and flexible exchange rates; optimum currency areas in the BMW model and in practice.

Currency crises:
International experience with currency crises since the 1970s; modelling currency crises within the Mundell-Fleming framework.

Managed-floating as a solution for the policy trilemma.

Intended learning outcomes

By completing this course, students receive a profound understanding of the functioning of foreign exchange markets, the drivers of exchange rate movements and some exchange rate valuation methods used in practice. Next to a profound knowledge of exchange rate theory the course highlights its practical applicability, e.g. as an investment strategy. In the second part of the course students learn the principles of monetary policy in open economies, including its trade-offs and risks like currency crises. Students will be able to analyze these issues based on theoretical models as well as the international historical experience.

Courses (type, number of weekly contact hours, language — if other than German)
 Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English
### Allocation of places

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

---
European Macroeconomic Policy

Description:
The course provides students with an overview of the macroeconomic conditions and consequences of European integration and monetary union. The course thus helps students gain a deeper understanding of the current crisis in the euro area as well as the debate on the future of European economic integration.

Content:
The first part of the course provides students with an overview of the history of European integration with a focus on economic and monetary integration. We then discuss the institutional framework of the European Monetary System, the predecessor of the euro area in the period from 1979 to 1998. Next, the criteria for admission to the European Monetary Union (EMU) and the monetary policy strategy of the European Central Bank will be presented and discussed. Building on the traditional Mundell-Fleming model, the course will make students familiar with the theory of the optimum monetary area and will then provide them with deeper insights into this theory on the basis of a simple New Keynesian model. Students will thus be able to make a well-founded assessment of the advantages and disadvantages of monetary union as well as the conditions under which monetary union can be successful. In the final part of the course, we analyse the coordination and incentive problems that arise for fiscal policy in a monetary union. In particular, we deal with the question of how these issues are addressed within the European Monetary Union. Current macroeconomic developments within the euro area as well as the causes and consequences of the euro crisis are discussed at various points in the course.

Intended learning outcomes
After completing this course students will have gained a profound understanding of the costs and benefits of monetary integration in general and specifically in the EMU. Thus, they will enhance their general macroeconomic understanding by applying it to real world problems. In addition, students will have knowledge of the institutions of common fiscal and monetary policy in Europe.

Courses (type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
20 places. There are no restrictions with regard to available places for students of the Master’s degree programs Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

Additional information
--
Module title | Abbreviation
---|---
European Competition Policy | 12-M-WPE-161-m01

Module coordinator | Module offered by
holder of the Chair of Industrial Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

Outline of syllabus:
1. Legal environment, competition laws
2. Market definition
   - Qualitative methods
   - Simple quantitative methods
   - Hypothetical monopoly test
3. Horizontal agreements and collusion: repeated games and factors affecting likelihood of collusion
4. Horizontal mergers and collusion
   - Economic theory
   - Efficiency effects
   - Coordinated effects
5. Vertical relations and contracts
   - Economic analysis of contracts
   - "More economic approach"
6. Abuse of dominant position
   - Classification of abusive conduct
   - Economic analysis of abusive conduct and theory of harm

The course will be taught in English.

Intended learning outcomes

After completion of the module students can use the advanced concepts introduced in the lecture of competition policy, including the legal framework, the trace models and methods for the study of competition policy issues, as well as understand the approach of European competition policy in high profile cases. When they are confronted with practical problems, they can refer to these cases, and the same logic to practical examples apply by draining the relevant economic theories that identify variables to be measured and methodologies for assessing, and based on that adequate conclusions for appropriate cases. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.
<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred to in LPO I (examination regulations for teaching-degree programmes)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Module title: European Public Finance

Abbreviation: 12-M-EFP-161-m01

Module coordinator: holder of the Chair of Public Finance

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Description:
In this course, students will acquire a basic understanding of the financial system of the European Union as well as selected aspects of European agricultural, tax and climate policy.

Reading: lecture notes provided by Chair.

Outline of syllabus:
1. The budget of the European Union
2. The Common Agricultural Policy (CAP)
3. The Stability and Growth Pact (SGP)
4. Tax competition or tax coordination in Europe?
5. Emissions trading and European climate policy

Intended learning outcomes:
After completing the course "Europäische Finanzpolitik" students know the central revenues and expenditures of the budget of the European Union. They also know the most important instruments of the agricultural policy and the debt problem within the European currency union. Finally they will be able to discuss international tax policy and climate issues using simple partial equilibrium models.

Courses:

(2) + V (2)

Method of assessment:

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

Allocation of places:

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

Additional information:

--

Referred to in LPO I (examination regulations for teaching-degree programmes):

--
## Module Catalogue for the Subject
### Economathematics
#### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Debt</td>
<td>12-M-F2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
The module provides an introduction to some specific issues of public debt that are in the focus of the public and scientific debate.

**Reading:** lecture notes provided by Chair.

**Outline of syllabus:**
1. Measurement of public debt
2. Growth effects of public debt
3. Intergenerational effects of public debt
4. Public debt in open economies
5. Neutrality of public debt
6. Political economy of public debt
7. Theory of sovereign debtors

### Intended learning outcomes

After completing the course "National Debt" students are able to distinguish and discuss the most important measurement concepts and problems of public debt. They can discuss the growth and distributional consequences using simple equilibrium models of closed and open economies. They can evaluate the relevance of Ricardian neutrality and know the political economy explanations of rising debt levels and debt overhangs in specific countries.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
Econometrics 1 | 12-M-OE1-161-m01

Module coordinator | Module offered by
holder of the Chair of Econometrics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

Contents

**Description:**
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the models explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

Outline of syllabus:
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

**Intended learning outcomes**
The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconomics" und "Financial Econometrics".

**Courses** (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**
--

**Additional information**
--
Module title: Common European Labour Market

Abbreviation: 12-M-EW-161-m01

Module coordinator: holder of the Chair of Economic Order and Social Policy

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Description:
This course provides an overview of the current situation on the European labour markets, their institutions as well as common and country-specific regulations in the area of structural and social policy. In addition, students are introduced to economic theories that can explain the concentration of economic activity.

Outline of syllabus:
1. European integration - an introduction
2. European labour markets - overview and explanations
3. The common European labour market - European regulations
4. The impact of European structural funds
5. Public cluster policy - a new miracle solution?

Basic reading:

Intended learning outcomes

The students gain knowledge about the impact of the process of the European Integration on the national labour markets. They receive an overview of the possible labour market measures and they can discuss approaches aimed to reduce income disparities within the European Union. Additionally the students will be enabled to understand the emergence of geographically and economically concentrated areas. Subsequently possible public policies to intervene in the process of concentration are evaluated.

Courses
(type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

Additional information

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>12-M-ERA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 10 pages) on empirical analysis prepared by candidates or c) portfolio (approx. 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
## Module Title

**Topics in International Economics 1**

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

## Duration

1 semester

## Module Level

unknown

## Other Prerequisites

--

## Contents

No information on contents available.

## Intended Learning Outcomes

No information on intended learning outcomes available.

## Courses

Type, number of weekly contact hours, language — if other than German:

V (2) + Ü (2)

Course type: alternatively WS instead of V + Ü

## Method of Assessment

Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus:

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)

Language of assessment: German and/or English

## Allocation of Places

--

## Additional Information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Topic in International Economics 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviation</td>
<td>12-M-ATIO2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>holder of the Chair of International Macroeconomics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module offered by</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

No information on contents available.

### Intended learning outcomes

No information on intended learning outcomes available.

### Courses

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

Course type: alternatively WS instead of V + Ü

### Method of assessment

<table>
<thead>
<tr>
<th>Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)</td>
</tr>
</tbody>
</table>

Language of assessment: German and/or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in International Economics 3</td>
<td>12-M-ATIÖ3-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)  
Course type: alternatively WS instead of V + Ü

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)  
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Microeconomics</td>
<td>12-M-AM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economics, Information and Contract Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

### Intended learning outcomes

After completing the course students are able to

1. explain essential findings of microeconomic theory,
2. apply the involved methods to given simple examples on their own,
3. recognize, in which real life situations and how the results can be applied.

### Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Entrepreneurship and Management
(20 ECTS credits)
Compulsory

(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship and Management 1</td>
<td>12-M-UGF1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td></td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) presentation (approx. 30 minutes) with written elaboration (10 to 15 pages) or d) term paper (15 to 20 pages) or e) portfolio (maximum 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship and Management 2</td>
<td>12-M-UGF2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) presentation (approx. 30 minutes) with written elaboration (10 to 15 pages) or d) term paper (15 to 20 pages) or e) portfolio (maximum 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Compulsory Core Electives

(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Law</td>
<td>12-M-AFW-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of the Faculty of Business Management and Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- [a) written examination (approx. 120 minutes) and b) talk (approx. 30 minutes), weighted 3:2] or [a) written examination (approx. 120 minutes) and b) presentation (approx. 15 minutes) and c) written elaboration of presentation (approx. 10 pages), weighted 3:1:1]

**Allocation of places**

30 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Microeconomics</td>
<td>12-M-AM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Economics, Information and Contract Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as:

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

### Intended learning outcomes

After completing the course students are able to:

1. explain essential findings of microeconomic theory,  
2. apply the involved methods to given simple examples on their own,  
3. recognize, in which real life situations and how the results can be applied.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or  
b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or  
c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Networks in Industry</td>
<td>12-M-MS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Marketing</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The primary object of this course is to gain a detailed understanding of strategic networks and of the phenomenon of clustering in the industrial industry. The example of the international automotive industry is used for clarification of the theoretical contents.

The focus is on marketing in industrial companies and also on CSR - CSR is considered the "driver" of sustainable innovations - as well as the different strategy types of sustainable innovations.

