UNIVERSITÄT BAYREUTH

INTERNATIONAL OFFICE

General Overview of English-Taught Courses at the University of Bayreuth

Available during the Winter Semester 2023/24

An overview for the summer semester 2024 is expected to be available as of 01.04.2024

Engineering Science

Number	Course Title	Type	ECTS / Credits	Duration	Module Description
60668	Fundamentals of materials science for electrochemical energy storage systems (Alignment)	Le		2	
00136	Biochemistry for Engineers	Le	4	2	Basics in biochemistry with focus on properties of proteins.
00478	Biofabrication	Le		2	
00698	Biofabrication	Tu		2	
00746	Bioinspired Surfaces	Le		2	Advanced knowledge in bioinspired approaches for surface modification and structuring, processing and characterization for target materials design.
00752	Bioinspired Surfaces	Lab	5	2	Advanced knowledge in bioinspired approaches for surface modification and structuring, processing and characterization for target materials design.
00976	Biology for Engineers (prep course)	Le	4	2	Online independent study course
00804	Biotechnology /WBI	Lab		2	
00799	Biotechnology / BIT	Le	5	2	
60520	Doctoral seminar	S		2	
00652	Electrical engineering fundamentals for electrochemical energy storage systems (Alignment)	Le	5	2	
00653	Electrical engineering fundamentals for electro-chemical energy storage systems (Alignment)	Tu		2	
60043	Environmental and Resource Technology	Le	5	2	
00399	Fundamentals in Cell Biology	Le	5	2	
00407	Fundamentals in Cell Biology	Lab		2	
60775	Fundamentals of Tissue Engineering/FTE1	Le	5	2	
01032	Innovation Management 1	Le	3	2	Students learn the process of innovation management. Hands-on case studies help them to understand the key concepts with vivid examples. As a final assignment, a trend report reviews the course content.

Number	Course Title	Type	ECTS / Credits	Duration	Module Description
01009	Introduction in Polymer Science (prep course Biofab)	Le	3	2	
00071	Machine Learning: A hands-on approach	Le & Tu		3	
00306	Physical Chemistry of Polymers	Tu		2	
00439	Polymer Materials: Technology of Polymer Modification	Le	3	2	Polymer synthesis processes; structure of polymers and polymer compounds; properties of polymers; technologies for the production of polymer compounds and polymer components, possibilities for testing the properties of polymer compounds and polymer components
00454	Polymer Synthesis	Tu		2	
60009	Python and Data Tools for Non-Programmers	Le & Tu		4	
00780	Quality Management / FTE2	Cs	2	2	
00134	Self-Assembling Biopolymers	Le		2	
00135	Self-Assembling Biopolymers	S		2	
61262	Fluid mechanics	Tu	5/4/5	2	Fundamentals of experimental fluid mechanics (conservation theorems, kinematics of flows, flow filament theory; Bernoulli equation with and without losses); fundamentals of experimental modelling (dimensional analysis, dimensionless characteristic numbers, π-theorem, de-dimensionalisation of equations); error calculation (foundations, evaluation of measurement series); invasive and non-invasive methods for the investigation of flows (mechanical, thermoelectric, optical), thermoelectric, optical); flow visualisation; analogy methods; practical methods; lab course: application of various measurement methods of experimental fluid mechanics, investigation of material parameters of material parameters (viscosity, density, surface tension) as well as flow around and through problems with different measuring methods. Foundations and quantitative description of flow processes in liquids and gases; fundamentals of heat and mass transport for engineers and application-orientated scientists. Ability to calculate simple circulation and flow problems; Recognizing and classifying natural and technical heat transfer processes; knowledge of the corresponding laws and their mathematical description using similarities; understanding of the analogy between heat and mass transfer; mastery of the process of solving technical problems (typifying concrete problems characterizing, making reasonable assumptions and approximations, finding a general solution and applying it to a concrete problem).
60012	Technical mechanics	Tu		2	

Key/Abbreviations:

Cs	Course	Le	Lecture
ECTS	Credit Points	S	Seminar
Lab	Lab course	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

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