

| Module title  |         |                                      |   |                                  | Abbreviation |
|---|---------|--------------------------------------|---|----------------------------------|--------------|
| Preparatory Course Mathematics 11-P-VKM-092-m01   |         |                                      |   |                                  |              |
| Module coordinator  |         |                                      |   | Module offered by                |              |
| Managing Directors of the Institute of Applied Physics and the Institute of Theoretical Physics and Astrophysics  |         |                                      |   | Faculty of Physics and Astronomy |              |
| ECTS Method of grading  |         | Only after succ. compl. of module(s) |   |                                  |              |
| 2   | (not) s | successfully completed               |   |                                  |              |
| Duration  |         | Module level                         | Other prerequisites   |                                  |              |
| 1 semester  |         | undergraduate                        | Certain prerequisites must be met to qualify for admission to as-<br>sessment. The lecturer will inform students about the respective details<br>at the beginning of the course. Registration for the course will be con-<br>sidered a declaration of will to seek admission to assessment. If stu-<br>dents have obtained the qualification for admission to assessment over<br>the course of the semester, the lecturer will put their registration for as-<br>sessment into effect. Students who meet all prerequisites will be admit-<br>ted to assessment in the current or in the subsequent semester. For as-<br>sessment at a later date, students will have to obtain the qualification for<br>admission to assessment anew. |                                  |              |
| Contents  |         |                                      |   |                                  |              |
| Principles of mathematics and elementary calculation methods from school and partially beyond, especially for<br>the introduction to and preparation of the modules of Experimental and Theoretical Physics. 1. Basic geometry<br>and algebra 2. Coordinate systems and complex numbers 3. Vectors - vectored values 4. Differential calculus 5.<br>Integral calculus<br>Intended learning outcomes<br>The students know the principles of mathematics and elementary calculation methods which are required for<br>successfully studying Theoretical and Experimental Physics.<br>Courses (type, number of weekly contact hours, language – if other than German)<br>T (no information on SWS (weekly contact hours) and course language available)<br>Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether<br>module is creditable for bonus)<br>discussion and exercises (approx. 15 minutes)<br>Assessment offered: When and how often assessment will be offered depends on the method of assessment<br>or duvill he penguage for the semester of Section on Section on Section on the method of assessment |         |                                      |   |                                  |              |
| examination regulations) 2009.  |         |                                      |   |                                  |              |
| Allocation of places  |         |                                      |   |                                  |              |
|   |         |                                      |   |                                  |              |
| Additional information  |         |                                      |   |                                  |              |
|   |         |                                      |   |                                  |              |
| Workload  |         |                                      |   |                                  |              |
|   |         |                                      |   |                                  |              |
| Teaching cycle  |         |                                      |   |                                  |              |
|   |         |                                      |   |                                  |              |
| Referred to in LPO I (examination regulations for teaching-degree programmes)   |         |                                      |   |                                  |              |
|   |         |                                      |   |                                  |              |
| Module  | appea   | irs in                               | <u> </u>  |                                  |              |
| Bachelor' degree (1 major) Physics (2010)<br>Bachelor' degree (1 major) Physics (2012)  |         |                                      |   |                                  |              |

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## Julius-Maximilians-UNIVERSITÄT WÜRZBURG

## Module description

Bachelor' degree (1 major) Nanostructure Technology (2012) First state examination for the teaching degree Grundschule Physics (2009) First state examination for the teaching degree Hauptschule Physics (2009) First state examination for the teaching degree Realschule Physics (2009) First state examination for the teaching degree Gymnasium Physics (2009) First state examination for the teaching degree Mittelschule Physics (2013) No final examination Special study offering (2010)

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