Outline of syllabus:
1. Strategic networks and clusters in industrial industries such as the automotive industry
2. Transaction types of Williamson as well as strategic cooperation between automobile manufacturers and suppliers
3. Management of business types, in particular the business of suppliers in the automotive industry
4. Cluster and entrepreneurship activities
5. Sustainable innovation strategies

Intended learning outcomes

By the end of the course, students gain a profound understanding above the basics of network research. Furthermore, students will acquire sectoral knowledge of the automotive industry as well as detailed cluster skills.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives in Organizations</td>
<td>12-M-AO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Anreize in Organisationen" ("Incentives in Organisations") is based on the principal agent theory. This theory will be used to develop financial and economic solutions to help overcome the conflict of interests between employers and employees. In addition to the most widely used theories, estimation techniques and empirical results are also introduced and discussed. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area incentives in organisation on the basis of scientific literature.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship and Management 3</td>
<td>12-M-UGF3-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) presentation (approx. 30 minutes) with written elaboration (10 to 15 pages) or d) term paper (15 to 20 pages) or e) portfolio (maximum 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship and Management 4</td>
<td>12-M-UGF4-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) presentation (approx. 30 minutes) with written elaboration (10 to 15 pages) or d) term paper (15 to 20 pages) or e) portfolio (maximum 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: IT-Management

Abbreviation: 12-M-ITM-161-m01

Module coordinator: holder of the Chair of Business Management and Business Information Systems

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

Content:
This course provides students with an in-depth overview of aims, tasks and appropriate methods of IT management.

Outline of syllabus:
1. Organisation and distinction
2. IT strategy
3. IT organisation
4. Management of IT systems
5. Enterprise Architecture Management
6. IT project management
7. IT security
8. IT law
9. IT controlling

Reading:
- Tiemeyer: Handbuch IT-Management, Munich.
- Hanschke: Strategisches Management der IT-Landschaft, Munich.

Intended learning outcomes:

After completing the course "IT Management", students will be able to
1. overview the different aspects to be considered regarding a purposeful IT management;
2. understand and apply appropriate methods and tools;
3. independently perform system search and selection in a team project (only after participation in the practice lessons).

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places:
--

Additional information:
--

Master's with 1 major Economathematics (2016)
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title | Abbreviation
--- | ---
Economics of Information and Network Industries | 12-M-EIN-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Outline of syllabus:

1. Network effects
   - Consumer demand in markets with network effects and rational expectations
   - Monopoly pricing
   - Competition in markets with network effects
   - Compatibility and multihoming
   - Dynamic competition
   - Competition policy issues in industries with network effects
2. Competition in markets with switching costs
   - Simple two period models of markets with switching costs
   - Various modelling possibilities for switching costs
   - Switching costs and long-run prices
3. Two(Multi)-Sided Markets and Platforms
   - Monopoly pricing in platform markets
   - Competition in platform markets
   - Divide and conquer strategies
   - Non-price strategies
   - Competition policy issues in platform markets
4. Access pricing in network industries
   - Network competition and role of access prices
   - Regulation of access prices

The course will be taught in English.

**Intended learning outcomes**

After completion of the module students can understand and explain themselves the in the lecture introduced advanced concepts of economics, information and network industries (including their mathematical representation form). They will be able to refer to the modeling examples from the practice by impute obvious corporate strategies and can predict the market outcome, evaluate information and network industries from the perspective of the state and, if necessary, appropriate policy action alternatives derived. They will sufficiently understand the subject in order to open up that build upon literature in journals and being able to think critically.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--
Additional information

Referred to in LPO I (examination regulations for teaching-degree programmes)
Module title | Abbreviation
--- | ---
E-Business Strategies | 12-M-IBS-161-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
The lecture provides an overview of the relationships between the advent of web-based platforms (electronic markets, Web 2.0 etc.) and the strategic management of a company.

Intended learning outcomes
The module provides students with knowledge of:
(i) Theoretical concepts of strategy development and implementation in e-business context;
(ii) The strengths and weaknesses of different frameworks and approaches as well as the conditions for their meaningful application;
(iii) Transfer of concepts to other situations of entrepreneurial studies or work.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)
Language of assessment: German and/or English creditable for bonus

Allocation of places
40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Research Methods
(20 ECTS credits)
Compulsory Core Electives I
(15-20 ECTS credits)
Module title | Abbreviation
---|---
Advanced Microeconomics | 12-M-AM-161-m01

**Module coordinator**
holder of the Chair of Economics, Information and Contract Economics

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as:

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

**Intended learning outcomes**

After completing the course students are able to

1. explain essential findings of microeconomic theory,
2. apply the involved methods to given simple examples on their own,
3. recognize, in which real life situations and how the results can be applied.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Macroeconomics</td>
<td>12-M-MFF-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of International Macroeconomics

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>---</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Contents**
The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

**Outline of syllabus**
I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

**Reading:**
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

**Intended learning outcomes**
Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

**Courses** (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

**Allocation of places**
---

**Additional information**
---

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
---
**Module title**  
Managerial Analytics & Decision Making

**Abbreviation**  
12-M-MADM-161-m01

**Module coordinator**  
holder of the Chair of Logistics and Quantitative Methods in Business Administration

**Module offered by**  
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**  
1 semester  
graduate  
--

**Contents**
The course "Managerial Analytics & Decision Making" discusses quantitative methods to structure and solve a diverse set of management problems and demonstrates the application of modern methods with the help of multiple case studies.

**Intended learning outcomes**
After completing this course students can
(i) better understand and structure problems;
(ii) apply important theoretical and empirical frameworks to practical problems that evaluate good and bad decision making;
(iii) implement advanced analytical methods to support decision making under risk.

**Courses** (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English
creditable for bonus

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th><strong>Module title</strong></th>
<th><strong>Abbreviation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Econometrics 1</td>
<td>12-M-OE1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Module coordinator</strong></th>
<th><strong>Module offered by</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Econometrics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ECTS</strong></th>
<th><strong>Method of grading</strong></th>
<th><strong>Other prerequisites</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Duration</strong></th>
<th><strong>Module level</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

## Contents

**Description:**
This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the models explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

**Outline of syllabus:**
1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

## Intended learning outcomes

The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconomics" und "Financial Econometrics".

## Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
</tr>
</tbody>
</table>

## Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)</td>
</tr>
<tr>
<td>Language of assessment: German and/or English creditable for bonus</td>
</tr>
</tbody>
</table>

## Allocation of places

--

## Additional information

--
<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
</table>

---
Compulsory Core Electives II
(0-5 ECTS credits)
Module title | Abbreviation
---|---
DSGE Modelling | 12-M-DMM-161-m01

Module coordinator | Module offered by
holder of the Chair of Monetary Policy and International Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

The course offers an introduction to "Dynamic Stochastic General Equilibrium Modelling" (DSGE). These models are designed to describe the business cycle at the macro level. In a first step, we analyse the behaviour of a representative household. In particular, we describe how consumption, asset allocation and labour supply plans are formulated. In a second step, we focus on the firm sector and address how firms solve for optimal production plans. In a third step, we explain what role the central bank plays in stabilising the business cycle. Thereby, we show how changes in interest rates interact with optimal decisions taken by households and firms. We also discuss hot topics such as CAPM models and monetary policy in the euro area.

Intended learning outcomes

The course offers analytical tools designed to solve DSGE models. These analytical skills encompass:

-- Solving of intertemporal optimization problems (e.g., consumption Euler-equations).
-- Linearization methods (e.g., Taylor-expansions).
-- Solving linear difference expectations by minimum state variabel techniques (MSV-solution).
-- Basic time series concepts such as impulse response functions, variance decompositions.
-- Basic insights in MATLAB/ Dynare programming: specifying, solving and estimating DSGE models.

Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title: Microeconometrics
Abbreviation: 12-M-MIK-161-m01

Module coordinator: holder of the Chair of International Macroeconomics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester

Contents:
The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus:
I Facts and the Solow growth model
II Infinite-horizon Ramsey-Cass-Koopmans model
III Endogenous growth
IV Human capital, social infrastructure and beyond
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook:
We will also use journal articles and research papers at several points of the lecture.

Intended learning outcomes:
Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

Courses:
Ü (2) + Ü (2)

Method of assessment:
Type: written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title: Analysis of Financial Market Data
Abbreviation: 12-M-FMO-161-m01

Module coordinator: holder of the Chair of Econometrics
Module offered by: Faculty of Business Management and Economics

ECTS: 5
Method of grading: numerical grade
Duration: 1 semester
Module level: graduate
Other prerequisites: --

Contents:

Description:
The module covers the fundamentals, methods and concepts for the empirical analysis of financial market data. The concept of market efficiency is explained and critically examined with reference to the random walk hypothesis. To test this hypothesis, a number of parametric and non-parametric methods are proposed and applied in practice. Based on the findings, market microstructure models that can explain some important empirical findings will be discussed. In addition, the course describes event studies for testing the significant impact of corporate news on the share price and discusses issues of univariate time series analysis such as AR(1)MA and ARCH / GARCH models that are indispensable for modelling financial market data. In the final part of the course, the CAPM is discussed and examined, in particular, with regard to its empirical applicability.

Outline of syllabus:
1. Information efficiency
2. Random walk
3. Theoretical market models
4. Event studies
5. Univariate modelling of time series data
6. Models to explain volatility (ARCH and GARCH)
7. Estimation of the capital asset pricing model

Reading:

Intended learning outcomes:
Students have significant knowledge of the fundamentals, methods and concepts that are needed for the empirical analysis of financial market data. They can autonomously perform statistical test decisions with statistics programs such as EViews or Gretl and critically analyze in terms of their economic importance. In addition, the students learn the independent handling of empirical capital market data and have at the end of the course the ability to develop also own functions and routines, for example for EViews.

Courses:
(V (2) + Ü (2))

Method of assessment:
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English
creditable for bonus
<table>
<thead>
<tr>
<th>Allocation of places</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>
Module title | Abbreviation
--- | ---
Theory of Industrial Organization 1 | 12-M-TI1-161-m01

Module coordinator | Module offered by
holder of the Chair of Industrial Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

Intended learning outcomes

Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

Allocation of places

--

Additional information

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>12-M-TI2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Description:
This course discusses vertical contracts in supply chains and their impact on competition.

