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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Module title</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              | <b>Abbreviation</b>                                                                             |
| Advanced Laboratory Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              | 11-P-LFP-152-m01                                                                                |
| <b>Module coordinator</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              | <b>Module offered by</b>                                                                        |
| Managing Director of the Institute of Applied Physics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              | Faculty of Physics and Astronomy                                                                |
| <b>ECTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Method of grading</b>     | <b>Only after succ. compl. of module(s)</b>                                                     |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (not) successfully completed | --                                                                                              |
| <b>Duration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Module level</b>          | <b>Other prerequisites</b>                                                                      |
| 1 semester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | undergraduate                | Students are highly recommended to complete module 11-P-LB prior to completing module 11-P-LFP. |
| <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                                                                 |
| Experiments of modern physics (Atom and Molecular Physics, Solid-State Physics, Nuclear Physics).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |                                                                                                 |
| <b>Intended learning outcomes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |                                                                                                 |
| The students have knowledge of conducting an experiment and of analysing and documenting the experimental results. They have basic knowledge of modern evaluation systems. They have gained insights into the experimental methods of modern Physics.                                                                                                                                                                                                                                                                                                                                                              |                              |                                                                                                 |
| <b>Courses</b> (type, number of weekly contact hours, language — if other than German)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              |                                                                                                 |
| P (4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |                                                                                                 |
| <b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)                                                                                                                                                                                                                                                                                                                                                                                                                                     |                              |                                                                                                 |
| practical assignment with talk (approx. 30 minutes)<br>Preparing, performing and evaluating (record of readings or lab report) the experiments will be considered successfully completed if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the physics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed. |                              |                                                                                                 |
| <b>Allocation of places</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                              |                                                                                                 |
| --                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |                                                                                                 |
| <b>Additional information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |                                                                                                 |
| --                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |                                                                                                 |
| <b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                                                                 |
| § 77 I Nr. 1 d)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                                                                 |
| <b>Module appears in</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                                                                 |
| First state examination for the teaching degree Gymnasium Physics (2015)<br>First state examination for the teaching degree Gymnasium Physics (2018)<br>First state examination for the teaching degree Gymnasium Physics (2020)                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                                                                 |