

Curriculum First study year

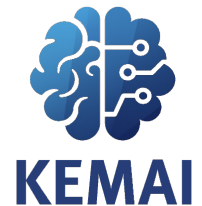
- **Project plan** (3-6 pages, within the first 6 months)
- **Progress Report I** (PhDs present and discuss their progress, biweekly, 24 attendances + 1 talk (15 min.), submit written report)
- **External lectures** (30 optional talks – either presented by KEMAI-PIs, but also external talks, from other institutions, talks or attended at conferences...)
- **Responsible Research in Medical AI (Module 1)** (min. attendance 20 units*, see page 2)
- **Journal Club I** (e.g. 1,5 hrs / 2 weeks; regularly at your institute)
- **GSP** (2 x 6 units, Via ProTrainU)
- **Research Data Management in Healthcare** (Block course, 2 x 4 units)
- Participation in the **Spring and Fall Meeting** and **Plenary Meeting of IGradU**
- **KEMAI Summer School, July 22-24 2026 Reisenburg**

→ **First Intermediate Evaluation at Spring Meeting 2026 (poster presentation)**

Submit proof of attendance/certificates for requirements to Coordination Office 8 weeks before intermediate evaluations

*(Absences can be compensated by attending further dates of Mr. Kargl's lecture, attending talks in the IYTK series of the IGradU or via events within the Summer School).

KEMAI Module 1 Responsible Research in Medical AI



- **Research Ethics** (including GSP, Prof. Steger, 30.4. 13-16, Oberberghof 7
- **Security and Privacy in Medical AI** (Prof. Kargl, Dr. Erb) 22.04. + 29.04. 8:15 room: TBA
- **Medical AI, Privacy & Data security** (Prof. Kargl, Dr. Erb) 23.06. 10:15 - 11:45 027-341
- **Ethical Aspects of AI in Medicine** (Prof. Steger) 22.10., 13-16, Oberberghof 7
- **From Ethical Foundations to Ethics by Design** (Prof. Hufendiek) 29.10, 12.11., 26.11., room: TBA
14:15 – 15:45

(20 compulsory units: Absences can be compensated by attending further dates of Mr. Kargl's lecture, attending talks in the IYTK series of the IGradU or via events within the Summer School).



KEMAI

Outlook: Further KEMAI Modules (2-5)

2. Basics and Technology of Imaging Modalities (12 units)

- Foundations of Medical Imaging (l, 6 units, Prof. A. Beer, Prof. M. Beer, Dr. Vernikouskaya)
- Medical Image Interpretation and Analysis (l, 6 units, Jun.-Prof. Götz)

3. Learning-Based Systems in Medicine (20 units)

- Machine Learning for Medical Image Analysis (l, 4 units, Prof. Neumann)
- Statistical Learning Theory (l, 4 units, Prof. Kestler)
- Text Analytics and Deep Learning: Analyzing Medical Scientific Papers and Guidelines (l, 6 units, Prof. Scherp)
- Understanding Research Methods and Trends in Machine Learning and Deep Learning (l, 6 units, Prof. Scherp)

4. Knowledge-based Systems in Medicine (9 units)

- Abductive Reasoning (l+e, 6 units, Prof. Glimm)
- Neuro-Symbolic Learning Systems (l, 3 units, Prof. Braun)

5. Explaining AI Systems in Medicine (15 units)

- Explainability for Medical AI Systems (l, 9 units, Prof. Ropinski)
- Reasoning and Explanation in Ontologies (l+e, 6 units, Prof. Glimm, Dr. Kazakov)