Outline of syllabus:
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

**Intended learning outcomes**

After completing the course students are able to

(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered
Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title
Optimal Tax Theory

Abbreviation
12-M-F4-161-m01

Module coordinator
holder of the Chair of Public Finance

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Description:
The course will discuss the design of an optimal tax system. First, students will learn what criteria have to be met for a tax system to be optimal. Lectures will introduce key rules for taxing commodities as well as income and capital.
Examining specific taxation issues such as eco-tax, family taxation and the taxation of international enterprises, students will then gain more in-depth insights into these rules.
Reading: Lecture notes will be provided.

Outline of syllabus:
1. Optimal commodity taxation
2. Optimal income taxation
3. Optimal taxation of families
4. International tax competition

Intended learning outcomes
After completing this module students have a basic understanding of what is meant with "optimal taxation". They are able to apply this concept to specific normative questions of tax policy in practice. Students also learn to prepare and present short papers, where they discuss specific normative policy issues in groups.

Courses
(type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title

Computational Economics - Advanced Level

### Abbreviation

12-M-NGM-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>Only after succ. compl. of module(s)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

### Contents

**Description:**

This course will mostly be concerned with the analysis of public policy (in areas such as taxation, social security etc.). Providing students with state-of-the-art techniques for quantitative macroeconomic research in this very field and familiarising them with the relevant literature, this course will teach students how such policies redistribute between different generations and also within generations, how they may improve risk sharing when markets are incomplete and how they can trigger distortions and therefore hurt the aggregate economy.

**Outline of syllabus:**

1. Programming with FORTRAN and application of numerical methods
2. Solution techniques for dynamic programming problems
3. The overlapping generations model (OLG) with uninsurable income risk
3. Policy analysis in the stochastic OLG model

**Reading:**

Lecture notes will be provided.

**Intended learning outcomes**

After completing the course "Computational Economics - Advanced Level" students will be able to

(i) edit and solve stochastic economic problems using advanced numerical techniques;
(ii) implement small scale economic models on the computer;
(iii) simulate tax and social security policy reforms and interpret the quantitative results in economic term.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econometrics 2</td>
<td>12-M-OE2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td></td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
This module deals with the basics, concepts and methods of the generalised least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedasticity and autocorrelation.

Linear algebra is used as formal aid.

**Outline of syllabus:**
1. Specification analysis
2. Multicollinearity
3. Heteroskedasticity
4. Autocorrelated disruptive terms
5. Generalised least squares (GLS)

**Intended learning outcomes**

Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalised linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) so that they are able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the Estimation methods in scientific work and to work independently on adequate implementation of empirical analyzes to answer selected (economic) scientific issues if available data with the above-mentioned involve problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" und "Financial Econometrics".

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
**Module title**

Econometrics 3

**Abbreviation**

12-M-0E3-161-m01

**Module coordinator**

holder of the Chair of Econometrics

**Module offered by**

Faculty of Business Management and Economics

**ECTS**

5

**Method of grading**

Only after succ. compl. of module(s)

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

**Contents**

**Description:**

This module deals with advanced econometric methods and concepts based on the classical and the generalised least squares estimator discussed in Ökonometrie I and II (Econometrics I and II). In particular, this includes the instrumental variable (IV) estimator, the generalised method of moments (GMM) estimator, distributed lag models as well as basic methods and concepts used in uni and multivariate econometric times series analysis, including (non)stationarity, integration, cointegration.

Linear algebra is used as formal aid.

**Outline of syllabus:**

1. Error-in-variables
2. IV estimation
3. Generalised least squares estimation
4. Distributed lag models
5. Stationary uni and multivariate processes
6. Deterministic and stochastic trends
7. Integrated and cointegrated processes

**Intended learning outcomes**

The students acquire thorough understanding of advanced methods and concepts in econometrics. They are familiarized with diverse error-in-variables issues and capable of handling them appropriately. After the course, students understand the generalized method of moment (GMM) and the instrumental variable (IV) estimator to an extent that they can discuss their pros and cons, apply these to selected questions in quantitative economics, and understand scientific papers using these methods. Furthermore, they become acquainted with selected time series issues, such as distributed lag models, non-stationarity, spurious correlation, and cointegrated processes, enabling them to conduct a comprehensive time series analysis. In brief, the course enables students to apply the above mentioned methods and concepts to real life questions, assess their appropriateness, and address their theoretical and practical benefits and shortcomings.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

credible for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Industrial Management 3

Abbreviation: 12-M-SPM-161-m01

Module coordinator: holder of the Chair of Business Management and Industrial Management

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:
This module will discuss contents and procedures of strategic production management and, in particular, planning and control concepts. Students will become familiar with the essentials of strategic production management. Theoretical and analytical models will be used for analysing both economic and ecological issues. In addition, the module will discuss principles of value structure optimisation and will develop competences regarding the development of integrated mathematical models.

Intended learning outcomes:
After completion of the module students are able to process, to analyze and answer questions of operations strategy structured and goal-oriented in a global context using appropriate methods. Furthermore, they know the main strategic tasks and objectives in production management and evaluate and apply planning and control concepts for the production in realistic application situations.

Courses:
V (2) + Ü (2)
Course type: alternatively eLearning, S, WS

Method of assessment:
a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English

Allocated places:
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical HR Research with Stata</td>
<td>12-M-EPF-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Human Resource Management and Organisation

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**
The seminar "Empirische Personalforschung" ("Empirical Personnel Economics") introduces and discusses the most important estimation problems and their application in the software package STATA. In addition, students learn, with the help of basic problems of personnel economics, how estimation programs are programmed in STATA.

Reading list to be provided in class.

**Intended learning outcomes**
The aim of the seminar is to enable students to understand and apply the most important estimation programs and their application in STATA with a focus on problems in personnel economics.

**Courses**

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ü (2)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>term paper (approx. 10 pages)</td>
</tr>
<tr>
<td>Assessment offered: Once a year as announced</td>
</tr>
<tr>
<td>Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

**Allocation of places**
12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
### Human Resource Management and Industrial Relations

**Module title**

Human Resource Management and Industrial Relations

**Abbreviation**

12-M-HRM-161-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

**ECTS**

5

**Method of grading**

Only after succ. compl. of module(s)

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

### Contents

The lecture "Human Resource Management und Industrielle Beziehungen" ("Human Resource Management and Industrial Relations") introduces advanced theories, estimation techniques and empirical results from the areas of human resources and institutional frameworks such as industrial relations. Reading list to be provided in class.

### Intended learning outcomes

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area human resource management and industrial relations on the basis of scientific literature.

### Courses

**Type, number of weekly contact hours, language — if other than German**

V (2) + Ü (2)

### Method of assessment

**Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus**

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

### Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

### Additional information

--

### Referred to in LPO (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting and Capital Markets</td>
<td>12-M-REKA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module focuses on financial and management accounting, their functions, possible configurations as well as their impact on internal and external recipients under consideration of the institutional setting. In this context, an economic perspective has priority over detailed legal arrangements and regulations by the standard setters. Based on the theoretical foundations of information economics as well as decision-making and balance sheet theories, typical issues concerning cost accounting and controlling as well as financial accounting and publicity are discussed.

**Intended learning outcomes**

Initially a fundamental knowledge about the conception and impact of management and financial accounting as information systems is acquired. In the following, the module mainly sharpens the understanding of the economic impacts of the configuration of management and financial accounting. What is more, extensive knowledge about possible impacts of changes in institutional general frameworks is conveyed. For example changes in valuation standards, publicity rules or regulations about the distribution of profits in enterprises and on capital markets are considered.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
Information systems research | 12-M-ISR-161-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course provides an overview of theoretical scientific foundations, theories, research topics and methods of international research in business informatics.

**Intended learning outcomes**

The module provides students with knowledge of:
(i) Exploration of classical themes of WI / IS research;
(ii) Getting to know the relevant paradigms, theories and methods;
(iii) Recognition of the interfaces to other areas of business administration and management practice;
(iv) Gain experience in finding and evaluation of scientific literature.

**Courses** (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
**International Trade and the Multinational Firm**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Trade and the Multinational Firm</td>
<td>12-M-ITMF-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of International Macroeconomics

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

**Description:**
The course starts out with theories of international trade based on comparative advantage (Ricardo and Heckscher-Ohlin) followed by theories based on monopolistic and oligopolistic competition to explain intra-industry trade. The final part covers firm heterogeneity and multinational firms.

**Outline of syllabus:**
1. Structure of the lecture
2. Ricardian trade theory
3. Heckscher-Ohlin trade theory
4. The general neoclassical model
5. Sector-specific factors: the Ricardo-Viner model
6. New trade theory: intra-industry trade, increasing returns to scale and imperfect competition
7. Firm heterogeneity, trade and FDI
8. The multinational firm

**Reading:**

A detailed list of references with further references, journal articles in particular, will be provided with each chapter of the lecture.

**Intended learning outcomes**
The students acquire the ability to critically understand the causes and drivers of world trade and the developments of specialization patterns in the global economy. They learn to analyze, discuss and defend these developments and to apply the tools and methods to evaluate controversies associated with the ongoing deepening of the international division of labor, in particular the repercussions of the global economy on national economies.

**Courses**

<table>
<thead>
<tr>
<th>Type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ü (2) + V (2)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>Type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

**Allocation of places**

--

**Additional information**

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

---
### Economic Geography

**Module title:** Economic Geography  
**Abbreviation:** 12-M-EG-161-m01

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
The course covers the determinants of economic activity in space: basics of urban and regional economics; the origins of the new economic geography and model tools involving mobile labour and mobile capital; applications to trade, tax and regional policy issues are examined and the empirics of agglomeration and trade are discussed.

**Outline of syllabus:**
1. Introduction  
2. Economic activity in space: basics  
3. From the new trade theory to the new economic geography  
4. The core-periphery model and beyond  
5. The footloose-capital model and applications  
6. Housing, welfare and regional policy  
7. The empirics of agglomeration and trade  
8. Policy issues  
9. Where to go from here?

**Reading:**
The course uses a combination of textbooks and journal articles. The main textbooks used are:  
Krugman, P.R., 1991, Geography and Trade, MIT Press.

