

**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
<b>MATH 1001</b>	<b>Calculus I</b>	Compulsory	4	0	0	6	6	Thursday: 13:00-17:00 & Friday: 14.00-18:00
Prerequisite	Prerequisite to							
Course Lecturer	Asst. Prof. Dr. Mehmed Rafet ÖZDEMİR							
Teaching Assistant(s)	N/A		Office Hours Schedule		N/A			
E-mail	<a href="mailto:mehmet.ozdemir@marmara.edu.tr">mehmet.ozdemir@marmara.edu.tr</a>		Office / Room No		N/A			
Phone	N/A							
Course Objectives	Objective of the course is that students gain the necessary mathematical concepts and skills for mathematical analysis and engineering							
Textbooks and/or References	"Thomas' Calculus" Ross L. Finney, Maurice D. Weir, and Frank R. Giardono, 14th Edition, Pearson.							
	Calculus, J. Stewart, Cengage Learning.							
	"Calculus" Stanley Grossman, Saunder College Publishing.							
Teaching methods	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	5.08.2021	Preliminary Concepts, Single-variable Functions and their Graphs						
Week 1	6.08.2021	Limit concept, Limit Laws						
Week 2	12.08.2021	Indeterminate forms						
Week 2	13.08.2021	Limit and Continuity						
Week 3	19.08.2021	Derivative concept						
Week 3	20.08.2021	Derivative Rules						
Week 4	26.08.2021	Applications of Derivative						
Week 4	27.08.2021	Midterm Exam I						
Week 5	2.09.2021	Applications of Derivative						
Week 5	3.09.2021	Integral concept						
Week 6	9.09.2021	Techniques of Integration						
Week 6	10.09.2021	Midterm Exam II						
Week 7	16.09.2021	Techniques of Integration						
Week 7	17.09.2021	Applications of Integral						
Week 8	21.09.2021	Final Exam						
Evaluation Tools		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Midterm Exams	2	Week 4,6	45	45		
		Pop-up Quizzes	5	Pop up	15	15		
		Final Exam	1	Week 15	40	40		

**Evaluation Tools**  
**MARMARA ÜNİVERSİTESİ**  
**MÜHENDİSLİK FAKÜLTESİ**  
**MAKİNA MÜH. BÖLÜMÜ**

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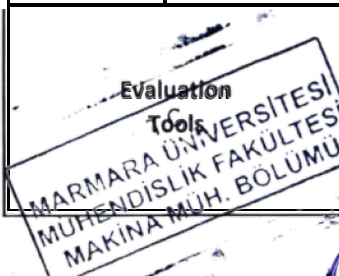
**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
			T	A	L			
<b>EE 2034</b>	<b>Fundamentals of Electrical and Electronic Engineering</b>	Compulsory	6	0	0	5	5	Wednesday 16:00-18:50 Thursday 16:00-18:50
Prerequisite	N/A	Prerequisite to						
Course Lecturer	Asst. Prof. Dr. İbrahim Sina Kuseyri							
Teaching Assistant(s)	N/A					Office Hours Schedule	N/A	
E-mail	<a href="mailto:sina.kuseyri@marmara.edu.tr">sina.kuseyri@marmara.edu.tr</a>							
Phone	N/A					Office / Room No	N/A	
Course Objectives	The aim of the course is to teach the fundamentals of electrical and electronic engineering to non-EE engineering students							
Textbooks and/or References	Electrical Engineering: Principles and Applications, A.R. Hambley, Pearson.							
Teaching methods	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online Pearson MyLab tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by enrolling to the system with an additional fee, which will be announced by the course instructor.							
WEEK	Date	TOPICS						
Week 1	8/3/2021	Introduction and Preliminary Concepts						
Week 1	8/4/2021	Resistive Circuits						
Week 2	8/10/2021	Resistive Circuits						
Week 2	8/11/2021	Capacitance and RC Circuits						
Week 3	8/17/2021	Inductance and RL Cicuits						
Week 3	8/18/2021	Circuit Analysis with Governing Laws						
Week 4	8/24/2021	Circuit Analysis with Governing Laws						
Week 4	8/25/2021	Midterm Exam						
Week 5	8/31/2021	AC Circuit Fundamentals						
Week 5	9/1/2021	Frequency Response of Electircal Circuits						
Week 6	9/7/2021	Analog Filters						
Week 6	9/8/2021	Introduction to Electronics						
Week 7	9/14/2021	Diodes and Transistors						
Week 7	9/15/2021	Operational Amplifiers and Aplications						
Week 8	9/21/2021	Final Exam						
		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Midterm Exam	1	Week 4	30	50		
		Homework	5	Continuous	30	50		
		Final Exam	1	Week 8	40			



