

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

Module name	Artificial intelligence in medicine
Module number	INF-25-Ba-W-PMZ-KIM
Responsible lecturer	Prof. Dr. Jakob Nikolas Kather ekfz.lehre@tu-dresden.de
Qualification objectives	After completing the module, students will be able to describe fundamental problems in the analysis of image data in medicine. They will be able to work in a team to develop solutions for analyzing e, practically apply artificial intelligence methods to medical data and statistically evaluate their results. They are able to present the results of their own project , critically question them and recognize limitations of the application of artificial intelligence in medicine.
Content	The module covers various applications of artificial intelligence, in particular deep learning with convolutional neural networks and transformer neural networks, to different datasets e in medicine. The module includes basic molecular biology knowledge of current medical issues as well as various network architectures in the programming language Pyth on for analyzing medical data, especially from histopathology.
Teaching and learning methods	The module comprises seminars of 1 SWS, practicals of 3 SWS and the self-study dium. The language of instruction for the seminars and practicals is German.
Prerequisites for participation	The competencies to be acquired in the module INF-25-Ba-PMZ-EMI Introduction to Medical Informatics are assumed.
Applicability	The module is a compulsory elective module in the Bachelor's degree program in Applied Computer Science in the specialization Medical Informatics, which must be selected in accordance with the annex to the examination regulations. The module creates the prerequisites for the modules listed 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 portfolio of 80 hours. The examination language is German.
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 winter semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.