

| Scientific Programming with Matlab in Engineering | | | | | AR-105 |
|---|---|----------------------------|--|-------------------|----------------------|
| Rota | Duration | Semester | SWS | Credit Points | Workload |
| annually WS | 1 Semester | 1 st (Semester) | 3 SWS | 3 | 90 h |
| 1 | Modul Structure | | | | |
| | Course (Abbreviation) | Type/ SWS | Presence | Self Study | Credit Points |
| | a) Scientific Programming with Matlab in Engineering (SPM) | Lab/ 3 SWS | 35 h | 55 h | 3 |
| 2 | Language English | | | | |
| 3 | Content | | | | |
| | <ol style="list-style-type: none"> 1. Matlab Basics, Programming, Visualization 2. Symbolic Computing 3. Statistics 4. Numerical Optimisation 5. Control System Design 6. Simulink 7. Robotics | | | | |
| | Literature: | | | | |
| | <ul style="list-style-type: none"> • Matlab documentation | | | | |
| 4 | Competencies | | | | |
| | The course qualifies the students to solve scientific programming and engineering problems with Matlab. The students acquire deeper knowledge in the design and application of control systems and robotics. | | | | |
| 5 | Examination Requirements | | | | |
| | Successful completion of 75% of programming assignments and Successful completion of 50% of quizzes The course grading is pass or fail. | | | | |
| 6 | Formality of Examination | | | | |
| | <input type="checkbox"/> Module Finals | | <input type="checkbox"/> Accumulated Grade | | |
| 7 | Module Requirements (Prerequisites) | | | | |
| 8 | Allocation to Curriculum: | | | | |
| | Mandatory Course Program: Automation & Robotics | | | | |
| 9 | Responsibility/ Lecturer | | | | |
| | apl. Prof. Dr. F. Hoffmann/ apl. Prof. Dr. F. Hoffmann | | | | |