

Program Records

About the Program	<p>The Industrial Engineering M.Sc. Program focuses on understanding, developing models and solution procedures, and providing decision support for the contemporary challenges in production and service industries as well as large-scale socio-technical systems. The Industrial Engineering Department provides a strong background in modeling and optimization, simulation, and probability/statistics. Upon this background, students have the opportunity to specialize in the following three interdisciplinary focus areas:</p> <p>Sustainability: Producing goods and services using processes that are non-polluting, conserving of energy and natural resources, economically viable, and safe and healthful for workers, communities, and consumers.</p> <p>Disaster Management: Analyzing, modeling, and providing scientific decision support in the management of natural and human-induced disasters (e.g., earthquakes, landslides, and terrorism) to contribute towards improving the resilience of governments, organizations, and companies.</p> <p>Healthcare Systems: Improving efficiency, productivity, and patient access in healthcare systems by developing tools, methodologies, and protocols that allow for the safe, efficient, and cost-effective delivery of healthcare with improved outcomes.</p>
Program Objectives	<p>Develop knowledge and contribute to Industrial Engineering sector as a professional engineer with inter- and trans-disciplinary research.</p> <p>Understand local and global issues in Industrial Engineering field to assume positions of leadership and take responsibility in their sectoral and global resolution.</p> <p>Interpret scientific, technical, and technological concepts in relation with lifelong learning activities.</p>
Qualification Awarded	Graduate; Master of Science (M.Sc.) Degree / M.Sc. in Industrial Engineering
Length of Program & Credits	2 years 120 ECTS
Level of Qualification	Second Cycle (Master) Degree; EQF-LLL: 7. Level QF-EHEA:2. Cycle
Mode of Study	Full Time
Field of Study	Engineering, Manufacturing and Construction
Admission Requirements	<p>An undergraduate diploma; a passing or acceptable score from the English Proficiency Exam of Abdullah Gül University, YDS (Foreign Language Exam), YÖKDİL (Foreign Language Exam for Higher Education Institutions), or TOEFL; an acceptable score from the Academic Personnel and Postgraduate Education Entrance Exam (ALES - Mathematical Score Type); a passing score at the oral interview for the concerned Master's program. International students are admitted based on the criteria posted by the university.</p>
Recognition of Credit Mobility	<p>Course Substitution: For course substitutions, medium of instruction of a previous course must be English, its final grade must be at least 3.00 out of 4.00 and approval of a relevant University Board is required.</p> <p>Lateral Transfer: Spending at least one semester at the master's program currently enrolled in, taking at least 2 credit courses and passing them with at least 3.00 out of 4.00.</p>
Graduation Requirements & Regulations	<p>Successful completion of 2 Compulsory (IE511 and IE534), 5 Elective Courses (at least 2 of them must be taken from IE department i.e. IE5XX or IE6XXX), Seminar (IE500) and Ethics (GCC1001); a minimum grade point average (GPA) of 3.00; earning 120 ECTS credits; successful submission of a thesis.</p>

In order to successfully complete the Master's program, at least one research article must have been submitted in journals within the scope of SCI, SCI-Expanded, SSCI, SSCI-Expanded, AHCI or Scopus, and presented at least one paper in an international conference.

Occupational Profiles of Graduates Working areas of industrial engineers: Operations Research / Management Science, Logistics, Engineering Management, Consultancy, Financial Engineering, Project Management, Cost Engineering, Quality Engineering, Ergonomics, Occupational Safety, Accounting and Facility Management are largely consistent with job descriptions. Students who graduate from master program can work in the fields they are specialized in public and private sectors. In addition, they can work at department of logistics, occupational health and safety etc. in universities as an academician.

Access to Further Studies Graduates may apply to third cycle (Level 8) degree programs.

Assessment & Grading Policy Based on Abdullah Gul University Graduate Education and Examination Regulation rules.

Letter Grade	Coefficient	Score	Status	Information letters	Explanation
A	4,00	90-100	Pass	NA	Not Attended
A-	3,67	87-89	Pass	W	Withdrawn
B+	3,33	83-86	Pass	I	Incomplete
B	3,00	80-82	Pass	T	Transferred
B-	2,67	77-79	Pass	S	Satisfactory
C+	2,33	73-76	Pass	U	Unsatisfactory
C	2,00	70-72	Failed	P	In Progress
C-	1,67	64-69	Failed	EX	Exempt
D+	1,33	56-63	Failed		
D	1,00	50-55	Failed		
F	0,00	0-49	Failed		