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Mehmed Rafet  
Özdemir

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**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
<b>ME 3061</b>	<b>Fluid Mechanics</b>	Compulsory	4	0	0	6	6	Tuesday 16:00-20:00 & Wednesday: 13.00-17:00
Prerequisite	N/A	Prerequisite to			ME 3071			
Course Lecturer	Asst. Prof. Dr. Mehmed Rafet ÖZDEMİR							
Teaching Assistant(s)	N/A					Office Hours Schedule	N/A	
E-mail	mehmet.ozdemir@marmara.edu.tr							
Phone	N/A					Office / Room No	N/A	
Course Objectives	The aim of the course is to teach the fundamentals of fluid mechanics, including fluids and their properties, fluid statics and fluid dynamics. The course includes control volume, differential and dimensional methods used for formulation of fluid mechanics problems and lays the groundwork for other topics involving fluid mechanics.							
Textbooks and/or References	Fluid Mechanics , R. C. Hibbeler, Pearson.							
	Çengel. Y. A., Cimbala, J. M., Fluid Mechanics: Fundamentals and Applications, McGraw-Hill.							
	Fluid Mechanics, F.M. White, McGraw-Hill.							
Teaching methods	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	3.08.2021	Introduction and Preliminary Concepts						
Week 1	4.08.2021	Pressure Distribution in the fluid						
Week 2	10.08.2021	Pressure Distribution in the fluid						
Week 2	11.08.2021	Fluid Statics						
Week 3	17.08.2021	Fluid Statics						
Week 3	18.08.2021	Integral Relations in Control Volumes						
Week 4	24.08.2021	Integral Relations in Control Volumes						
Week 4	25.08.2021	Midterm Exam I						
Week 5	31.08.2021	Differential Relations in Control Volumes						
Week 5	1.09.2021	Viscous flow in ducts						
Week 6	7.09.2021	Viscous flow in ducts						
Week 6	8.09.2021	Midterm Exam II						
Week 7	14.09.2021	Analysis and Design for Pipe Flow						
Week 7	15.09.2021	Analysis and Design for Pipe Flow						
Week 8	21.09.2021	Final Exam						
Evaluation		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
Topic		Midterm Exams	2	Week 4,6	45	45		
		Pop-up Quizzes	5	Pop up	15	15		
		Final Exam	1	Week 15	40	40		

**MARMARA ÜNİVERSİTESİ**  
**MÜHÜRİNDİSLİK FAKÜLTESİ**  
**MAKİNA MÜH. BÖLÜMÜ**

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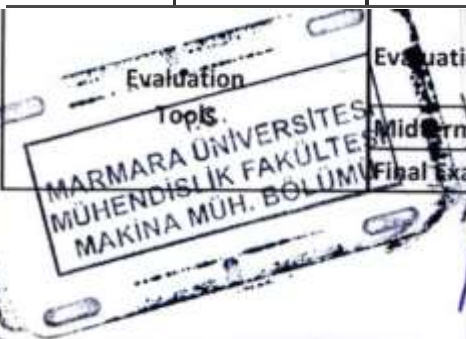
SYLLABUS

