

List of Power and Energy Courses

Course Number	Course Title	Prerequisites	Credits
BAE 503	Fundamentals of Biorenewable Resource Engineering	Engineering standing, CHE 107	3
BAE 505	Thermochemical Processing of Biomass	BAE 503, BAE 542, or consent of instructor	3
BAE 542	Biofuels and Bioproducts	Engineering standing or consent of instructor	
BAE/EE/EGR 543	Solar Cell Devices and Systems for Electrical Energy Generation	EE 211 or EE 305, or consent of instructor	3
BAE/ME 580	Heating, Ventilating and Air Conditioning	BAE 427 or ME 321, or consent of instructor	3
BAE/EE/EGR/ME/ MFS 583	Industrial Energy Utilization and Assessment	Engineering standing or consent of instructor	3
CE 351	Introduction to Environmental Engineering	CHE 107, MA 214, PHY 231, engineering standing	3
CE 433	Railway Freight and Passenger Operations and Intermodal Transportation	CE 331, engineering standing	3
CE 533	Railroad Facilities Design and Analysis	Coreq or prereq: CE 471G or graduate standing or consent of instructor	3
CE/EGR 553	Environmental Consequences of Energy Production	CHE 105, MA 214, and engineering standing or consent of instructor	3
CHE 565	Environmental Chemistry	Two semesters of general college chemistry; analytical and physical chemistry recommended	3
CME 425	Heat and Mass Transfer	Engineering standing, CME 330, CME 415	3
CME 515	Air Pollution Control	CME 320 or ME 220	3
CME/EGR/MFS 523	Concepts, Assessment Tools, and Methods in Sustainable Power and Energy	Engineering Standing and Senior Classification or consent of instructor	3
CME/EGR 542	Electric Power Generation Technologies	Engineering standing or consent of instructor	3
CME/EE/EGR 549	Power and Energy Experiences	EGR 240 or EGR 542 or EGR 546, or consent of the instructor	3
CME 580	Design of Rate and Equilibrium Processes for Water Pollution Control	CHE 440G, CME 425 and prereq or concur: CME 550 or consent of instructor	3
EE 415G	Electromechanics	EE 221 or EE 223 with a C or better, and PHY 232	3
EE 416G	Energy Conversion Lab	Prereq or concur: EE 415G	2
EE 503	Power Electronics	EE 415G and EE 461 or consent of instructor.	3
EE 517	Advanced Electromechanics	EE 415G, EE 421G, and engineering standing	3
EE 518	Electric Drives	EE 415G, EE 421G, and engineering standing	3
EE 531	Alternative and Renewable Energy Systems	EE 415G, Engineering Standing or consent of instructor	3
EE 532	Smart Grid: Automation and Control of Power Systems	Engineering standing or consent of instructor	3
EE 533	Advanced Power System Protection	Engineering standing or consent of instructor	3
EE 535	Power Systems: Generation, Operation, and Control	EE 537 or concurrent, and Engineering Standing	3
EE 536	Power System Fault Analysis and Protection	EE 537, or concurrent, and Engineering Standing	3
EE 537	Electric Power Systems I	Engineering standing, or consent of instructor.	3
EE 538	Electric Power Systems II	Engineering standing and consent of instructor	3
EE 539	Power Distribution Systems	EE 537, engineering standing or consent of instructor	3
EGR 240	Global Energy Issues	NA	3
EGR 520	Global Dynamics of Renewable Energy	Engineering standing or consent of instructor	3
EGR 521	Renewable Energy	Engineering standing or consent of instructor	3
EGR 540	Power Economics and Public Policy	Engineering standing, graduate standing, or consent of instructor	3
EGR/CME 542	Electric Power Generation Technologies	Engineering standing or consent of instructor	3
EGR/EE 546	Electric Power Systems Fundamentals	Graduate or engineering standing and EE 221 or EE 223, EE 305, or equivalent	3
ME 321	Engineering Thermodynamics II	ME 220, MA 214, and engineering standing	3
ME 325	Elements of Heat Transfer	ME 330, MA 214, and engineering standing	3
ME 515	Rotordynamics of Turbomachinery	EM 313, ME 344, ME 501, and Engineering standing or graduate standing or consent of instructor	3
ME 530	Gas Dynamics	ME 321, ME 330 and Engineering standing	3
ME 548	Aerodynamics of Turbomachinery	ME 321 and ME 330	3
ME 549	Power Generation	ME 321 and ME 330, engineering standing	3
ME 563	Basic Combustion Phenomena	ME 321, ME 330, ME 325 and engineering standing	3
MNG 511	Mine Power System Design	EE 305 or equivalent and engineering standing	3
MNG 575	Coal Preparation Design	MNG 301 or equivalent, engineering standing	3
Special Topics Courses (XXX 599) that are (or have been) Power and Energy Electives			
	Topics in Chemical Engineering: Renewable Energy I		3
	Topics in Chemical Engineering: Renewable Energy II		3
	Topics in Chemical Engineering: Biological Conversion of Biomass to Fuels and Chemicals		3
	Topics in Chemical Engineering: Electrochemical Energy Storage		3
	Topics in Electrical Engineering: Hyb and Elec Veh-Elect Sys and Comps		3
	topics in Electrical Engineering: Eff and Renewable Pwr Sys Ops		3
	Topics in Electrical Engineering: Hybrid and Elec Veh and Aircraft		3
	Topics in Engineering: Nuclear Engineering		3
	Topics in Materials Science: Electrochemical Energy Storage		3
	Topics in Mechanical Engineering: Nuclear Engineering		3
	Topics in Mechanical Engineering: System Thinking for Sustainability		3
	Topics in Mechanical Engineering: Sustainable Pwr Enrgy Assessmnt		3