**Intended learning outcomes**
Students acquire a knowledge of the forces which determine the allocation of economic activity in space and they learn to apply fundamental models of agglomeration to understand and analyze policy issues involving trade, taxation and regional policy questions both analytically and in an economic intuitive way.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Regional- and International Economic Research</td>
<td>12-M-ERA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 10 pages) on empirical analysis prepared by candidates or c) portfolio (approx. 20 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in International Economics 1</td>
<td>12-M-ATÖ1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents

No information on contents available.

Intended learning outcomes

No information on intended learning outcomes available.

Courses (type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)
  - Course type: alternatively WS instead of V + Ü

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 to 90 minutes) or
- b) term paper (approx. 15 pages) or
- c) portfolio (approx. 20 pages)
  - Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
### Module Catalogue for the Subject Economathematics

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in International Economics 2</td>
<td>12-M-ATIÖ2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)
  - Course type: alternatively WS instead of V + Ü

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)
  - Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics in International Economics 3</td>
<td>12-M-ATIO3-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)  
Course type: alternatively WS instead of V + Ü

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages) or c) portfolio (approx. 20 pages)  
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Managerial Accounting
(20 ECTS credits)
Compulsory

(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination, Budgeting and Incentives in Companies</td>
<td>12-M-KOBO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
This module focuses on accounting-based instruments to control behaviour in decentralised enterprises. The course first discusses the role of accounting in the context of decision making and behavioural controlling as well as informational analyses. Afterwards, the most common instruments of behavioural controlling (budgeting, value-oriented management, transfer prices) are discussed with regard to theory and practice.

### Intended learning outcomes
This module aims to provide knowledge in the context of behavioral controlling in enterprises. Knowledge about Requirements on instruments used for behavioral controlling are discussed and competencies for deployment, structure and development of coordination tools are provided.

### Courses
(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Written examination (approx. 60 minutes)
Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Managerial Accounting</td>
<td>12-M-INST-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module focuses on controlling instruments, which are applied in the context of the strategic management of enterprises. The module covers analytical and heuristic techniques of planning and control. In the context of these techniques, instruments of target costing, life cycle analysis, value chain analysis and various portfolio techniques are discussed with regard to their theoretical foundation and fields of application.

**Intended learning outcomes**

Initially knowledge about fundamental requirements concerning instruments of decision making and behavior control within enterprises is acquired. What is more the module conveys the obtaining of knowledge about the strengths and weaknesses and therewith fields of application and limits of prevalent instruments of strategic corporate management used by practitioners.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Compulsory Core Electives

(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 1</td>
<td>12-M-TI1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

**Intended learning outcomes**

Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives in Organizations</td>
<td>12-M-AO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The lecture "Anreize in Organisationen" ("Incentives in Organisations") is based on the principal agent theory. This theory will be used to develop financial and economic solutions to help overcome the conflict of interests between employers and employees. In addition to the most widely used theories, estimation techniques and empirical results are also introduced and discussed. Reading list to be provided in class.

**Intended learning outcomes**

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area incentives in organisation on the basis of scientific literature.

<table>
<thead>
<tr>
<th>Courses</th>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2) + Ü (2)</td>
<td></td>
</tr>
</tbody>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management and Control</td>
<td>12-M-PROM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
The module focuses on the discussion and critical examination of instruments and methods used in the context of project management and controlling within enterprises. It covers characteristic features and structures of projects, their possible success factors, methods and instruments of the controlling and management of projects in various project phases as well as approaches to multi-project management. The theoretical basis as well as potential applications of these instruments are discussed.

### Intended learning outcomes
Initially knowledge about fundamental requirements concerning instruments of project management and controlling is acquired. What is more the module conveys knowledge about strengths and weaknesses and thereby fields of application and limits of commonly used instruments and methods of practitioners. Competences within the configuration and development of the project management and controlling are obtained as well as skills within the practical use of the project management software MS Project.

### Courses
(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
### Module title
Accounting and Capital Markets

### Abbreviation
12-M-REKA-161-m01

### Module coordinator
holder of the Chair of Business Management, Controlling and Accounting

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
The module focuses on financial and management accounting, their functions, possible configurations as well as their impact on internal and external recipients under consideration of the institutional setting. In this context, an economic perspective has priority over detailed legal arrangements and regulations by the standard setters. Based on the theoretical foundations of information economics as well as decision-making and balance sheet theories, typical issues concerning cost accounting and controlling as well as financial accounting and publicity are discussed.

### Intended learning outcomes
Initially a fundamental knowledge about the conception and impact of management and financial accounting as information systems is acquired. In the following, the module mainly sharpens the understanding of the economic impacts of the configuration of management and financial accounting. What is more, extensive knowledge about possible impacts of changes in institutional general frameworks is conveyed. For example changes in valuation standards, publicity rules or regulations about the distribution of profits in enterprises and on capital markets are considered.

### Courses
V (2) + Ü (2)

### Method of assessment
written examination (approx. 60 minutes)
Language of assessment: German and/or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Management 1</td>
<td>12-M-SBM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Industrial Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

**Intended learning outcomes**

Students learn the principles of performance-oriented optimization of all procurement activities to develop long-term, competitively sensitive potential for success. After completion of the module students are able to prepare structured, to goal-oriented analyze and to respond to performance-oriented issues of strategic procurement based on key instruments. Students are able to accurately classify the tasks of the procurement and to describe and discuss their strategic importance and dominate essential methods and procedures used in this area to apply.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Course type: alternatively eLearning, S, WS

**Method of assessment** (type, scope, language — if other than German, examination offered — If not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 40 to 60 minutes) or b) presentation (approx. 20 minutes) and term paper (approx. 15 to 20 pages); weighted 1:1 or c) term paper (approx. 30 to 40 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
# Econometrics 1

**Module title**

Econometrics 1

**Abbreviation**

12-M-OE1-161-m01

**Module coordinator**

holder of the Chair of Econometrics

**Module offered by**

Faculty of Business Management and Economics

**ECTS**

5

**Method of grading**

numerical grade

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

### Contents

**Description:**

This module deals with the basic concept and methodology of the ordinary least squares (OLS) regression model. In particular, model assumptions and properties are discussed and formally motivated. In addition, the module examines linear restrictions on the model's explanatory variables as well as dummy variables and introduces tests to verify simple and multiple linear restrictions.

Linear algebra is used as formal aid.

**Outline of syllabus:**

1. Random variables
2. Important distributions
3. Point estimates
4. Simple linear regression model
5. Model assumptions
6. Model properties
7. Simple hypothesis tests
8. Multiple linear regression model
9. Linear restrictions
10. Dummy variables
11. Multiple hypothesis tests

### Intended learning outcomes

The students acquire knowledge of the basics, concepts and methods used in the classical linear regression model and understand the role of econometrics in science and data analysis. In particular, they learn how to analytically derive, calculate and interpret the coefficients, standard errors and p-values of a classic regression output of the multiple regression model. Furthermore, they are able to state and motivate formally the assumptions and properties of OLS and know how to deal with transformed and dummy variables. Additionally, students are able to test multiple linear restrictions on the parameters and are able to apply these tests to real economic, business and social science questions.

The competences acquired in this course serve as a prerequisite for "Econometrics II", "Econometrics III", "Microeconomics" and "Financial Econometrics".

### Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--
Referred to in LPO I (examination regulations for teaching-degree programmes)

---
Module title | Abbreviation
---|---
Econometrics 2 | 12-M-OE2-161-m01

Module coordinator
holder of the Chair of Econometrics

Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents

Description:
This module deals with the basics, concepts and methods of the generalised least squares (GLS) framework. Partly as a motivation for the GLS model and partly for its own right, different specification and data problems as well as violations of model assumptions of the OLS estimator (as introduced in "Ökonometrie I" ("Econometrics I")) are discussed. This includes multicollinearity, a test for structural breaks, heteroskedasticity and autocorrelation. Linear algebra is used as formal aid.

Outline of syllabus:
1. Specification analysis
2. Multicollinearity
3. Heteroskedasticity
4. Autocorrelated disruptive terms
5. Generalised least squares (GLS)

Intended learning outcomes

Students acquire essential knowledge of the fundamentals, methods and concepts for estimating the generalised linear regression model (GLS) and can apply and interpret it. They are sensitized for specification problems, data problems and violations of the assumptions of the classical linear model (OLS) so that they are able to recognize, to assess and therefore adequately deal with these problems in theory and practice. This enables them to critically assess the use of the Estimation methods in scientific work and to work independently on adequate implementation of empirical analyzes to answer selected (economic) scientific issues if available data with the above-mentioned Involve problems. The competences acquired in this course serve as a prerequisite for "Econometrics III", "Microeconometrics" und "Financial Econometrics".

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title |
---
Decision Support Systems

Abbreviation |
---
12-M-DSS-161-m01

Module coordinator |
holder of the Chair of Information Systems Engineering

Module offered by |
Faculty of Business Management and Economics

ECTS |
5

Method of grading |
numerical grade

Only after succ. compl. of module(s) |
--

Duration |
1 semester

Module level |
graduate

Other prerequisites |
--

Contents

The course discusses advanced approaches for modelling and solving decision problems in business settings. The acquired insights are used to design and implement decision support systems using standard software tools.

Intended learning outcomes

After successfully completing the course, students should be able to

- Understand the structure of classic business decision problems
- Isolate key elements from general problem descriptions and convert them to quantitative decision models
- Solve different classes of optimization problems (linear, network, integer, multi-objective, non-linear, stochastic)
- Implement spreadsheet-based decision support systems

Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) oral examination (one candidate each: approx. 15 to 20 minutes; groups of 2: approx. 20 minutes; groups of 3: approx. 30 minutes)

Language of assessment: German and/or English

creditable for bonus

Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Master's students of Wirtschaftsinformatik (Business Information Systems) will be given preferential consideration. (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (1) and (2) and the number of applications exceeds the number of available places, places will be allocated by lot among applicants from this group.

