

UNIVERSITÄT  
BAYREUTH

INTERNATIONAL OFFICE

# General Overview of English-taught courses at the University of Bayreuth

Available during the Summer Semester 2023

*An overview for the winter semester 2023/24 is expected to be available as of 01.10.2023*



# Engineering Science

Number	Course Title	Type	ECTS / Credits	Duration	Module Description
13	Introduction to LaTeX	Tu		2	This course provides information on how to use LaTeX to generate professional-looking PDF documents for Academic Dissertations, Scientific Papers, Conference Posters, CVs, among many others.
60	Aspects in Processing of Polymeric Materials	L	5	2	
76	Optimization CAE 1	L	5	2	
134	Aspects in Processing of Polymeric Materials	S	5	2	
180	Exercise Signals and Systems for Electrical Energy Storage Systems	E	5	2	
213	Electrical engineering fundamentals for electrochemical energy storage systems (Alignment)	L	5	2	The module examines contract and torts through the common law system with some comparisons with civil law systems. You will be introduced to the fundamental principles of the subject and an opportunity to acquire a depth of knowledge and an understanding of the legal rules dealing with contract and tort.
220	Electrical engineering fundamentals for electrochemical energy storage systems (Alignment)	E	5	2	
221	Innovation Management 2	L	3-6	2	Lectures will cover the steps in product development process to reach product launch, and different models for product development process. Students will do a lot of hands-on learning, for example through reading and presenting case studies and by developing and market testing a prototype. For final assessment, student team up to write a report for a chosen topic.
231	Biomaterials (Seminar/ Exercise)	S	5	2	
367	Bioprocess Engineering	L	5	2	
493	Bioengineering for Tissue Regeneration	L	5-7	2	
539	Biology for Engineers (Auflagenfach)	L	4-8	2	
545	Python for Non-Programmers	Tu		2	This Python course is hands-on in nature and is offered for non-programmers of all areas. In the first part, students will learn the foundations of Python (70 % of the course), followed by the second part, where practical applications in the form of small projects of general interest will be discussed and performed.
628	Ethics in Science	L	5	2	
629	Bioengineering for Tissue Regeneration (Seminar)	S	5	2	
631	Biomaterials	L	5	2	
632	How to write a paper	E	5	2	
713	Processing of Polymeric Materials Practical Course	PT	5	2	Acquisition of competence in the field of characterization and processing of polymeric fluids (melts, solutions); influence of processing methods on the solid mechanics of polymeric materials; Decision-making competence in the choice and application of analytical methods for the characterization of polymeric liquids and solids, as well in the interpretation of the measurement data .

Number	Course Title	Type	ECTS / Credits	Duration	Module Description
766	Bioprocess Engineering	E	5	2	
780	Quality Management/ FTE2	Cs	5	2	
993	Introduction in Polymer Science (Auflagenfach Biofab)	L	3-6	2	
994	Summer Academy	L	5	2	SummerSchool program mandatory for M.Sc. Biofabrication students
1069	Reception of Scientific Literature	E	5	2	Introduction to the basics of scientific work; Introduction to the handling of scientific literature; Search, review, and critical examination of publications; Conveying the rules for good publishing. Presentation and discussion of case studies in small groups
1097	Introduction in Organic and Polymer Chemistry/ CPC	L	5	2	
1098	Introduction in Organic and Polymer Chemistry/ CPC/Seminar	S		2	
1099	Simulation of Materials/ WSM	L	5	2	The course is dedicated to the numerical methods that are used to study materials properties and dynamics. In the course, useful background information and concepts of simulation techniques are explained. The focus is on information that is necessary to conceive, perform and evaluate materials simulations. Specifically, there will be an introduction and practical applications of molecular dynamics (MD) simulations and finite element methods used for computational fluid dynamics (cfd) as well as field-based transport simulations. Described methods are tested with different simulation packages. Students will perform and evaluate small simulation projects.
1100	Simulation of Materials/ WSM/Exercise	E	5	2	
1177	Advanced Module (AM) 1 / mündl. Vortrag	PT	8	2	The learning content deals with the current research projects of the respective chosen working group. The module includes experimental and literature work, participation in group seminars, as well as the preparation of a presentation and protocol.
1178	Advanced Module (AM) 1 / Protokoll	PT	8	2	The learning content deals with the current research projects of the respective chosen working group. The module includes experimental and literature work, participation in group seminars, as well as the preparation of a presentation and protocol.
60304	Perspectives and Trends	L		2	The students have to attend the lectures & Perspectives and trends (LV60304) & and Rheologie von Polymereschmelzen (LV00032)
60775	Fundamentals of Tissue Engineering/FTE1	L	5	2	The principles of thermodynamics are described with reference to geological applications mainly involving rocks of the Earth's interior. The course moves rapidly through the introduction of thermodynamic functions and laws to examine how the stability of mineral phase equilibria can be tested in simple and complex systems. Phase relations of fluid and melt bearing systems are examined in addition to the determination of equilibrium conditions from mineral assemblages. Examples focus on the use of thermodynamics in explaining geophysical observations from mantle seismology and geochemical models for the differentiation of the Earth. The course assumes no previous experience of thermodynamic calculations.
69093	Advanced High Temperature Alloys	L	8	2	
69095	Advanced High Temperature Alloys	PT	8	2	Warm Tensile Test – Gleeble Warm Tensile Test – Creep Test

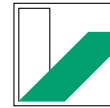
## Key/Abbreviations:

Cs Course  
E Exercise  
ECTS Credit Points  
L Lecture

PT Practical Training  
S Seminar  
Tu Tutorial

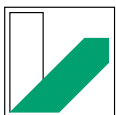
**Please check availability of your chosen subject/course by contacting the respective faculty.**

You can find contact details at [www.uni-bayreuth.de/en/study](http://www.uni-bayreuth.de/en/study)



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