Mechanical Engineering

2020-2021 Summer School

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
ME 3071	Heat Transfer	Compulsory	4	0	0	6	6	Tuesday 1200-1600 & Wednesday: 09.00-1300
Prerequisite	ME 3071	Prerequisite to			N/A			
Course Lecturer	Prof. Dr. Bayram ŞAHİN							
Teaching Assistant(s)	N/A			Office Hours Schedule		N/A		
E-mail	baysahin@yildiz.edu.tr			Office/ Room No		N/A		
Phone	N/A							
Course Objectives	1. To introduce heat transfer modes, conduction, convection and radiation and to gain the ability to calculate heat transfer for each. 2. To gain physical interpretation skills of thermal systems by using the principles of heat transfer. 3. To provide the ability to create and solve mathematical models of thermal systems. 4. To introduce heat transfer applications with							
Textbooks and/or References	Heat Transfer, Y.A. Çengel and A. Ghajar, McGrawHill.							
	Introduction to Heat Transfer, Incropera and DeWitt, Wiley.							
	Heat Transfer, J. P. Holman, McGraw-Hill.							
Teaching methods	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	3.08.2021	Introduction and Preliminary Concepts, Review of Thermodynamics I						
Week 1	4.08.2021	Heat Transfer Mechanisms						
Week 2	10.08.2021	Steady State 1-D Conduction						
Week 2	11.08.2021	Steady State 3-D Conduction						
Week 3	17.08.2021	Steady State Conduction in Fins						
Week 3	18.08.2021	Steady State Conduction in Fins						
Week 4	24.08.2021	Transient Heat Conduction, Lumped System Analysis						
Week 4	25.08.2021	Midterm Exam I						
Week 5	31.08.2021	General Transient Heat Conduction Analysis						
Week 5	1.09.2021	Fundamentals of Convection						
Week 6	7.09.2021	External Convection						
Week 6	8.09.2021	Midterm Exam II						
Week 7	14.09.2021	Internal Convection						
Week 7	15.09.2021	Natural Convection						
Week 8	21.09.2021	Final Exam						

Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)
Midterm Exams	2	Week 4 & 6	60	60
Final Exam	1	Week 15	40	40



*MR*

Mehmed Rafet Özdemir

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 cn=Mehmed Rafet Özdemir  
 o=Marmara University, ou=Engineering Faculty,  
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 Date: 2021.06.21 10:56:00+0300

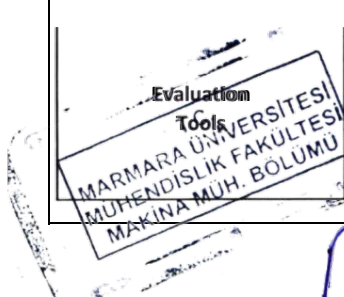
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Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
			T	A	L			
<b>MATH 2055</b>	<b>Differential Equations</b>	Compulsory	3	0	0	3	4	Tuesday 18:00 - 20:50 Thursday 12:00 - 14:50
Prerequisite	Prerequisite to							
Course Lecturer	Asst. Prof. Dr. Abdussamet SUBAŞI (İTÜ)							
Teaching Assistant(s)						Office Hours Schedule		
E-mail	<a href="mailto:subasiab@itu.edu.tr">subasiab@itu.edu.tr</a>							
Phone						Office / Room No		
Course Objectives	o To introduce the basic concepts required to understand, construct, solve and interpret differential equations. o To teach methods to solve differential equations of various types. o To give an ability to apply knowledge of mathematics to engineering problems.							
Textbooks and/or References	Cengel, Y. A., & Palm, W. J. (2013). Differential Equations for Engineers and Scientists. New York: McGraw-Hill Education. R. Kent Nagle, Edward B. Saff, Arthur David Snider. (2019). Fundamentals of Differential Equations. Pearson, 9th Edition. Zill, D. G. (2001). A first course in differential equations with modeling applications. Pacific Grove, CA: Brooks/Cole Thomson Learning. Kreyszig, E. (2006). Advanced Engineering Mathematics. John Wiley & Sons, Inc. New York, 9th Edition. Xie, W. (2010). Differential equations for engineers. New York: Cambridge University Press.							
Teaching methods	Online platform with white board and Lecture Notes. Learning outcomes will be followed in the course using online tools. Students who will enroll in the summer school (2021 semester) are required to follow the course by becoming a member of this system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	8/3/2021	Introduction to Differential Equations						
Week 1	8/5/2021	First Order Differential Equations						
Week 2	8/10/2021	First Order Differential Equations						
Week 2	8/12/2021	Second Order Differential Equations						
Week 3	8/17/2021	Second Order Differential Equations						
Week 3	8/19/2021	Engineering Applications						
Week 4	8/24/2021	Higher Order Differential Equations						
Week 4	8/26/2021	<b>Midterm Exam I</b>						
Week 5	8/31/2021	Higher Order Differential Equations						
Week 5	9/2/2021	The Laplace Transform						
Week 6	9/7/2021	The Laplace Transform						
Week 6	9/9/2021	Systems of Differential Equations						
Week 7	9/14/2021	Systems of Differential Equations						
Week 7	9/16/2021	Engineering Applications						
Week 8	9/21/2021	<b>Final Exam</b>						
		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Quizes	5	Pop-up	5 × 4%	20		
		Midterm Exam(s)	1	Week 4	30	30		
		Homeworks	4	to be announced later	4 × 2.5%	10		
		Final Exam	1	Week 8	40	40		