Additional information

--

Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Decisions and Competition</td>
<td>12-M-SDC-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

holder of the Chair of Industrial Economics

**Module offered by**

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**

1 semester

**Module level**

unknown

**Other prerequisites**

--

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial Accounting in the Company Management</td>
<td>12-M-CIU-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Chair of Business Management, Controlling and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Advanced Financial Accounting (German GAAP, IFRS)

Abbreviation: 12-M-ER-161-m01

Module coordinator: holder of the Chair of Business Management and Accounting

Module offered by: Faculty of Business Management and Economics

ECTS: 5

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:
This course deals with selected complex financial accounting problems according to national German GAAP (German Commercial Code, Handelsgesetzbuch).

Outline of syllabus: Theoretical and empirical foundations of financial accounting; selected topics of advanced financial accounting, e.g. pension accounting, fair value accounting (financial instruments, biological assets, hedge accounting; purchase price allocation and impairment test; leasing; deferred taxes in individual and group financial statements; capital consolidation in multilevel corporate groups; presentation of equity changes; statement of cash flow and segment reporting; notes and management report.

Reading list to be provided during course.

Intended learning outcomes:
After completing this course, students will be able to
1. analyze complex financial accounting problems according to national and international financial reporting standards and develop predominantly self-directed solutions for these problems;
2. evaluate independently selected research contribution to the theory of financial accounting and design research- or application-oriented projects.

Courses (type, number of weekly contact hours, language — if other than German):

Ü (2) + V (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus):

written examination (approx. 60 to 120 minutes)
Language of assessment: German and/or English creditable for bonus

Allocation of places:
--

Additional information:
--

Referred to in LPO I (examination regulations for teaching-degree programmes):
--
### Module title
Information Processing within Organizations

### Abbreviation
12-IV-161-m01

### Module coordinator
holder of the Chair of Business Management and Business Information Systems

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
Content:
This course provides students with an in-depth overview of the structure and the application areas of business management information systems in enterprises and public institutions.

Outline of syllabus:
1. What is software: concepts, categories, application
2. Software life cycle: duration, phases, steps
3. As-is analysis: tasks, problems
4. To-be concept: system design, data design, dialog design, function design
5. Object orientation: paradigm shift
6. Change management: meaning, methodologies, project management
7. Office automation: tasks, areas of application

### Intended learning outcomes
After completing the course "Integrated Information Processing", students will be able to
(i) understand the importance of integration in enterprises, especially in information systems;
(ii) assess the progress of development of a software project, estimate cycle costs, know and consider requirements, which brings a software implementation with;
(iii) select the correct procedures or practices in an as-is analysis and target conception and practically apply (with participation in the exercise);
(iv) understand the importance of change management and project management and know the appropriate methods for specific applications.

### Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Language of assessment: German and/or English
creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Applied Decision Theory
(20 ECTS credits)
Compulsory
(10 ECTS credits)
### Module title
Advanced Microeconomics

### Abbreviation
12-M-AM-161-m01

### Module coordinator
holder of the Chair of Economics, Information and Contract Economics

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
This course deals with essential microeconomic methods and problems at an advanced level (e.g. Mas-Colell, Whinston, Green: Microeconomic Theory). As this is a huge field, the course will concentrate on two or three topics such as:

1. Game theory
2. Principal-agent models
3. Theory of auctions
4. General equilibrium theory
5. Mechanism design

### Intended learning outcomes
After completing the course students are able to:

1. explain essential findings of microeconomic theory,
2. apply the involved methods to given simple examples on their own,
3. recognize, in which real life situations and how the results can be applied.

### Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) written examination (questions concerning mathematical methodology; approx. 120 minutes) or c) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Theorie</td>
<td>12-M-CT-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Interdisciplinary Seminars and Workshops
(10 ECTS credits)
Theory of Industrial Organization 1
12-M-TI1-161-m01

Module coordinator
holder of the Chair of Industrial Economics

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
Theory of industrial organisation:
1. Monopoly pricing
   - Nonlinear pricing and mechanism design
   - Dynamic pricing: experience goods, durable goods
2. Oligopoly pricing
   - Static price and quantity competition in homogeneous and differentiated goods markets
   - Comparative statics
   - Equilibrium market structure
3. Dynamic competition in oligopoly markets
   - Repeated games and collusion
   - Markov perfect equilibrium and models of dynamic competition
4. Strategic behaviour by incumbent firms
   - Entry deterrence and predation
   - Signalling and reputation
5. Auctions
   - Second price auctions
   - First price auctions
6. Advertising and product design

The course will be taught in English.

Intended learning outcomes
Students which complete this class will acquire a working knowledge of advanced theoretical models of competition in oligopoly markets as well as sophisticated pricing techniques in monopoly markets. They will learn the conditions under which the predictions of these models are valid. They will become familiar with applications of advanced game theoretic tools, such as dynamic models of competition and auction theory, for studying interactions between firms in markets. By means of comprehensive exercises, they will apply the methods they learn in class to practically relevant problems. They will be in a position to read academic papers on related topics, assess the strengths and weaknesses of approach, summarize and comment on these papers and suggest possible extensions.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)
Language of assessment: German and/or English creditable for bonus

Allocation of places
--

Additional information
--
<table>
<thead>
<tr>
<th>Referred to in LPO I</th>
<th>(examination regulations for teaching-degree programmes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>
### Theory of Industrial Organization 2

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Industrial Organization 2</td>
<td>12-M-TI2-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Industrial Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

**Description:**
This course discusses vertical contracts in supply chains and their impact on competition.

**Outline of syllabus:**
1. The classic problem of double marginalisation and its solution by nonstandard contracts (resale price maintenance, nonlinear pricing (rebates), exclusive territories, exclusive dealing etc.)
2. Contracts for service
3. Common agency
4. The delegation principle
5. The commitment problem
6. Interlocking relationships
7. Foreclosure by vertical contracts or mergers

### Intended Learning Outcomes

After completing the course students are able to

(i) explain the results of theoretical industrial economics on vertical contracts;
(ii) apply the involved methods to given simple examples on their own;
(iii) recognize, in which real life situations (and how) the results can be applied;
(iv) analyze the impact of certain vertical contracts on competition.

### Courses

<table>
<thead>
<tr>
<th>type, number of weekly contact hours, language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) written examination (approx. 60 to 120 minutes) or b) term paper (approx. 15 to 20 pages)</td>
</tr>
</tbody>
</table>

**Assessment offered:** In the semester in which the course is offered

**Language of assessment:** German and/or English creditable for bonus

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)
### Module Catalogue for the Subject
**Economathematics**

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microeconometrics</td>
<td>12-M-MIK-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of International Macroeconomics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
The course covers long-run aspects of macroeconomics. We start with a review of the facts of long-run growth and a review of the Solow growth model. The lecture then focuses on the infinite-horizon Ramsey-Cass-Koopmans model and on endogenous growth theory. Applications of this framework involving urban and regional growth, resources and the environment will be discussed, time permitting.

Outline of syllabus
I Facts and the Solow growth model  
II Infinite-horizon Ramsey-Cass-Koopmans model  
III Endogenous growth  
IV Human capital, social infrastructure and beyond  
V Applications (urban and regional growth; growth, resources and the environment)

Reading:
The course draws strongly on the following textbook: David Romer, Advanced Macroeconomics, 4th ed., McGraw-Hill Irwin. We will also use journal articles and research papers at several points of the lecture.

### Intended learning outcomes
Students acquire a working knowledge of the key models and analytical tools of advanced macroeconomics. This enables them to identify the key forces that determine the determinants of income levels and growth rates of incomes, to make informed policy analysis and statements and to critically evaluate current controversies and developments as well as to conduct their own research.

### Courses
(type, number of weekly contact hours, language — if other than German)

| Ü (2) + Ü (2) |

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)  
Language of assessment: German and/or English creditable for bonus

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
**Module title**  
Optimal Tax Theory

**Abbreviation**  
12-M-F4-161-m01

**Module coordinator**  
holder of the Chair of Public Finance

**Module offered by**  
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**  
1 semester

**Module level**  
graduate

**Other prerequisites**  
--

### Contents

**Description:**  
The course will discuss the design of an optimal tax system. First, students will learn what criteria have to be met for a tax system to be optimal. Lectures will introduce key rules for taxing commodities as well as income and capital. Examining specific taxation issues such as eco-tax, family taxation and the taxation of international enterprises, students will then gain more in-depth insights into these rules.

**Reading:** Lecture notes will be provided.

**Outline of syllabus:**
1. Optimal commodity taxation
2. Optimal income taxation
3. Optimal taxation of families
4. International tax competition

**Intended learning outcomes**

After completing this module students have a basic understanding of what is meant with "optimal taxation". They are able to apply this concept to specific normative questions of tax policy in practice. Students also learn to prepare and present short papers, where they discuss specific normative policy issues in groups.

**Courses** (type, number of weekly contact hours, language — if other than German)

- V (2) + Ü (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)
- Language of assessment: German and/or English

**Allocation of places**  
--

**Additional information**  
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial Analytics &amp; Decision Making</td>
<td>12-M-MADM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course "Managerial Analytics & Decision Making" discusses quantitative methods to structure and solve a diverse set of management problems and demonstrates the application of modern methods with the help of multiple case studies.

**Intended learning outcomes**

After completing this course students can
(i) better understand and structure problems;
(ii) apply important theoretical and empirical frameworks to practical problems that evaluate good and bad decision making;
(iii) implement advanced analytical methods to support decision making under risk.

**Courses**

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 to 20 pages)

Language of assessment: German and/or English creditable for bonus

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
### Module Catalogue for the Subject
**Economathematics**

**Master's with 1 major, 120 ECTS credits**

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resource Management and Industrial Relations</td>
<td>12-M-HRM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

The lecture "Human Resource Management und Industrielle Beziehungen" ("Human Resource Management and Industrial Relations") introduces advanced theories, estimation techniques and empirical results from the areas of human resources and institutional frameworks such as industrial relations.

Reading list to be provided in class.

