Master of Engineering in Energy Technology Program

M.Eng. (Energy Technology)

Compulsory courses

Code	Subject	Credit	Plan A1	Plan A2
219-613	Mathematical Methods in Engineering	3(3-0-6)	-	✓
219-614	Research Methodology	3(3-0-6)	-	✓
219-673	Energy Management and Policy	3(3-0-6)	-	✓
219-601*	Seminar in Energy Technology	1(0-2-1)	✓	✓

*All students have to enroll the 219-701 Seminar in Energy Technology and register as an audit subject grading for S(satisfied) or U(unsatisfied).

Elective courses

Elective courses in plan A2 has 9 credits. Elective courses will be counted as part of this curriculum only when they must be taught in this course, or in other faculties, or in other departments related to graduated courses or related to the thesis topic. These courses must be approved by the dissertation advisor or executive board.

Thermal systems and Energy Technologies

219-641	Gas Turbine and Applications	3(3-0-6)
219-661	Energy Resources and Energy Conversion	3(3-0-6)
219-662	Thermal System Analysis and Design	3(3-0-6)
219-663	Solar Energy Technology	3(3-0-6)
219-664	Wind Energy Technology	3(3-0-6)
219-665	Energy from Biomass and Conversion	3(3-0-6)
219-666	Combustion and Emission Control	3(3-0-6)
219-667	Hydropower Technology	3(3-0-6)

Energy Conservation and Management

219-671	Energy Demand Forecasting and Energy Statistics	3(3-0-6)
219-672	Energy Project Management and Appraisal	3(3-0-6)
219-673*	Energy Management and Policy	3(3-0-6)
219-674	Instrumentation and Energy Auditing	3(3-0-6)
219-675	Energy Management and Conservation in Buildings	3(3-0-6)
219-676	Energy Management and Conservation in Industry	3(3-0-6)
219-677	Energy Economics	3(3-0-6)

* Elective for enrolled students plan 2(2.1) only.

Advanced Topics

219-681	Advanced Topics in Energy Technology I	3(3-0-6)
219-682	Advanced Topics in Energy Technology II	3(3-0-6)
219-683	Advanced Topics in Energy Technology III	3(2-2-5)
219-684	Advanced Topics in Energy Technology IV	3(2-2-5)

Electives taught by other faculties or departments

Graduate courses taught by electrical engineering department are 13 subjects.

212-510	Analysis of Electric Machinery	3(3-0-6)
212-511	Switching-Mode Converters I	3(3-0-6)
212-512	Switching-Mode Converters II	3(3-0-6)
212-513	Power Semiconductor Devices	3(3-0-6)
212-514	Adjustable Speed Drives	3(3-0-6)
212-515	Computer Methods in Power System Analysis	3(3-0-6)
212-610	Advanced Switching Power Conversion Techniques	3(3-0-6)
212-611	Dynamic Modeling of Electric Machines and Controls	3(3-0-6)
212-612	Utility Applications of Power Electronics	3(3-0-6)
212-613	Power System Protection	3(3-0-6)
212-781	Special Topics in Electric Power and Power Electronics I	3(3-0-6)
212-782	Special Topics in Electric Power and Power Electronics II	3(3-0-6)
212-783	Special Topics in Electric Power and Power Electronics III	3(3-0-6)

Graduate courses taught by mechanical engineering department are 3 subjects.

215-644	Thermal System Design	3(3-0-6)
215-648	System Optimization	3(3-0-6)
215-653	Computational Fluid Dynamics	3(3-0-6)

Graduate courses taught by environmental engineering department are 8 subjects.

223-431	Waste Recovery and Recycling	3(3-0-6)
223-481	Environmental Engineering and Energy	3(3-0-6)
223-513	Life Cycle Assessment	3(3-0-6)
223-531	Biomass and Organics Conversion for Renewable Energy	3(3-0-6)
223-541	Pollution Prevention for Environment	3(3-0-6)
223-542	Environmental Impact Assessment	3(3-0-6)
223-646	Environmental Impact and Strategic Assessment	3(3-0-6)
223-553	Special Topic in Environmental Engineering 1 (Applied Anaerobic Biotechnology for Energy Production)	3(2-0-6)

Graduate courses taught by chemical engineering department are 5 subjects.

230-520	Catalyst	3(3-0-6)
230-543	Drying Technology	3(3-0-6)
230-571	Alternative Energy Technology	3(3-0-6)
230-572	Renewable Resources and Energy	3(3-0-6)
230-585	Special Topics in Chemical Engineering I (Biodiesel Technology)	3(3-0-6)

Graduate courses taught by chemistry department of science faculty are 4 subjects.

324-551	Chemical Energy Conversion and Storage	3(3-0-6)
324-552	Biomass and Biofuel Technologies	3(3-0-6)
324-553	Advanced Chemical Kinetics	3(3-0-6)
324-555	Catalyst Design	3(3-0-6)

Graduate courses taught by applied chemistry department of science and technology faculty are 4 subjects.

721-551	Biochemical Engineering	3(3-0-6)
721-552	Bio-Energy Technology	3(3-0-6)
721-553	Biochemical Reactor Analysis and Design	3(3-0-6)
721-556	Waste Conversion to Energy	3(3-0-6)

Graduate courses taught by biotechnology department of agro-industry faculty are 4 subjects.

853-541	Waste Utilization and Treatment in Agro-Industry	3(3-0-6)
853-542	Advanced Environmental Biotechnology	3(3-0-6)
854-511	Advanced Bioprocess Engineering	3(3-0-6)
854-531	Bioreactor Design	3(3-0-6)

Thesis

219-691	Thesis	36(0-108-0)
219-692	Thesis	18(0-54-0)

Study Plan

Plan A1

Year 1

Semester 1

219-691	Thesis	9 credits
219-601*	Seminar in Energy Technology	1 credits
	Total	**9 credits**

Semester 2

219-791	Thesis	9 credits
	Total	**9 credits**

Year 2

Semester 1

219-691	Thesis	9 credits
	Total	**9 credits**

Semester 2

219-691	Thesis	9 credits
	Total	**9 credits**
	Course in total 36 credits	

Plan A2

Year 1

Semester 1

219-613	Mathematical Methods in Engineering	3 credits
219-614	Research Methodology	3 credits
219-673	Energy Management and Policy	3 credits
219-601*	Seminar in Energy Technology	1 credits
	Total	**9 credits**

Semester 2

xxx-xxx	Electives	6 credits
219-692	Thesis	3 credits
	Total	**9 credits**

Year 2

Semester 1

219-692	Thesis	6 credits
xxx-xxx	Elective	3 credits
	รวม	**9 credits**

Semester 2

219-692	Thesis	9 credits
	รวม	**9 credits**
	Course in total 36 credits	

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