Stand 2024

Management & Engineering (M.Sc.)

Learning Competencies and Learning Goals für den AoL loop 2024 ff

|  |  |
| --- | --- |
| **LC1** | Disciplinary expertise: Students apply theoretical knowledge on questions/challenges in the field of modern production systems and production technology (industry 4.0). |
| **Eng 1.1** | The student is able to define and interpret terminologies, specific topics, limitations, and common discourses of modern production systems and production technology. |
| **Eng 1.2** | The student is able to think and act logically in their field. |
| **Eng 1.3** | The student is able to apply scientifically based concepts, theories, models and methods to practical and theoretical as well as past, present and future problems. |
| **LC 2** | Scientific competences: Students demonstrate high standards of applying appropriate methods for research and development. |
| **Eng 2.1** | The student knows with which method they obtain relevant data. |
| **Eng 2.2** | The student applied sophisticated and/or specialized methodologies or approaches. |
| **Eng 2.3** | The student performed rigorous data analysis. |
| **LC3** | Solutions for complex problems: Students develop and evaluate solution-oriented propositions. |
| **Eng 3.1** | The student develops solutions for complex interdisciplinary challenges in the context of global transformations and specifically the digitalization. |
| **Eng 3.2** | The student discussed how the solution contributed to research and advanced the knowledge in the respective field. |
| MS 3 | The student developed convincing propositions for solving the project tasks. |

Curriculum mapping für den AoL loop 2024 ff [[1]](#footnote-1) [[2]](#footnote-2)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **semester** | module | MS 3 | Eng 1.1 | Eng 1.2 | Eng 1.3 | Eng 2.1 | Eng 2.2 | Eng 2.3 | Eng 3.1 | Eng 3.2 |
| 1 | Production Logistics |  |  |  |  |  |  |  |  |  |
| 1 | (s1) Engineering Mathematics |  |  |  |  |  |  |  |  |  |
| 1 | (s1) Technical Mechanics |  |  |  |  |  |  |  |  |  |
| 1 | (s1) Manufacturing Technology |  |  |  |  |  |  |  |  |  |
| 1 | (s2) Measurement and sensor systems |  |  |  |  |  |  |  |  |  |
| 1 | (s2) Machine Learning and Data Mining |  |  |  |  |  |  |  |  |  |
| 1 | (s2) Robotics & Handling Technology |  |  |  |  |  |  |  |  |  |
| 1 | (ms) Organization, Strategy and Innovation |  |  |  |  |  |  |  |  |  |
| 2 | Production Management |  |  |  |  |  |  |  |  |  |
| 2 | Materials & Engineering |  |  |  |  |  |  |  |  |  |
| 2 | Production Simulation |  |  |  |  |  |  |  |  |  |
| 2 | (s1) Electrical and automation engineering |  |  |  |  |  |  |  |  |  |
| 2 | (s2) Numerical Methods |  |  |  |  |  |  |  |  |  |
| 2 | (ms) Digitalization |  |  |  |  |  |  |  |  |  |
| 3 | Teaching Research Project |  | R A | R A | R A | R A | R A | R A | R A | R A |
| 3 | Digital Production |  |  |  |  |  |  |  |  |  |
| 3 | (e) Information technology aspects in the field of engineering |  |  |  |  |  |  |  |  |  |
| 3 | (e) Recent Developments in Manufacturing Technology |  |  |  |  |  |  |  |  |  |
| 3 | (e) Modelling and Simulation in Engineering |  |  |  |  |  |  |  |  |  |
| 3 | (e) Production Networks |  |  |  |  |  |  |  |  |  |
| 3 | (ms) Entrepreneurial Project | A |  |  |  |  |  |  |  |  |
| 4 | Master Forum |  |  |  |  |  |  |  |  |  |
| 4 | Master's Thesis |  | A | A | A | A | A | A | A | A |

1. (s1) = module of specialization 1 production systems, (s2) = module of specialization 2 production technologies, (e) = elective module, (ms) = management studies module, I= introduced, R= reinforced, A= assessed [↑](#footnote-ref-1)
2. based on mystudy module handbook dowloaded on March 17, 2023 [↑](#footnote-ref-2)