

MIDDLE EAST TECHNICAL UNIVERSITY

Petroleum & Natural Gas Engineering Department
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DEPARTMENT WEBSITE: <http://wildcat.pete.metu.edu.tr>

DEAN: Prof.Dr. Yildirim UCTUG, Dean of Faculty of Engineering
CHAIR: Prof.Dr. Birol DEMIRAL, Chairman of Petroleum & Natural Gas Engineering Dept.

CONTACT INFORMATION

Office	Contact Name	Phone	E-mail
Admissions	Nesrin Unsal	+90 (312) 210 3411	nesrinu@metu.edu.tr
Petroleum Engineering Dept.	Dr.Birol Demiral	+90 (312) 210 4899	demiral@metu.edu.tr
Student Services	Dr. Evren Ozbayoglu	+90 (312) 210 5663	ozevren@metu.edu.tr
Financial Aid	Suzan Kurt	+90 (312) 210 2705	suzank@metu.edu.tr

DEGREE INFORMATION

DEGREES OFFERED IN PETROLEUM ENGINEERING

Degree	Petroleum Hours	Total Hours	Curriculum Description
Bachelor	58	141	http://catalog.metu.edu.tr/peteng.php
Masters (thesis)	6 (minimum)	21 (minimum)	http://catalog.metu.edu.tr/peteng.php
Doctorate (dissertation)	6 (minimum)	21 (minimum)	http://catalog.metu.edu.tr/peteng.php

ACCREDITATION

The four years basic level day program is Petroleum & Natural Gas Engineering is accredited by ABET 2000.

CURRICULUM DESCRIPTION

Undergraduate: The program educates the student fully in the basic sciences of geology, physics, mathematics, and chemistry and all of the engineering sciences required in the discovery, development, production, evaluation, and transportation of petroleum fluids. Oil and natural gas is the most widely used form of mobile energy and now supplies majority of the total energy used in Turkey. The department is one of the two petroleum engineering schools in Turkey, which is accepting the top 5% from the general university entrance examination. Individual course descriptions are listed on the petroleum web server.

Masters & Doctorate: The department is staffed with highly-experienced researchers and lecturers who have been working on this area averagely for more than 20 years. Significant number of industry-related projects as well as government supported research projects have been conducted and still on progress, focused on reservoir, production, drilling and geothermal engineering. High-tech laboratory and test facilities help the graduate students not only to improve their research capabilities, but also to get hands-on-experience.

PROGRAM ADMISSION REQUIREMENTS

Undergraduate: Any student who was graduated from a lycée, high school or an equivalent institution may apply to the "Interuniversity Student Selection and Placement Center" (ÖSYM) in Ankara to take the entrance examination to enter the University. Transfer students who have completed two semesters of the curriculum of a university or university-level institution may apply to be admitted to the University as transfer students with advanced standing at their second year of study or above. In order to qualify for admission, applicants must have a "B" average or its equivalent, and their previous studies must be related to the courses given at METU. Applicants having these qualifications must submit a certified transcript or equivalent documentary evidence of their academic report together with their application. If it is deemed necessary the University may give an oral and/or written examination

required by the department to which the applicant wishes admittance. After having consulted with the faculty of the department, the Registrar shall refer such applicants to the Administrative Board of the concerned Faculty for a final decision.

The four year undergraduate education program is designed so that the first two years are devoted to basic engineering courses while the courses related to petroleum engineering are mostly taught during the senior year.

A total of eight weeks of summer practice is obligatory to fulfill the requirements for the B.Sc. degree. The first 4 weeks are preferred to be in drilling operations after the second year, while the second half is for production and for reservoir engineering after the third year of undergraduate education.

Masters & Doctorate: Those who hold a Bachelors degree from a four-year institution may apply to Master's programs. Applicants for doctoral programs should hold a Master's degree. Students who are in their final semester may also apply to graduate programs. Required documents are:

- i) Official transcripts for all graduate and undergraduate level coursework completed up to the time of application, notarized or attested. (For application purposes an official transcript is defined as a record, which bears the signature of the registrar and the seal of the institution)
- ii) Letter of intention prepared by the applicant describing his/her background and goals in graduate study, and
- iii) Two letters of reference.
- iv) The applicants are also required to submit their graduate examination score and
- v) English Proficiency Test result.

Graduate examinations accepted by METU are LES (graduate education examination) given in Turkey by ÖSYM and GRE (Graduate Record Examination) given worldwide by Educational Testing Services (ETS). The applicant therefore should apply either to LES or GRE. Applicants to graduate programs in Management must take GMAT (Graduate Management Admission Test).

English Proficiency Tests accepted by METU are KPDS given in Turkey by ÖSYM, METU-EPE (English Proficiency Examination) given by METU School of Foreign Languages), TOEFL (Test of English as a Foreign Language) given worldwide by ETS and other examinations given worldwide; IELTS, FCE, CAE and CPE.

Deadlines for applications are March 31st for Fall Semesters and October 31st for Spring Semesters. All correspondence concerning the admission should be addressed to:

Graduate Admission Office MM Building No 122 Middle East Technical University O6531
ANKARA/TURKEY

Foreign students eligible for admission should obtain a student visa from the nearest Turkish Consulate; an official letter of acceptance, indicating the category of admission, will be provided to them for this purpose.

