DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY
COURSE SYLLABUS

Course Details								
Code				**Academic Year**			**Semester**	
EBT304				3			6	
Title				**T**	**A**	**L**	**ECTS**	
Wind Energy				2	1	1	6	
Language	German							
Level	**Undergraduate**	**X**	**Graduate**		**Postgraduate**			
Department / Program	Energy Science and Technology							
Forms of Teaching and Learning	Face-to-face							
Course Type	**Compulsory**	**X**	**Elective**					
Objectives	How the wind occurs, its formation processes and its effects are explained to the students. Information about the design, structure, production and operation of wind turbines is given. It is aimed to teach the power generation calculation of wind turbines, wind speed statistics and the calculation of the loads on the turbine. By applying wind energy economics, cost calculations and deployment examples, it is aimed that the student who takes the course has a basic knowledge level about this field.							
Content	Wind formation process and sources, wind characteristics and wind potential, wind power calculation methods and statistics, turbine installation, structure and aerodynamics, turbine structure and operational systems, turbine deployment and wind energy economics.							
Prerequisites	None							
Coordinator								
Lecturer(s)								
Assistant(s)								
Work Placement	None							
Recommended or Required Reading								
Books / Lecture Notes	Burton, T., Sharpe, D., Jenkins, N., Bossanyi, E., 2001, Wind Energy Handbook, John Wiley & Sons. Jarass, L., Obermair, G., Voigt, W. (2009).Windenergie: Zuverlässige Integration in die Energieversorgung. Springer Science & Business Media.							
Other Sources								
Additional Course Material								
Documents								
Assignments								
Exams								
Course Composition								
Mathematics und Basic Sciences	20						%	

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Engineering	40	%
Engineering Design	40	%
Social Sciences		%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	40
Quiz		
Assignments		
Attendance		
Recitations		
Projects		
Final Exam	1	60
	Total	**100**

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures			
Self-Study			
Assignments			
Presentation / Seminar Preparation			
Midterm Exam			
Recitations			
Laboratory			
Projects			
Final Exam			
		Total Work Load	
		ECTS Points (Total Work Load / Hour)	**6**

Learning Outcomes

1	
2	
3	

Weekly Content

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1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1							
2							
3							
4							
5							
6							
7							
8							

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

P1 Working with modern scientific sources.
P2 Having modern scientific knowledge and scientific analysis abilities and being able to apply them to scientific problems.
P3 Having theoretical and practical skills in the area of Energy Science and Technology.
P4 Having foreign language skills to follow the worldwide advancements in the field of Energy Science and Technology and to be able to discuss them with foreign colleagues.
P5 Having computational skills for research data analysis purposes.
P6 Having appropriate skills for academic and industrial jobs, being ready to take responsibility in working life.
P7 Having knowledge about work occupational work and safety.

Compiled by:	
Date of Compilation:	