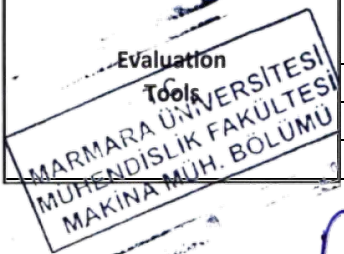
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**Mechanical Engineering**

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Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
<b>ME 1052</b>	<b>Statics</b>	<b>Compulsory</b>	6	0	0	6	6	Monday 12:00-15:00 & Wednesday 16:00-19:00
Prerequisite	N/A	Prerequisite to			ME 2003 Dynamics & ME 2072 Strength of Materials			
Course Lecturer	Prof.Dr. Aykut KENTLİ							
Teaching Assistant(s)	N/A					Office Hours Schedule	N/A	
E-mail	<a href="mailto:akentli@marmara.edu.tr">akentli@marmara.edu.tr</a>							
Phone	N/A					Office / Room No	N/A	
Course Objectives	To provide students with a clear and thorough presentation of the theory and applications of engineering mechanics.							
Textbooks and/or References	Statics , R. C. Hibbeler, Pearson.							
Teaching methods	In online platform (Pearson) with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	8/2/2021	General Principle, Force Vectors						
Week 1	8/4/2021	Force Vectors (cont'd)						
Week 2	8/9/2021	Equilibrium of a Particle						
Week 2	8/11/2021	Force System Resultants						
Week 3	8/16/2021	Equilibrium of a Rigid Body						
Week 3	8/18/2021	Structural systems						
Week 4	8/23/2021	Structural systems (cont'd)						
Week 4	8/25/2021	Midterm Exam						
Week 5	8/30/2021	Internal Forces						
Week 5	9/1/2021	Friction						
Week 6	9/6/2021	Friction (cont'd)						
Week 6	9/8/2021	Center of Gravity and Centroid						
Week 7	9/13/2021	Moments of Inertia						
Week 7	9/15/2021	Moments of Inertia (cont'd)						
Week 8	9/20/2021	Final Exam						
		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Midterm Exams	TBD	TBD	60	60		
		Pop-up Quizzes	-	-	0	0		
		Final Exam	1	TBD	40	40		



**Mehmed Rafet Özdemir**

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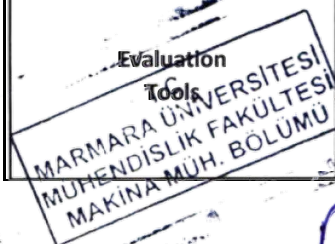


