



Valid from 2026.HS

| Module description: Frontend-, Web- und Software-Engineering | | | |
|--|---|---------------------|------------------------|
| Module Code | t.BA.DS.PM3.26HS | | |
| ECTS Credits | 4 | | |
| Language of Instruction/Examination | German | | |
| Organizational Unit | InIT | | |
| Module Coordinator | Stephan Roth | | |
| Legal Framework | The module description is part of the legal basis in addition to the general academic regulations. It is binding. During the first week of the semester a written and communicated supplement can specify the module description in more detail. | | |
| Module Characteristic | Type 3f 2 asynchronous lessons per semester week for each yearly starting-class + 2 weekly lab lessons per semester week in half-class groups | | |
| Module Description | Students learn different frontend development technologies, starting with an introduction to web server development in Python. Afterwards, the focus is on the development of web pages for showing charts, employing technologies like HTML, CSS and JavaScript. | | |
| Module Content | <ul style="list-style-type: none"> The module covers the following topics: <ul style="list-style-type: none"> - Introduction to Web Server programming with Flask - Introduction to HTML and CSS - Infrastructure of todays Web Solutions - The JavaScript programming language - Introduction to JavaScript - Introduction to JavaScript chart libraries | | |
| Prerequisite Knowledge | https://gmpmpublic.zhaw.ch/GPMDocProdDPublic/2_Studium/2_02_Grundlagen_Studium/T_C_L_Modulauspraegungen_SM2025.pdf | | |
| Learning Objectives (Competencies) | Students... | Competencies | Taxonomies |
| | Participants of this course get an overview of the most important standard technologies that are used for building web pages. They know the problems when accessing different devices as well as further aspects that are to be considered when developing a web page. | F | K1 |
| | A webpage source can be read and understand. This includes the architecture and used libraries. Students can adapt the webpage. | M, F | K1, K2, K3 |
| | Participants can develop their own web page using HTML and JavaScript as well as a chart library. They can deploy their page on a web server. | F, M | K1, K2, K3, K4, K5, K6 |

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|---|--|-------------------|----------------------|------------------|--------------------------|------------------------|
| Performance Assessment | End-of-module exam | Assessment | Length (min.) | Weighting | Social Form | Scenario/Format |
| | other | | 0 | 0% | acc. to module agreement | |
| | | | | | | |
| | | Assessment | Length (min.) | Weighting | Social Form | Scenario/Format |
| | Web Application Development <i>This goal of this project module is to develop and present a Web Application</i> | Grade | | 100% | acc. to module agreement | |
| Classroom Attendance Requirement | None | | | | | |