The University requirements governing the M.S. and Ph.D. degrees are described in Academic Rules and Regulations of Graduate Program Catalog. Further information can be obtained from <http://catalog.metu.edu.tr>

The master's program requires minimum 21 graduate credit hours above the baccalaureate degree. At least 6 credit hours of petroleum engineering courses are required in addition to the thesis. The doctorate program requires minimum 21 graduate credit hours above the master's degree. At least 6 credit hours of petroleum engineering courses are required in addition to the dissertation. The doctorate candidate also should pass the qualify exam after completing the course load. The Department offers graduate programs in Drilling, Production, Reservoir, Natural Gas, Enhanced Oil Recovery and Geothermal Engineering. A candidate is expected to take at least one course from each of the three predetermined course-groups, namely, Mathematics; Thermodynamics/Physical Chemistry/Strength of Materials; and Transport Phenomena.

All students admitted to graduate programs are required to designate their supervisor and thesis topic by the end of their first semester.

FACULTY INFORMATION

Name	Degree	Position	Major Field of Interest	E-mail	Phone
Birol Demiral	PhD	Professor	Reservoir / Well Testing / EOR	demiral@metu.edu.tr	+90 (312) 210 4899
Ender Okandan	PhD	Professor	Reservoir / EOR	okandan@metu.edu.tr	+90 (312) 210 4889
Suat Bagci	PhD	Professor	Production / EOR / Artificial Lift / Well Logging	sbagci@metu.edu.tr	+90 (312) 210 4894
Tanju Mehmetoglu	PhD	Professor	Petroleum Fluids / Fluid Mechanics	mtanju@metu.edu.tr	+90 (312) 210 5678
Fevzi Gumrah	PhD	Professor	Reservoir / Simulation / EOR	fevzi@metu.edu.tr	+90 (312) 210 4895
Mustafa V. Kok	PhD	Professor	Production / Drilling / EOR	kok@metu.edu.tr	+90 (312) 210 4891
Mahmut Parlaktuna	PhD	Professor	Petroleum Fluids / Natural Gas / Geothermal / Hydrates	mahmut@metu.edu.tr	+90 (312) 210 4893
Serhat Akin	PhD	Associate Professor	Reservoir / Simulation / EOR / Geothermal	serhat@metu.edu.tr	+90 (312) 210 4892
M. Evren Ozbayoglu	PhD	Assistant Professor	Drilling	ozevren@metu.edu.tr	+90 (312) 210 5663

ENROLLMENT & DEGREES CONFERRED INFORMATION

Academic Year	Freshman	Sophomore	Junior	Senior	Undergraduates	M.S.	Ph.D.	Graduates
1984-1985	38	33	25	30	126	17	6	23
1985-1986	48	32	30	27	137	15	9	24
1986-1987	38	43	28	33	143	14	11	25
1987-1988	29	41	40	16	126	18	7	25
1988-1989	32	35	31	32	130	17	3	20
1989-1990	38	37	34	29	138	18	5	23
1990-1991	54	29	33	24	140	19	4	23
1991-1992	37	45	24	29	135	18	3	21
1992-1993	42	34	41	27	144	15	3	18
1993-1994	45	34	32	43	154	8	7	15
1994-1995	43	39	29	42	153	19	7	26
1995-1996	52	35	33	40	160	20	7	27
1996-1997	41	38	38	45	162	24	7	31
1997-1998	40	38	39	45	162	18	8	26
1998-1999	50	38	37	40	165	29	6	35
1999-2000	48	46	39	36	169	36	8	44
2000-2001	53	46	40	43	182	41	8	49
2001-2002	59	44	46	43	192	45	14	59
2002-2003	68	45	43	49	205	49	16	65

Cumulative Bachelor Degrees Awarded: 646

Cumulative Master's Degrees Awarded: 108

Cumulative Doctorate Degrees Awarded: 11

CURRICULUM ANALYSIS

MATHEMATICS

Course Type	Hours Required
Calculus	8
Differential Equations	4
Mathematics for Engineers	3
Statistical Methods for Eng.	3
Computing Methods in Eng.	3

PHYSICS

Course Type	Hours Required
General Physics	8

CHEMISTRY

Course Type	Hours Required
General Chemistry	8

GENERAL ENGINEERING

Course Type	Hours Required
Engineering Mechanics	3
Introduction to Fluid Mech.	4
Strength of Materials	3
Thermodynamics	4

COMPUTER RELATED

Course Type	Hours Required
C Programming	3

GEOLOGY RELATED

Course Type	Hours Required
General Geology	4
Petroleum Geology	3

PETROLEUM ENGINEERING

Course Type	Hours Required
Introduction to Petroleum Engineering	2
Rocks & Fluids	4
Reservoir Engineering	6
Production Engineering	3
Drilling Engineering	7
Natural Gas Engineering	3
Well Logging	3
Petroleum Property Valuation - Economics	3
Engineering Design	3
Engineering Research	1
Technical Electives	18

OTHER

Course Type	Hours Required
English	11
Engineering Drawing	4
Economics - Management	3
Non-Technical Electives	6
Free Elective	3