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Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
			T	A	L			
<b>ME 264</b>	<b>Thermodynamics II</b>	<b>Compulsory</b>	3	0	0	3	5	Monday 09:00-12:00 & Tuesday: 09.00-12:00
<b>Prerequisite</b>	ME 2064	<b>Prerequisite to</b>			<b>ME 4083</b>			
<b>Course Lecturer</b>	Asst. Prof. Dr. Mehmed Rafet Özdemir							
<b>Teaching Assistant(s)</b>	N/A					<b>Office Hours Schedule</b>	N/A	
<b>E-mail</b>	<a href="mailto:mehmet.ozdemir@marmara.edu.tr">mehmet.ozdemir@marmara.edu.tr</a>							
<b>Phone</b>	N/A					<b>Office / Room No</b>	N/A	
<b>Course Objectives</b>	Objective of the course is that students gain the knowledge and ability to apply 1st and 2nd laws of thermodynamics to power, refrigeration and air conditioning systems							
<b>Textbooks and/or References</b>	Thermodynamics – An Engineering Approach, Yunus Cengel and Michael Boles, 8th edition, 2014, McGraw Hill.							
	Thermodynamics – An Interactive Approach, Subrata Bhattacharjee, 2016, Pearson							
	Principles of Engineering Thermodynamics, Michael J. Moran, Howard N. Shapiro, Daisie D. Boettner and Margaret B. Bailey, 8th edition, 2015, Wiley.							
<b>Teaching methods</b>	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
<b>WEEK</b>	<b>Date</b>	<b>TOPICS</b>						
<b>Week 1</b>	8/2/2021	Review of Second Law Analysis						
<b>Week 1</b>	8/3/2021	Introduction to power cycles; standard air assumption; Carnot cycle						
<b>Week 2</b>	8/9/2021	Gas Power Cycles						
<b>Week 2</b>	8/10/2021	Gas Power Cycles						
<b>Week 3</b>	8/16/2021	Vapor and Combined Power Cycles						
<b>Week 3</b>	8/17/2021	Vapor and Combined Power Cycles						
<b>Week 4</b>	8/23/2021	Vapor and Combined Power Cycles						
<b>Week 4</b>	8/24/2021	Midterm Exam I						
<b>Week 5</b>	8/30/2021	Refrigeration Cycles						
<b>Week 5</b>	8/31/2021	Refrigeration Cycles						
<b>Week 6</b>	9/6/2021	Gas Mixtures						
<b>Week 6</b>	9/7/2021	Midterm Exam II						
<b>Week 7</b>	9/13/2021	Gas–Vapor Mixtures and Air-Conditioning						
<b>Week 7</b>	9/14/2021	Gas–Vapor Mixtures and Air-Conditioning						
<b>Week 8</b>	9/20/2021	Final Exam						
		<b>Evaluation Tool</b>	<b>Quantity</b>	<b>Date</b>	<b>Weight in Total (%)</b>	<b>Weight in Semester Evaluation (%)</b>		
		<b>Midterm Exams</b>	2	Week 4,6	<b>50</b>	<b>50</b>		
		<b>Pop-up Quizzes or HWs</b>	4	Pop up	<b>10</b>	<b>10</b>		
		<b>Final Exam</b>	1	Week 15	<b>40</b>	<b>40</b>		



**Mehmed Rafet Özdemir**

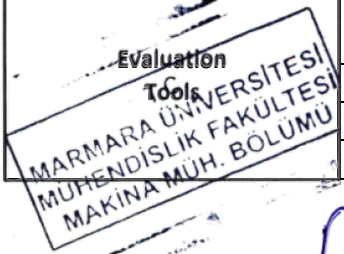
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Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
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<b>ME 2075</b>	<b>Statics &amp; Strength of Materials</b>	Compulsory	6	0	0	4	4	Monday 18:00-21:00 & Wednesday 10:00-13:00
Prerequisite	N/A	Prerequisite to						
Course Lecturer	Prof.Dr. Aykut KENTLİ							
Teaching Assistant(s)	N/A					Office Hours Schedule	N/A	
E-mail	<a href="mailto:akentli@marmara.edu.tr">akentli@marmara.edu.tr</a>							
Phone	N/A					Office / Room No	N/A	
Course Objectives	The main aim of this course is to provide students the general concepts of statics and strength of materials with an engineering point of view.							
Textbooks and/or References	Russell C. Hibbeler, Statics and Mechanics of Materials, Pearson.							
Teaching methods	In online platform (Pearson) with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	8/2/2021	Introduction						
Week 1	8/4/2021	Vector representation of forces						
Week 2	8/9/2021	Concept of moment						
Week 2	8/11/2021	Equilibrium of a rigid body						
Week 3	8/16/2021	Method of joints						
Week 3	8/18/2021	Forces acting on a rigid body						
Week 4	8/23/2021	Center of gravity						
Week 4	8/25/2021	Moments of areas						
Week 5	8/30/2021	Forces in beams						
Week 5	9/1/2021	Shear and bending moment diagrams						
Week 6	9/6/2021	Stress components in Cartesian coordinates						
Week 6	9/8/2021	Mechanical Properties of Materials						
Week 7	9/13/2021	Pure bending of beams						
Week 7	9/15/2021	Transverse shear and the shear formula						
Week 8	9/20/2021	Final Exam						
		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Midterm Exams	TBD	TBD	60	60		
		Pop-up Quizzes	-	-	0	0		
		Final Exam	1	TBD	40	40		



