

[WS 2023/2024](#)

**ELEMENTS OF MICROSTRUCTURE (EOM)**

**Day and Time:**

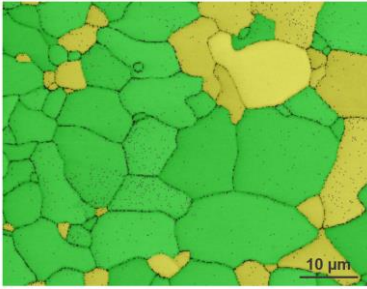
**Wednesdays 14:00-16:00**

**Teachers**

**Gunther Eggeler (GE), Guillaume Laplanche (GL),  
Jan Frenzel (JF)**

**Teaching Assistants**

**Catalina Pineda Heresi (CPH), Yucen Shen (YS)**



This course which is presented jointly by Profs. Gunther Eggeler, Guillaume Laplanche and Jan Frenzel introduces the basic elements which are needed to understand the formation and evolution of microstructures of engineering materials. It is targeted towards students of the Master Course "Materials Science and Simulation". It is open to all other students, postdocs and guests who are interested in these basic concepts. Lectures and course materials are in English. Please register for the course in the RUB Moodle system (Moodle: Elements of microstructure ([440402-WiSe23/24](#))) to receive the latest information or contact the course assistants, M.Sc. Catalina Pineda Heresi ([sara.pinedaheresi@rub.de](mailto:sara.pinedaheresi@rub.de)) and M.Sc. Yucen Shen ([yucen.shen@rub.de](mailto:yucen.shen@rub.de)).

**Schedule**

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|---------------|---|
| 11. October:  | Overview and Solid-state basics (GE)      |
| 18. October:  | Point defects and dislocations (GE)       |
| 25. October:  | Interfaces (GL)                           |
| 08. November: | Exercise I (CPH, YS)                      |
| 15. November: | Diffusion (JF)                            |
| 22. November: | Thermodynamic I (JF)                      |
| 29. November: | Thermodynamic II (JF)                     |
| 06. December: | Phases, Compounds and Phase Diagrams (GE) |
| 13. December: | Solidification (GE)                       |
| 20. December: | Exercise II (CPH, YS)                     |

**WINTER BREAK**

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|--------------|----------------------------------|
| 10. January: | Solid state transformations (GE) |
| 17. January: | Shape memory alloys (JF)         |
| 24. January: | Superalloys (GE)                 |
| 31. January: | Exercise III (CPH, YS)           |