Program Outcomes

- PO1. Solve complex industrial engineering problems for developing effective decision-making mechanisms.
- PO2. Design a model for a defined need to understand the outputs of the model and use technical knowledge and skills developed in data analytics and machine learning in industrial systems.
- PO3. Interpret engineering literature.
- PO4. Compose teamwork skills by collaborating with others using team dynamic elements effectively, efficiently, and appropriately, especially in working groups.
- PO5. Propose technical knowledge and information effectively to possess effective communication skills in the field of Industrial Engineering.
- PO6. Propose a positive impact and added value to their surroundings through the acquired professional ethics, skills, and global citizenship consciousness demanded by contemporary society.
- PO7. Prioritize non-polluting processes, conserving energy and natural resources, ensuring economic viability, and maintaining safe and healthy conditions for workers, communities, and consumers.
- PO8. Analyze, model and offer scientific decision support for managing natural and human-induced disasters

PO9. Develop tools and methodologies, to improve efficiency and productivity, ensuring the safe, efficient, and cost-effective delivery of healthcare with enhanced outcomes.

PO10. Prioritize the academic and professional ethics of Industrial Engineering.

PO11. Plan life-long learning strategies to make the processes of accessing information and learning sustainable.

PO12. Use professional communication skills as well as scientific research, writing and presenting skills.

TQF-HE & Program Outcomes Coverage	Knowledge Theoretical Conceptual	Skills Cognitive Practical	Competences			
			Work Independently and Take Responsibility	Learning	Communication and Social	Field Specific
PO1	X	X	X			X
PO2	X		X	X		
PO3	X	X				
PO4		X	X			
PO5					X	
PO6					X	X
PO7			X		X	
PO8	X	X	X			X
PO9			X		X	X
PO10					X	
PO11					X	
PO12					X	

Institutional & Program Outcomes Coverage	IO1	IO2	IO3	IO4	IO5	IO6	IO7
	PO1	X					
PO2		X					
PO3				X			
PO4			X		X		
PO5						X	
PO6				X			X
PO7							X
PO8	X	X					
PO9	X		X				
PO10	X		X	X			
PO11			X	X			
PO12	X		X	X		X	

AGU Institutional Student Learning Outcomes (IOs)

AGU is committed to providing high-quality programs that foster a passion for learning, ongoing professional development, and responsible action for global and local challenges. The Institutional Student Learning Outcomes listed below indicate knowledge, skills, abilities, and attitudes students are expected to develop as a result of their active engagement with the rich AGU learning environment.

AGU graduates are expected to embody the following knowledge, skills, and attitudes:

IO1. Disciplinary knowledge, inter-disciplinary understanding, and trans-disciplinary skills: to make the most of all knowledge and skills gained in order to produce trans-disciplinary connections to real-world issues.

IO2. Innovative, creative, and critical thinking: to evaluate and criticize-existing- ideas and issues, in order to design an innovative vision and a viable plan to solve problems.

IO3. Global and local responsibility: to take responsibility for global and local issues, by means of independent and collaborative action.

IO4. International and multi-cultural competence: to act as a global citizen by understanding the diversity of multiple cultures.

IO5. Self-directed and collaborative learning: to engage with learning, both independently and collaboratively, as a self-initiated, self-directed, and life-long venture.

IO6. Communication Skills: to read, write, listen, and speak effectively both in English and Turkish.

IO7. Respectful and devoted professional practices: to demonstrate knowledge of, and act in accordance with moral and ethical values in professional life.

Curriculum

Sem.	Code	Course	T	P	C	ECTS	
1 st	IE 511	Modelling and Optimization	3	0	3	7.5	
	GCC 1001	Introduction to Scientific Research	3	0	3	7.5	
	IE XXX	Elective*	3	0	3	7.5	
	XXX XXX	Elective*	3	0	3	7.5	
semester credits			12	12	0	12	30
2 nd	IE 534	Risk Modeling, Assessment, and Management	3	0	3	7.5	
	IE XXX	Elective*	3	0	3	7.5	
	XXX XXX	Elective*	3	0	3	7.5	
	XXX XXX	Elective*	3	0	3	7.5	
	IE 500	Seminar	0	2	0	5	
semester credits			12	12	2	12	35
3 rd to	IE 597	M.Sc. Special Topics	4	0	0	10	
4 th	IE 599	M.Sc. Thesis	0	1	0	45	
semester credits			0	4	1	0	55
TOTAL			24	28	3	24	120

Curriculum Summary

%		Courses	Credit	ECTS
6.25	YÖK/HEC Courses GCC1001	1	3	7.5
18.75	Compulsory IE511, IE534	3	3	15
25	Electives IEXXX,XXX	4	3	37.5
4.17	Seminar IE500	1	0	5
8.33	MSc Special Topics IE597	1	0	10
37.5	MSc Thesis IE599	1	0	45
100,0	TOTAL	11	24	120

*At least 2 elective courses must be taken from the IE program; other elective courses can be taken with the same ECTS from other graduate programs.

*The semester in which the courses will be offered is under the authority of the program executive board.

*IEXXX and XXX coded courses can be completed by taking IE5XX and IE6XX coded courses.