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			T	A	L			
<b>ME 2003</b>	<b>Dynamics</b>	Compulsory	8	0	0	6	6	Wednesday 09:00-12:50 Friday 13.00-16:50
<b>Prerequisite</b>	ME 1052 Statics	<b>Prerequisite to</b>						
<b>Course Lecturer</b>	Asst. Prof. Dr. İbrahim Sina Kuseyri							
<b>Teaching Assistant(s)</b>	N/A					<b>Office Hours Schedule</b>	N/A	
<b>E-mail</b>	<a href="mailto:sina.kuseyri@marmara.edu.tr">sina.kuseyri@marmara.edu.tr</a>					<b>Office / Room No</b>	N/A	
<b>Phone</b>	N/A							
<b>Course Objectives</b>	The aim of the course is to teach the fundamentals of kinematics and kinetics of particles and rigid bodies.							
<b>Textbooks and/or References</b>	Dynamics, R. C. Hibbeler, Pearson.							
<b>Teaching methods</b>	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online Pearson MyLab tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by enrolling to the system with an additional fee, which will be announced by the course instructor.							
<b>WEEK</b>	<b>Date</b>	<b>TOPICS</b>						
Week 1	8/3/2021	Introduction and Preliminary Concepts						
Week 1	8/4/2021	Kinematics of Particles						
Week 2	8/10/2021	Kinematics of Particles						
Week 2	8/11/2021	Kinematics of Rigid Bodies						
Week 3	8/17/2021	Kinematics of Rigid Bodies						
Week 3	8/18/2021	Kinetics of Particles						
Week 4	8/24/2021	Kinetics of Particles						
Week 4	8/25/2021	Midterm Exam						
Week 5	8/31/2021	Kinetics of Rigid Bodies						
Week 5	9/1/2021	Kinetics of Rigid Bodies						
Week 6	9/7/2021	Work and Energy Methods						
Week 6	9/8/2021	Work and Energy Methods						
Week 7	9/14/2021	Impulse-Momentum Methods						
Week 7	9/15/2021	Impulse-Momentum Methods						
Week 8	9/21/2021	Final Exam						
<b>Evaluation Tools</b>		<b>Evaluation Tool</b>	<b>Quantity</b>	<b>Date</b>	<b>Weight in Total (%)</b>	<b>Weight in Semester Evaluation (%)</b>		
		Midterm Exam	1	Week 4	30	50		
		Homework	5	Continuous	30	50		
		Final Exam	1	Week 8	40			

**Evaluation Tools**  
MARMARA ÜNİVERSİTESİ  
MÜHÜRİNDİSLİK FAKÜLTESİ  
MAKİNA MÜH. BÖLÜMÜ



Mehmed Rafet  
Özdemir

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Date: 2021.06.21 10:56:37 +0300