### Intended learning outcomes

The aim of the lectures is to enable students to understand and apply advanced theories, estimation techniques and empirical results in the area human resource management and industrial relations on the basis of scientific literature.

### Courses

(type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages)

Language of assessment: German and/or English

### Allocation of places

20 places. There are no restrictions with regard to available places for students of the Master's degree programmes Business Management, International Economic Policy or Economics, Wirtschaftsinformatik (Business Information Systems), Wirtschaftsmathematik (Mathematics for Economics) and Chinese and Economics as well as China Business and Economics. A total of 20 places will be allocated to students of other subjects; should the number of applications exceed the number of available places, these places will be allocated by lot.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title
International Trade and the Multinational Firm

Abbreviation
12-M-ITMF-161-m01

Module coordinator
holder of the Chair of International Macroeconomics

Module offered by
Faculty of Business Management and Economics

ECTS
5

Method of grading
Only after succ. compl. of module(s)
numerical grade

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents

Description:
The course starts out with theories of international trade based on comparative advantage (Ricardo and Heckscher-Ohlin) followed by theories based on monopolistic and oligopolistic competition to explain intra-industry trade. The final part covers firm heterogeneity and multinational firms.

Outline of syllabus:
1. Structure of the lecture
2. Ricardian trade theory
3. Heckscher-Ohlin trade theory
4. The general neoclassical model
5. Sector-specific factors: the Ricardo-Viner model
6. New trade theory: intra-industry trade, increasing returns to scale and imperfect competition
7. Firm heterogeneity, trade and FDI
8. The multinational firm

Reading:
A detailed list of references with further references, journal articles in particular, will be provided with each chapter of the lecture.

Intended learning outcomes
The students acquire the ability to critically understand the causes and drivers of world trade and the developments of specialization patterns in the global economy. They learn to analyze, discuss and defend these developments and to apply the tools and methods to evaluate controversies associated with the ongoing deepening of the international division of labor, in particular the repercussions of the global economy on national economies.

Courses
(type, number of weekly contact hours, language — if other than German)
Ü (2) + V (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) written examination (approx. 60 to 90 minutes) or b) term paper (approx. 15 pages)
Language of assessment: German and/or English

Allocation of places
--

Additional information
--
Referring to LPO I (examination regulations for teaching-degree programmes)

---
Interdisciplinary Seminars and Workshops
(10 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Dynamical Systems and Control Theory</td>
<td>10-M=GDSC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
Selected modern topics in dynamical systems and control theory.

### Intended learning outcomes
The student gains insight into contemporary research problems in dynamical systems and control theory. He/She masters advanced techniques in this field and can apply them to complex problems.

### Courses
(type, number of weekly contact hours, language — if other than German)

V (2) + S (2)
Module taught in: German and/or English

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Measure and Integral</td>
<td>10-M=GMAI-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>---</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>---</td>
</tr>
</tbody>
</table>

Contents

Aspects of measure and integration theory: sigma algebras and Borel sets, volume and measure, measurable functions and Lebesgue integrals, selected applications, e. g. product measures (with Fubini's theorem and the transformation rule), Lp spaces and absolute continuity, measures on topological spaces.

Intended learning outcomes

The student gains insight into contemporary research problems in measure and integration theory. He/She masters advanced techniques in this field and can apply them to complex problems.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

Allocation of places

---

Additional information

---

Referred to in LPO I (examination regulations for teaching-degree programmes)

---
<table>
<thead>
<tr>
<th><strong>Module title</strong></th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Numerical Mathematics and Applied Analysis</td>
<td>10-M=GNMA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Module coordinator</strong></th>
<th><strong>Module offered by</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ECTS</strong></th>
<th><strong>Method of grading</strong></th>
<th><strong>Only after succ. compl. of module(s)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Duration</strong></th>
<th><strong>Module level</strong></th>
<th><strong>Other prerequisites</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Selected topics in numerical mathematics, applied analysis or scientific computing.

**Intended learning outcomes**

The student gains insight into a contemporary research problems in numerical mathematics or applied analysis. He/She masters advanced techniques in this field and can apply them to complex problems.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + S (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Robotics, Optimization and Control Theory</td>
<td>10-M=GROC-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
Dean of Studies Mathematik (Mathematics)

**Module offered by**
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**
Selected modern topics in robotics, optimisation and control theory.

**Intended learning outcomes**
The student gains insight into contemporary research problems in robotics, optimization and control theory. He/She masters advanced techniques in this field and can apply them to complex problems.

**Courses** (type, number of weekly contact hours, language — if other than German)
V (2) + S (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Time Series Analysis</td>
<td>10-M=GTSA-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
Dean of Studies: Mathematik (Mathematics)

**Module offered by**
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
--

**Contents**
Selected modern topics in time series analysis.

**Intended learning outcomes**
The student gains insight into contemporary research problems in time series analysis. He/She masters advanced techniques in this field and can apply them to complex problems.

**Courses**
(type, number of weekly contact hours, language — if other than German)

V (2) + S (2)
Module taught in: German and/or English

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research in Groups - Statistics</td>
<td>10-M=GSTA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Selected modern topics in statistics.

**Intended learning outcomes**

The student gains insight into contemporary research problems in statistics. He/She masters advanced techniques in this field and can apply them to complex problems.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (2) + S (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Seminar in Dynamical Systems and Control

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Dynamical Systems and Control</td>
<td>10-M=SDSC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

A modern topic in dynamical systems and control.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

**Module taught in:** German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- **talk (60 to 120 minutes)**
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - Language of assessment: German or English

### Allocation of places

--

### Additional information

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Financial and Insurance Mathematics</td>
<td>10-M-SFIM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

A modern topic in financial and insurance mathematics.

**Intended learning outcomes**

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title

Giovanni Prodi Seminar (Master)

### Abbreviation

10-M=SGPcin-152-m01

### Module coordinator

Dean of Studies Mathematik (Mathematics)

### Module offered by

Institute of Mathematics

### ECTS

5

### Method of grading

Numerical grade

Only after succ. compl. of module(s)

### Method of assessment

Talk (60 to 120 minutes)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: English

### Duration

1 semester

### Module level

Graduate

### Other prerequisites

--

### Contents

A modern topic in the research expertise of the current holder of the Giovanni Prodi Chair.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses

(S, 2)

Module taught in: English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary Seminar</td>
<td>10-M=SIDC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**
A modern topic in mathematics with interdisciplinary aspects.

**Intended learning outcomes**
The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

**Courses** (type, number of weekly contact hours, language — if other than German)
S (2)
Module taught in: German and/or English

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- **talk** (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
--
### Seminar Mathematics in the Sciences

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar Mathematics in the Sciences</td>
<td>10-M=SMSC-161-m01</td>
</tr>
</tbody>
</table>

#### Module coordinator
Dean of Studies Mathematik (Mathematics)

#### Module offered by
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Duration
1 semester

<table>
<thead>
<tr>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Contents
A modern topic in mathematics in the sciences.

#### Intended learning outcomes
The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

#### Courses
(type, number of weekly contact hours, language — if other than German)

- S (2)
  - Module taught in: German and/or English

#### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- talk (60 to 120 minutes)
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - Language of assessment: German or English

#### Allocation of places
--

#### Additional information
--

#### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Numerical Mathematics and Applied Analysis</td>
<td>10-M=SNMA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

A modern topic in numerical mathematics or applied analysis.

**Intended learning outcomes**

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (2)</td>
<td></td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope</th>
<th>Language</th>
<th>Examination offered</th>
<th>Information on creditability</th>
</tr>
</thead>
<tbody>
<tr>
<td>talk (60 to 120 minutes)</td>
<td>In the semester in which the course is offered and in the subsequent semester</td>
<td>German or English</td>
<td>In the semester in which the course is offered and in the subsequent semester</td>
<td></td>
</tr>
</tbody>
</table>

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Optimization</td>
<td>10-M=SOPT-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**  
Dean of Studies Mathematik (Mathematics)  

**Module offered by**  
Institute of Mathematics  

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**  
1 semester  

**Module level**  
graduate  

**Other prerequisites**  
--  

### Contents

A modern topic in optimisation.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>S (2)</th>
<th>Module taught in: German and/or English</th>
</tr>
</thead>
</table>

**Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)**

<table>
<thead>
<tr>
<th>talk (60 to 120 minutes)</th>
<th>Assessment offered: In the semester in which the course is offered and in the subsequent semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language of assessment: German or English</td>
<td></td>
</tr>
</tbody>
</table>

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Statistics</td>
<td>10-M=SSTA-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

A modern topic in statistics.

### Intended learning outcomes

The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses

(type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2</td>
<td>German and/or English</td>
</tr>
</tbody>
</table>

Module taught in: German and/or English

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- Talk (60 to 120 minutes)
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
### Module title
Seminar in Non-linear Analysis

### Abbreviation
10-M=SNLA-161-m01

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

### ECTS
5

### Method of grading
Numerical grade

### Only after succ. compl. of module(s)
--

### Duration
1 semester

### Module level
Graduate

### Other prerequisites
--

### Contents
A modern topic in non-linear analysis.

### Intended learning outcomes
The student is able to elaborate a contemporary research topic. This includes comprehending and structuring of the topic and the available literature, preparing a talk and the ability to participate in a scientific discussion.

### Courses (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Module taught in: German and/or English

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

#### Talk (60 to 120 minutes)
Assessment offered: In the semester in which the course is offered and in the subsequent semester
Language of assessment: German or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title

**Advanced Seminar: Banking**

<table>
<thead>
<tr>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-M-SBL-161-m01</td>
</tr>
</tbody>
</table>

### Module coordinator

holder of the Chair of Business Management, Banking and Finance

### Module offered by

Faculty of Business Management and Economics

### ECTS

<table>
<thead>
<tr>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration

<table>
<thead>
<tr>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
</tr>
</tbody>
</table>

### Contents

This course will take the form of a seminar. It will deal with current topics of banking. Students will be required to independently analyse a selected topic and to write a term paper. This term paper may be largely literature based or empirical or may be based on independent work with formal models. In addition, students will be required to deliver a talk on the topic.

