

**School of Engineering and Natural Sciences / Industrial Engineering (English)**

**2023 - 2024 Academic Year**

**FINANCIAL METHODS for ENGINEERS**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
FINANCIAL METHODS for ENGINEERS	IND4110792	Fall Semester	3+0	3	6
<b>Prerequisites Courses</b>	UYGULAMALI İSTATİSTİK				
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	English				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Elective				
<b>Course Coordinator</b>	Assoc.Prof. Melis Almula KARADAYI				
<b>Name of Lecturer(s)</b>	Lect. Özgür EROL				
<b>Assistant(s)</b>					
<b>Aim</b>	This course is designed to teach financial methods for engineering students. Students will learn that the best technical and engineering solutions must be aligned with financial capabilities. This course gives a general understanding of financial statements, investments and cash flows, present value and internal rate of return; portfolio optimization, capital budgeting and asset management				
<b>Course Content</b>	This course contains; Introduction to financial management ,Financial markets and the corporation ,Working with financial statements ,Long-Term Financial Planning and Growth ,Valuation of Future Cash Flows, Time Value of Money ,Capital Budgeting ,Net Present Value and Other Investment Criteria ,Making Capital Investment Decisions,Project Analysis and Evaluation ,Risk and Return ,Cost-Benefit Analysis, Risk and Uncertainty ,Cost of Capital and Long-Term Financial Planning ,Shor-term Financial Planning and Management ,Portfolio Optimizations.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
1. Evaluates how engineering solutions should be aligned with financial capabilities.			10, 13, 16, 9	A, E, F	
2. Analyzes financial statements and evaluates financial information.			10, 13, 16, 9	A, E, F	
3. Analyzes the formation of cash flows in engineering projects.			10, 13, 16, 9	A, E, F	
4. Defines capital budgeting and project evaluation techniques.			13, 16, 9	A, E, F	
5. Designs cash flow for engineering projects.			13, 16, 4, 9	A, E, F	
<b>Teaching Methods</b>	10: Discussion Method, 13: Case Study Method, 16: Question - Answer Technique, 4: Inquiry-Based Learning, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, E: Homework, F: Project Task				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	Introduction to financial management	Lecture Notes			
2	Financial markets and the corporation	Lecture Notes			
3	Working with financial statements	Lecture Notes			
4	Long-Term Financial Planning and Growth	Lecture Notes			
5	Valuation of Future Cash Flows, Time Value of Money	Lecture Notes			
6	Capital Budgeting	Lecture Notes			
7	Net Present Value and Other Investment Criteria	Lecture Notes			
8	Making Capital Investment Decisions	Lecture Notes			
9	Project Analysis and Evaluation	Lecture Notes			
10	Risk and Return	Lecture Notes			
11	Cost-Benefit Analysis, Risk and Uncertainty	Lecture Notes			
12	Cost of Capital and Long-Term Financial Planning	Lecture Notes			
13	Shor-term Financial Planning and Management	Lecture Notes			
14	Portfolio Optimizations	Lecture Notes			
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		30			
General Exam		70			
<b>Resources</b>					
Corporate Finance, Stephen A. Ross, Randolph Westerfield, Jeffrey F. Jaffe, McGraw-Hill/Irwin Course material: Course notes, slides, readings (provided by the instructor)					