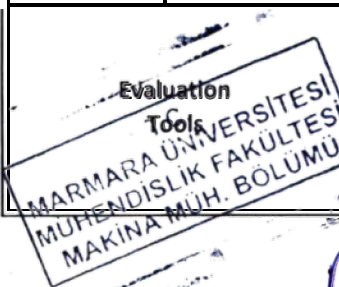
**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
			T	A	L			
<b>ME 3018</b>	<b>Mechanical Vibrations</b>	Elective	6	0	0	5	5	Tuesday 09:00-11:50 Thursday 09:00-11:50
<b>Prerequisite</b>	ME 2003 Dynamics	<b>Prerequisite to</b>						
<b>Course Lecturer</b>	Asst. Prof. Dr. İbrahim Sina Kuseyri							
<b>Teaching Assistant(s)</b>	N/A					<b>Office Hours Schedule</b>	N/A	
<b>E-mail</b>	<a href="mailto:sina.kuseyri@marmara.edu.tr">sina.kuseyri@marmara.edu.tr</a>							
<b>Phone</b>	N/A					<b>Office / Room No</b>	N/A	
<b>Course Objectives</b>	The aim of the course is to teach the fundamentals mechanical vibrations.							
<b>Textbooks and/or References</b>	Text: Mechanical Vibrations, S.S. Rao, Pearson.							
	Reference: Engineering Vibrations, D. Inman, Wiley							
<b>Teaching methods</b>	In online platform with white board, Power Point Presentations.							
<b>WEEK</b>	<b>Date</b>	<b>TOPICS</b>						
Week 1	8/3/2021	Introduction and Preliminary Concepts						
Week 1	8/4/2021	Lumped Modeling of Elastic Mechanical Systems						
Week 2	8/10/2021	Free Respnse of First Order Systems						
Week 2	8/11/2021	Free Response of First Order Systems						
Week 3	8/17/2021	Forced Harmonic Response of First Order Systems						
Week 3	8/18/2021	Forced Harmonic Response of First Order Systems						
Week 4	8/24/2021	General Forced Response of First Order Systems						
Week 4	8/25/2021	Midterm Exam						
Week 5	8/31/2021	Vibration of Second Order Systems						
Week 5	9/1/2021	Vibration of Second Order Systems						
Week 6	9/7/2021	Introduction to Rotor Dynamics						
Week 6	9/8/2021	Vibration Isolation and Vibration Absorbers						
Week 7	9/14/2021	Vibration of MDOF Systems						
Week 7	9/15/2021	Vibration of MDOF Systems						
Week 8	9/21/2021	Final Exam						
		<b>Evaluation Tool</b>	<b>Quantity</b>	<b>Date</b>	<b>Weight in Total (%)</b>	<b>Weight in Semester Evaluation (%)</b>		
		Midterm Exam	1	Week 4	30	50		
		Project	1	Week 6	30	50		
		Final Exam	1	Week 8	40			



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 Date: 2021.06.27 10:56:37 +0300

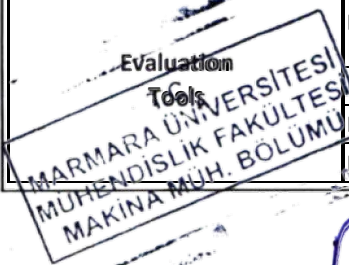
**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time& Classroom Schedule
			T	A	L			
<b>ME 3021</b>	<b>System Dynamics and Control</b>	Compulsory	6	0	0	5	5	Thursday 13:00-15:50 Friday 09:00-11:50
<b>Prerequisite</b>	Math 2055 Differential Equations	<b>Prerequisite to</b>			ME 4022 Control Systems			
<b>Course Lecturer</b>	Asst. Prof. Dr. İbrahim Sina Kuseyri							
<b>Teaching Assistant(s)</b>	N/A					<b>Office Hours Schedule</b>	N/A	
<b>E-mail</b>	<a href="mailto:sina.kuseyri@marmara.edu.tr">sina.kuseyri@marmara.edu.tr</a>					<b>Office / Room No</b>	N/A	
<b>Phone</b>	N/A							
<b>Course Objectives</b>	The aim of the course is to teach the fundamentals modeling and analysis of dynamic systems, and feedback control.							
<b>Textbooks and/or References</b>	Text: Dynamic Systems: Modeling, Simulation and Control, C.A. Kluever, Wiley.							
	Reference 1: System Dynamics, Ogata, Pearson							
	Reference 2: Control Systems, Nise, Wiley							
<b>Teaching methods</b>	In online platform with white board, Power Point Presentations.							
<b>WEEK</b>	<b>Date</b>	<b>TOPICS</b>						
Week 1	8/3/2021	Introduction and Preliminary Concepts						
Week 1	8/4/2021	Modeling Mechanical Systems						
Week 2	8/10/2021	Modeling Electrical and Electromechanical Systems						
Week 2	8/11/2021	Modeling Fluid and Thermal Systems						
Week 3	8/17/2021	Standard System Representations						
Week 3	8/18/2021	Standard System Representations						
Week 4	8/24/2021	Numerical Simulation of Dynamic Systems						
Week 4	8/25/2021	Midterm Exam						
Week 5	8/31/2021	Review of Complex Numbers and Laplace Transform						
Week 5	9/1/2021	Transient Response						
Week 6	9/7/2021	Transient Response						
Week 6	9/8/2021	Frequency Response						
Week 7	9/14/2021	Feedback Control						
Week 7	9/15/2021	Feedback Control						
Week 8	9/21/2021	Final Exam						
		<b>Evaluation Tool</b>	<b>Quantity</b>	<b>Date</b>	<b>Weight in Total (%)</b>	<b>Weight in Semester Evaluation (%)</b>		
		Midterm Exam	1	Week 4	30	50		
		Project	1	Week 7	30	50		
		Final Exam	1	Week 8	40			



