İzmir Institute of Technology

INSTITUTE OF ENGINEERING AND SCIENCE(M.S.)
MECHANICAL ENGINEERING

ME567	ROBOTICS RESEARCH				
Semester	**Course Unit Code**	**Course Unit Title**	**L+P**	**Credit**	**Number of ECTS Credits**
1	ME567	ROBOTICS RESEARCH	3	3	8

Mode of Delivery:
Face to Face
Language of Instruction:
English
Level of Course Unit:
Second Cycle
Work Placement(s):
No
Department / Program:
MECHANICAL ENGINEERING
Type of Course Unit:
Elective
Objectives of the Course:
The objective of the course is to introduce students to research in robotics through execution of a small research project that involves all the aspect of a research project. • Generation of a project specification • Conduct a literature survey to understand prior work in the area • Design a test / evaluation protocol for the problem • Conduct the research • Document the project in a conference style paper • Present the research to other students and faculty
Teaching Methods and Techniques:
Review of robotics: mathematical modeling, components, control and programming. Introduction to robotics research and research tools. Writing a scientific article on robotics.
Prerequisites and co-requisities:

Course Coordinator:

Name of Lecturers:
Asist Prof.Dr. MEHMET İSMET CAN DEDE
Assistants:

Recommended or Required Reading

Resources Robert A. Day, and Barbar Gastel 'How to Write and Publish a Scientific Paper', Greenwood, 6th Edition, Westport, CT, 2006.,Jeffrey A. Cantor, 'A Guid

Weekly Detailed Course Contents

Week	Topics	Study Materials	Materials
1	Review of Robotics: mathematical modeling, components, control and programming		John J. Craig, 'Introduction to Robotics:
2	Forming a clear statement of the problem (design criteria & constraints)		Robert A. Day, and Barbar Gastel 'How t
3	Conducting literature survey		Robert A. Day, and Barbar Gastel 'How t
4	Project planning		Robert A. Day, and Barbar Gastel 'How t
5	Proposing a research project		Robert A. Day, and Barbar Gastel 'How t
6	Research proposal presentations		Robert A. Day, and Barbar Gastel 'How t
7	Test and evaluation methodologies		Robert A. Day, and Barbar Gastel 'How t
8	How to write abstract and introduction		Robert A. Day, and Barbar Gastel 'How t
9	How to write materials and methods section		Robert A. Day, and Barbar Gastel 'How t
10	How to write results		Robert A. Day, and Barbar Gastel 'How t
11	How to write discussion		Robert A. Day, and Barbar Gastel 'How t
12	How to write acknowledgements and cite references		Robert A. Day, and Barbar Gastel 'How t
13	How to prepare tables and figures		Robert A. Day, and Barbar Gastel 'How t
14	How to publish a paper		Robert A. Day, and Barbar Gastel 'How t
15	Final 1st week		
16	Final 2nd week		

Course Learning Outcomes

No	Learning Outcomes
C01	Ability to formulate the design procedure and accomplish the design for an open-ended project.
C02	Ability to utilize reserach tools on robotics area.
C03	Ability to document the research and development phases.
C04	Ability to prepare an article for the work accomplished complying with the technical writing rules.
C05	Ability to prepare a robotics research project proposal.

Program Learning Outcomes

No	Learning Outcome
P05	To have advanced skills in scientific and technical writing and oral communication.
P06	To have the ability to present his/her study in national or international congresses, conferences and other scientific meetings.
P07	To have an appreciation of ethical values in scientific and technical studies.
P04	To have the ability to identify, model, formulate, and solve mechanical engineering problems in the field of research.
P01	To have advanced knowledge in the master thesis subject.
P02	To have the ability to carry out independent research and study.
P03	To have the ability to use the knowledge learned in the courses.

Assessment Methods and Criteria

In-Term Studies	Quantity	Percentage
Midterm exams	0	%0
Quizzes	0	%0
Homeworks	3	%60
Other activities	0	%0
Laboratory works	0	%0
Projects	1	%40
Final examination	0	%0
Total		**%100**

ECTS Allocated Based on Student Workload

Activities	Quantity	Duration	Total Work Load
Weekly Course Time	1	42	42
Outside Activities About Course (Attendance, Presentation, Midterm exam,Final exam, Quiz etc.)	1	124	124
Application (Homework, Reading, Self Study etc.)	0	0	0
Laboratory	0	0	0
Exams and Exam Preparations	1	24	24
Total Work Load			**190**
ECTS Credit of the Course			**6**

Contribution of Learning Outcomes to Programme Outcomes

Contribution: 0: Null 1:Slight 2:Moderate 3:Significant 4:Very Significant

	P01	P02	P03	P04	P05	P06	P07
C01		2	2	4			
C02	1	4	2				
C03					4		
C04					3	2	2
C05					3	2	2