### Intended learning outcomes

Students will gain in-depth knowledge in key application areas of banking management. The students are able to process independently deeper problems within the topics, to work up these structured in writing and present it in a lecture.

### Courses

(type, number of weekly contact hours, language — if other than German)

| S (2) |

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

<table>
<thead>
<tr>
<th>Language of assessment: German and/or English</th>
</tr>
</thead>
<tbody>
<tr>
<td>term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1</td>
</tr>
</tbody>
</table>

### Allocation of places

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
Module title: Seminar: Selected Topics in Business Management and Economics

Abbreviation: 12-M-APS-161-m01

Module coordinator: Dean of the Faculty of Business Management and Economics

Module offered by: Faculty of Business Management and Economics

ECTS: 10

Method of grading: numerical grade

Only after succ. compl. of module(s): --

Duration: 1 semester

Module level: graduate

Other prerequisites: --

Contents:

This module serves the purpose of transferring credits from

- courses taken at other German or non-German universities
- additional courses offered on a short-term basis
- courses offered by new Chairs that are yet to be included in the FSB (subject-specific provisions)

The holders of the respective Chairs will ensure that the courses are eligible for credit transfer.

Intended learning outcomes:

As a result of accrediting multiple kinds of modules, a description of acquired skills cannot be given.

Courses:

(type, number of weekly contact hours, language — if other than German)

S (2)

Method of assessment:

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 20 pages) and presentation (approx. 20 minutes), weighted 2:1

Assessment offered: In the semester in which the course is offered

Language of assessment: German and/or English

Allocation of places:

15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information:

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Topics in Personnel Economics and Organizational Theory</td>
<td>12-M-SPO-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Human Resource Management and Organisation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Students will write a seminar paper on, deliver a talk on and discuss current issues in the field of human resources management and organisation in class.

**Intended learning outcomes**

The students learn to handle, formulate in own words, present, and discuss current research literature.

**Courses** (type, number of weekly contact hours, language — if other than German)

| S    | 2          |

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 20 pages) and presentation with sub-presentation including discussion (approx. 50 minutes), weighted 1:1

Language of assessment: German and/or English

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
## Module Catalogue for the Subject
### Economathematics
Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Selected Problems in Analytical Tax Research</td>
<td>12-M-SSL-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Taxation</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

## Contents

In this seminar, current problems of tax research will be analysed. Usually, students will read and discuss research papers in German and/or English language. Although the seminar will be held in German, individual seminar papers may be written and discussed in English if a participant prefers this to German.

## Intended learning outcomes

After the seminar, students are able
- to analyze a complex issue in taxation using research methods,
- to identify problems and to suggest solutions,
- to formulate and to defend their analysis and suggested solutions.

## Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (2)</td>
</tr>
</tbody>
</table>

## Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1 Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

## Allocation of places

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

## Additional information

--

## Referred to in LPO I

( examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Selected Aspects of Managerial Accounting</td>
<td>12-M-AUAS-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Business Management, Controlling and Accounting

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**
In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured paper and to present the results of their work with the help of relevant topics in the field of controlling.

**Intended learning outcomes**
After completing the controlling master seminar, students will be able to
(i) understand and apply scientific literature reviews;
(ii) use elaborated contents to write scientific papers;
(iii) create presentations and speeches independently.

**Courses**
(type, number of weekly contact hours, language — if other than German)

| S (2) |

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 15 to 20 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English

**Allocation of places**
20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Financial Accounting and Auditing</td>
<td>12-M-SER-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module provides students with more in-depth insights into current problems of external accounting and auditing, usually using scientific primary literature in English or German language.

**Intended learning outcomes**

After completion of the module, participants have
(i) consolidated the learned issues and possibly applied additional techniques of scientific work;
(ii) created and defended a qualifying level relevant scientific work;
(iii) conducted a scientific examination of the work results of other seminar participants;
(iv) the ability to present and develop solution-oriented their own performance adequately considering communicative aspects.

**Courses**

(type, number of weekly contact hours, language — if other than German)

S (2) + S (2)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: Once a year, winter semester
Language of assessment: German and/or English

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)

--
### Module Catalogue for the Subject Economathematics

Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Public Finance</td>
<td>12-M-SV5-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Public Finance</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

Gaining a more in-depth understanding of specific problems discussed in lectures on public finance using scientific economic journal articles in German and English language.

### Intended learning outcomes

After the seminar, students can
(i) consolidate acquired knowledge and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a scientific paper;
(iii) deal with the working papers of other participants;
(iv) prepare better for the processing of the master’s thesis.

### Courses

(type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>type</th>
<th>number of weekly contact hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>(2)</td>
</tr>
</tbody>
</table>

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- Term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Assessment offered: Once a year, summer semester
- Language of assessment: German and/or English

### Allocation of places

20 places.
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Monetary policy</td>
<td>12-M-SV1-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Monetary Policy and International Economics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents
Gaining a more in-depth understanding of specific problems of macroeconomics and, in particular, monetary policy.

### Intended learning outcomes
After the seminar, students can
(i) consolidate acquired knowledge and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a scientific paper;
(iii) deal with the working papers of other participants;
(iv) prepare better for the processing of the master’s thesis.

### Courses (type, number of weekly contact hours, language — if other than German)
S (2)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
--

### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module title | Abbreviation
---|---
Advanced Seminar: Industrial Management | 12-M-SI-161-m01

Module coordinator | Module offered by
holder of the Chair of Business Management and Industrial Management | Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
---|---|---
10 | numerical grade | --

Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents
In the seminar, students will write seminar papers on selected topics in the field of industrial management. The central issues and findings of these papers will have to be presented in class.

Intended learning outcomes
The students have acquired in-depth knowledge in key application areas of industrial management and learned by taking care of the seminar to deepen their knowledge for making scientific work, to research literature necessary, to filter, to evaluate, to critically analyze and to ask each other. On this basis, and, where appropriate, with introduction of own scientifically based further developments, the participants will learn to prepare a written contribution to the topic of Industrial Management, which complies with the principles of scientific work. Through the lecture, students learn to present selected content of their housework in a suitable form and a predetermined time frame and to defend the findings in the course of a critical, scientific discussion.

Courses (type, number of weekly contact hours, language — if other than German)
S (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1 or b) term paper (approx. 15 to 20 pages) and presentation (approx. 45 minutes), weighted 1:1
Language of assessment: German and/or English

Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title
Advanced Seminar: Industrial Organization

### Abbreviation
12-M-SIO-161-m01

### Module coordinator
holder of the Chair of Industrial Economics

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### ECTS
10

### Method of grading
numerical grade

### Only after succ. compl. of module(s)
--

### Contents
Content:
In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured paper and to present the results of their work with the help of relevant topics in the field of industrial economics.

### Intended learning outcomes
After completing the course "Seminar: Industrieökonomik", students will be able to
1. understand the fundamentals of scientific literature reviews;
2. integrate elaborated content in a scientific thesis;
3. create presentations independently.

### Courses
(type, number of weekly contact hours, language — if other than German)
S (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 20 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German and/or English

### Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Logistics &amp; Supply Chain Management</td>
<td>12-M-LSCM-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses (type, number of weekly contact hours, language — if other than German)**

S (2)

**Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)**

term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Language of assessment: German and/or English

**Allocation of places**

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Marketing Strategy</td>
<td>12-M-MSS-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

- holder of the Chair of Business Management and Marketing

**Module offered by**

- Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured paper and to present the results of their work with the help of relevant topics in the fields of strategic marketing and strategic management.

Reading:

will vary according to topic

**Intended learning outcomes**

After completing the course "Marketing Strategie", students will be able to

1. understand the fundamentals of scientific literature reviews;
2. integrate elaborated content in a scientific thesis;
3. create presentations independently.

**Courses** (type, number of weekly contact hours, language — if other than German)

- S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — If not every semester, information on whether module is creditable for bonus)

- term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Language of assessment: German and/or English

**Allocation of places**

- 10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Entrepreneurship and Management</td>
<td>12-M-SAS-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Entrepreneurship and Management</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

This seminar deals with current topics of entrepreneurship, innovation and corporate sustainability. Students are required to independently analyse a selected topic and to write a term paper. The term paper may be based on literature, empirical analysis or independent work with formal models. In addition, students are required to deliver a talk.

**Intended learning outcomes**

After completing the seminar, the students acquired detailed knowledge of important fields of entrepreneurship, innovation or corporate sustainability. They are also able to process and to structure their research findings in a written assignment and to present it in a lecture.

**Courses** (type, number of weekly contact hours, language — if other than German)

| S (2) |

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- term paper (approx. 20 pages) and presentation (approx. 15 to 30 minutes), weighted 2:1
- Assessment offered: Once a year, winter semester
- Language of assessment: German and/or English

**Allocation of places**

- 20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title

**Advanced Seminar: Economic Order and Social Policy**

### Abbreviation

12-M-SWOSP-161-m01

### Module coordinator

holder of the Chair of Economic Order and Social Policy

### Module offered by

Faculty of Business Management and Economics

### ECTS

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration

1 semester

### Module level

graduate

### Other prerequisites

--

### Contents

The seminar covers various topics in the field of economic policy and provides students with more in-depth insights into certain aspects addressed in other lectures offered by the Chair.

### Intended learning outcomes

The seminar gives a better understanding of certain aspects in economic policy and strengthens students' research skills.

### Courses

<table>
<thead>
<tr>
<th>S (2)</th>
</tr>
</thead>
</table>

### Method of assessment

- term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Language of assessment: German and/or English

### Allocation of places

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO 1

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Econometrics</td>
<td>12-M-SOE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Econometrics</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The course addresses central issues of strategic supply management. The supply function of the company (purchasing, materials management, procurement logistics) and its strategic importance is analysed and basic methods are developed that are relevant in this area.

**Intended learning outcomes**

Students are able to analyze independently academic publications on their relevance for a given theme. They can present the results orally and in writing by conventional scientific standards.