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**MARMARA UNIVERSITY - Faculty of Engineering**

**SYLLABUS**

**Mechanical Engineering**

**2020-2021 Summer School**

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
<b>ME2063</b>	<b>Thermodynamics I</b>	Compulsory	3	0	0	5	5	Thursday 09:00-12:00 & Friday: 09:00-12:00
Prerequisite	N/A	Prerequisite to			ME 2064			
Course Lecturer	Asst. Prof. Dr. Mehmed Rafet ÖZDEMİR							
Teaching Assistant(s)	N/A					Office Hours Schedule	N/A	
E-mail	<a href="mailto:mehmet.ozdemir@marmara.edu.tr">mehmet.ozdemir@marmara.edu.tr</a>							
Phone	N/A					Office / Room No	N/A	
Course Objectives	The aim of the course is to provide a comprehensive and rigorous approach to engineering thermodynamics from the classical point of view. This course lays the foundation for subsequent thermodynamics, fluid mechanics and heat transfer courses and prepares students to use thermodynamics in professional practice.							
Textbooks and/or References	Thermodynamics – An Engineering Approach, Yunus Cengel and Michael Boles, 8th edition, 2014, McGraw Hill.							
	Thermodynamics – An Interactive Approach, Subrata Bhattacharjee, 2016, Pearson							
	Principles of Engineering Thermodynamics, Michael J. Moran, Howard N. Shapiro, Daisie D. Boettner and Margaret B. Bailey, 8th edition, 2015, Wiley.							
Teaching methods	In online platform with white board, Power Point Presentations. In this course, learning outcomes will be followed using online tools. Students who will enroll this course in the summer school 2021 semester are required to follow the course by becoming a member of the system, which will be announced by the faculty member.							
WEEK	Date	TOPICS						
Week 1	5.08.2021	Introduction and Preliminary Concepts						
Week 1	6.08.2021	Energy, Energy Transfer and General Energy Analysis						
Week 2	12.08.2021	Properties of Pure Substances						
Week 2	13.08.2021	Properties of Pure Substances						
Week 3	19.08.2021	Energy Analysis in Closed Systems						
Week 3	20.08.2021	Mass and Energy analysis in Control Volumes						
Week 4	26.08.2021	Mass and Energy analysis in Control Volumes						
Week 4	27.08.2021	Midterm Exam I						
Week 5	2.09.2021	2nd Law of Thermodynamics						
Week 5	3.09.2021	2nd Law of Thermodynamics						
Week 6	9.09.2021	Carnot Cycle and Refrigeration Cycle						
Week 6	10.09.2021	Midterm Exam II						
Week 7	16.09.2021	Entropy Concept						
Week 7	17.09.2021	Entropy						
Week 8	21.09.2021	Final Exam						
		Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
		Midterm Exams	2	Week 4,6	45	45		
		Pop-up Quizzes	5	Pop up	15	15		
		Final Exam	1	Week 15	40	40		

**Evaluation Tool**  
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