

Only the german version of the module description as part of the study regulations is legally binding.

Module name	Immersive and Interactive Software Development
Module number	INF-25-Ma-FSP-IISD
Responsible lecturer	Prof. Dr. Matthew McGinity matthew.mcginity@tu-dresden.de
Qualification objectives	Students will be able to apply software engineering knowledge and skills required for the design and development of immersive and interactive systems. They know modern game engine architectures and are familiar with production pipelines and workflows.
Content	Contents of the module are software architectures for interactive applications and simulations, game engine architectures, asset management and production pipelines, visual scripting systems me, shader and GPU programming, performance measurements and optimization strategies.
Teaching and learning methods	The module comprises lectures of 2 SWS, exercises of 2 SWS and the self bststudium. The language of instruction for the lectures and exercises is English.
Prerequisites for participation	In the Diploma degree program in Computer Science and in the Bachelor's degree program in Computer Science, the competencies to be acquired in the modules INF-25-Ba-SWT Software Technology, INF-25-Ma-FVC-FCG Foundations of Computer Graphics, INF-25-Ba-DMF Data Management Foundations and INF-25-Ba-RN Computer Networks are required. In the Bachelor's degree course in Applied Computer Science, the competences to be acquired in the modules INF-25-Ba-SWT Software Technology, INF-25-Ma-FVC-FCG Foundations of Computer Graphics and INF-25-Ba-DMF Data Management Foundations are required.
Applicability	The module is a compulsory elective module in the subject area Software Technology and Programming Languages in the Diploma degree program in Computer Science in the main course of study, which must be selected in accordance with Annex 2 to the examination regulations. In the Bachelor's degree program in Computer Science, the module is a compulsory elective module in the subject specialization, which must be selected in accordance with the annex to the examination regulations. The module is a compulsory elective module in the Bachelor's degree course in Applied Computer Science in the specialization in Media Informatics, which must be selected in accordance with the annex to the examination regulations . In the Master's degree program in Computer Science, the module is a compulsory elective module in the open track in the subject area of Software Technology and Programming Languages and the supplement, which must be selected in accordance with Annex 2 to the examination regulations. The module can only be chosen once in the Master's degree program in Computer Science. The module cannot be selected in the Master's degree course in Computer Science if this module or a module with essentially the same content from a degree

	course in which the admission requirements according to Section 3 of the study regulations have already been met has already been completed. The module creates the prerequisites for the modules that specify under prerequisites for participation.
Requirements for earning credit points	The credit points are earned if the module examination is passed. The module examination consists of a complex course of 90 hours. The examination language is English.
Credit points and grades	6 credit points can be earned through the module. The module grade corresponds to the grade of the examination.
Module frequency	The module is offered every summer semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.