**Courses** (type, number of weekly contact hours, language — if other than German)

<table>
<thead>
<tr>
<th>S (2)</th>
</tr>
</thead>
</table>

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Language of assessment: German and/or English

**Allocation of places**

10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic and Business Ethics</td>
<td>12-M-WUE-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Business Management and Accounting</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Contents

In this seminar, students will gain an overview of different ethical aspects in business and economy, e.g. leadership ethics, corruption, ethical theories, consumer ethics, CSR.

### Intended learning outcomes

Using common scientific methods the student should be able to write a seminar paper dealing with a selected ethical problem in business and/or economy. He/she should be able to present a complex problem in an clear and understandable way und he/she should discuss the arguments with other participants in the class.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (2)</td>
</tr>
</tbody>
</table>

### Method of assessment

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1</td>
</tr>
<tr>
<td>Language of assessment: German and/or English</td>
</tr>
</tbody>
</table>

### Allocation of places

12 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

( examination regulations for teaching-degree programmes)
Module title | Abbreviation
--- | ---
Seminar: Macroeconomics and Quantitative Economic Research | 12-M-MEW-161-m01

Module coordinator | Module offered by
holder of the Chair of Monetary Policy and International Economics | Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

Contents
This course will provide students with a more in-depth understanding of specific problems of macroeconomics and quantitative economic research. A current list of topics, from which students may select one, is available on my website.

Intended learning outcomes
After the seminar, students can
(i) consolidate acquired knowledge and if necessary apply additional techniques of scientific work;
(ii) create, present and defend a scientific paper;
(iii) deal with the working papers of other participants;
(iv) prepare better for the processing of the master’s thesis.

Courses (type, number of weekly contact hours, language — if other than German)
S (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Language of assessment: German and/or English

Allocation of places
10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Supply Chain Competition</td>
<td>12-M-SCC-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Logistics and Quantitative Methods in Business Administration</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In the seminar "Supply Chain Competition", students participate in an online multi-round simulation and apply methods of operations and supply chain management.

**Intended learning outcomes**

After completing this seminar students

i. selected and applied quantitative models for procurement, production, sales and supply chain management,

ii. faced the practical problems when using real data to feed models,

iii. and understand the challenges to reach a coordinated decision in a company.

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 15 to 20 pages) and presentation (approx. 10 minutes), weighted 2:1

Assessment offered: Once a year, winter semester

Language of assessment: German and/or English

**Allocation of places**

12 places. Should the number of applications exceed the number of available places, places will be allocated as follows: (1) Students who already have successfully completed courses offered by the Chair of Logistics and Quantitative Methods will be given preferential consideration. (2) Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in mandatory courses of the focus Logistik und Supply Chain Management (Logistics and Supply Chain Management) or Value Chain Management or another specialisation the applicant has selected which includes courses offered by the Chair. (3) Among applicants with the same number of ECTS credits, places will be allocated by lot.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Business Strategies</td>
<td>12-M-SEBS-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**
holder of the Chair of Information Systems Engineering

**Module offered by**
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured term paper and to present the results of their work with the help of relevant topics in the fields of web-based platforms (electronic markets, Web 2.0 etc.) and strategic management of a company.

**Intended learning outcomes**

The module provides students with knowledge of:

1. Scientific literature
2. Integration of developed results in scientific papers
3. Creating presentations and lectures

**Courses** (type, number of weekly contact hours, language — if other than German)

S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: Once a year, winter semester
Language of assessment: German and/or English

**Allocation of places**

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
---|---
Business Analytics | 12-M-BUA-161-m01

Module coordinator | Module offered by
holder of the Chair of Information Systems Engineering | Faculty of Business Management and Economics

ECTS | Method of grading | Only after succ. compl. of module(s)
10 | numerical grade | --

Duration | Module level | Other prerequisites
1 semester | graduate | --

Contents

In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured term paper and to present the results of their work with the help of relevant topics in the field of business management decision models and methods and their application in the development of decision-support systems as well as analytical information systems and quantitative methods of data analysis.

Intended learning outcomes

The module provides students with knowledge of:

1. Scientific literature
2. Integration of developed results in scientific papers
3. Creating presentations and lectures

Courses (type, number of weekly contact hours, language — if other than German)

S (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
Assessment offered: Once a year, winter semester
Language of assessment: German and/or English

Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--
Module title
Advanced Seminar: Advanced Topics in Contract Theory

Abbreviation
12-M-ATC-161-m01

Module coordinator
holder of the Chair of Economics, Information and Contract Economics

Module offered by
Faculty of Business Management and Economics

ECTS
10

Method of grading
numerical grade

Only after succ. compl. of module(s)
--

Duration
1 semester

Module level
graduate

Other prerequisites
--

Contents
This module will take the form of a seminar and will cover advanced topics in contract theory. Students will be required to independently familiarise themselves with the respective topics as well as to summarise these topics both in a seminar paper and in an oral presentation during a seminar session.

Intended learning outcomes
Students are able to analyze independently academic publications on their relevance for a given theme. They can write a seminar thesis and present their findings meeting common scientific standards.

Courses (type, number of weekly contact hours, language — if other than German)
S (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
term paper (approx. 15 pages) and presentation (approx. 30 minutes), weighted 2:1
Language of assessment: German and/or English

Allocation of places
15 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
## Advanced Seminar: Enterprise Systems

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Seminar: Enterprise Systems</td>
<td>12-M-ES-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

holder of the Chair of Business Management and Business Information Systems

**Module offered by**

Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

--

### Contents

In this course, students will acquire important knowledge and skills that will enable them to prepare a well-structured term paper and to present the results of their work with the help of relevant topics in the fields of information systems and enterprise systems.

Reading:

will vary according to topic

### Intended learning outcomes

After completing the course "Enterprise Systems", students will be able to
1. understand the fundamentals of scientific literature reviews;
2. integrate elaborated content in a scientific thesis;
3. create presentations independently.

### Courses

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language — if other than German</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2</td>
<td>—</td>
</tr>
</tbody>
</table>

**Method of assessment**

term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1

Language of assessment: German and/or English

### Allocation of places

20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Philosophy of Science and Ethics in Business Management and Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviation</td>
<td>12-M-WEW-161-m01</td>
</tr>
<tr>
<td>ECTS</td>
<td>10</td>
</tr>
<tr>
<td>Method of grading</td>
<td>numerical grade</td>
</tr>
<tr>
<td>Only after succ. compl. of module(s)</td>
<td>--</td>
</tr>
<tr>
<td>Duration</td>
<td>1 semester</td>
</tr>
<tr>
<td>Module level</td>
<td>unknown</td>
</tr>
<tr>
<td>Other prerequisites</td>
<td>--</td>
</tr>
<tr>
<td>Contents</td>
<td>No information on contents available.</td>
</tr>
<tr>
<td>Intended learning outcomes</td>
<td>No information on intended learning outcomes available.</td>
</tr>
<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1</td>
</tr>
<tr>
<td>Language of assessment: German and/or English</td>
<td>creditable for bonus</td>
</tr>
<tr>
<td>Allocation of places</td>
<td>20 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.</td>
</tr>
<tr>
<td>Additional information</td>
<td>--</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>(examination regulations for teaching-degree programmes)</td>
</tr>
<tr>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
## Module title
Seminar: International Economics

### Abbreviation
12-M-SIÖ-161-m01

### Module coordinator
holder of the Chair of International Macroeconomics

### Module offered by
Faculty of Business Management and Economics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

### Duration
1 semester

### Module level
graduate

### Other prerequisites
--

### Contents
Current topics in international economics [e. g. outsourcing, offshoring and multinational firms; competition of locations, jurisdictions and systems; globalisation and the environment; trade, multinational firms and labour markets; Triumph of the City].

Reading:
peer-reviewed articles from international journals and/or monographs.

### Intended learning outcomes
Drawing on current cutting-edge research, students are enabled to analyze current research questions and to learn and apply research methods. The seminar style of the course teaches them to present their own seminar papers and research both in written and in oral form. Students are enabled to critically analyze and discuss the work of their peers.

### Courses
(type, number of weekly contact hours, language — if other than German)

S (2)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 20 pages) and presentation (approx. 40 minutes) with position paper (1 page), weighted 3:1

Language of assessment: German and/or English

### Allocation of places
10 places.
(1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects.
(2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure.
(3) A waiting list will be maintained and places re-allocated by lot as they become available.

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: Applied Decision Theory</td>
<td>12-M-SCT-161-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>Faculty of Business Management and Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>unknown</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

No information on contents available.

**Intended learning outcomes**

No information on intended learning outcomes available.

**Courses** (type, number of weekly contact hours, language — if other than German)

- S (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- term paper (approx. 20 to 25 pages) and presentation (approx. 20 minutes), weighted 2:1
- Assessment offered: Once a year, winter semester
- Language of assessment: German and/or English

**Allocation of places**

- 10 places. (1) Should the number of applications exceed the number of available places, places will be allocated by lot among all applicants irrespective of their subjects. (2) Places on all courses of the module with a restricted number of places will be allocated in the same procedure. (3) A waiting list will be maintained and places re-allocated by lot as they become available.

**Additional information**

- 

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

-
Thesis
(30 ECTS credits)
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Thesis Mathematics for Economics</td>
<td>10-M=MAAW-161-m01</td>
</tr>
</tbody>
</table>

**Module coordinator**

Dean of Studies Mathematik (Mathematics)

**Module offered by**

Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**

graduate

**Other prerequisites**

The supervisor may make the successful completion of certain modules that are relevant for the respective topic a prerequisite for the assignment of the topic.

**Contents**

Independently researching and writing on a (potentially interdisciplinary) topic in mathematics and/or economics selected in consultation with the supervisor.

**Intended learning outcomes**

The student is able to work independently on a given topic in business mathematics and apply the skills and methods obtained during his/her studies in the master programme. He/She can write down the result of his/her work in a suitable form.

**Courses**

(type, number of weekly contact hours, language — if other than German)

No courses assigned to module

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Master's thesis (750 to 900 hours total)
Registration and assignment of topic in consultation with supervisor.
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--