



ENERGY SYSTEMS ENGINEERING

Academic Year 2019 - 2020



FALL

SPRING

Course number	Course Title	USP / CMTS	Credits	Min Grade	Grade Earned	Course Number	Course Title	USP / CMTS	Credits	Min Grade	Grade Earned
Freshman year											
1101	First Year Seminar	FYS	3	C		ES 2110	Statics (1)		3	C	
							MATH 2205 or concurrent enrollment			SC	
CHEM 1020	General Chemistry I	PN	4	C		COM2			3	C	
	ACT 23 or concurrent enrollment MATH 1400, 1405 or 1450						COM1				
ENGL 1010	College Comp & Rhetoric	COM1	3	C		LIFE 1010	General Biology I	PN	4	C	
							C or better in MATH 0921 or level 2 on the Math Placement Exam or math ACT of 21 or math SAT of 600				
MATH 2200	Calculus I	Q	4	C		MATH 2205	Calculus II		4	C	
	C in Math 1405 or 1450, or MPE 5, or ACT 27/SAT > 640				SC		C or better in MATH 2200 or Advanced Placement credit in MATH 2200			SC	
	US & Wyo Constitution Course	V	3				Human Culture	H	3		
Total			17			Total			17		

Sophomore year											
ES 1060	Intro to Eng Problem Solving		3	C-		ATSC 2100	Global Warming	PN	3		
	MATH 2200 or concurrent enrollment				SC						
ES 2120	Dynamics		3	C-		ES 2310	Thermodynamics I		3	C-	
	ES 2110 and MATH 2205; PHYS 1210 or concurrent enrollment				SC		MATH 2210 and either ES 2310 or PHYS 1210			SC	
ES 2210	Electric Circuit Analysis		3	C-		ES 2330	Fluid Dynamics		3	C	
	MATH 2205 or concurrent enrollment				SC		MATH 2210 and either ES 2310 or PHYS 1210			SC	
MATH 2210	Calculus III		4	C		ES 2410	Mechanics of Materials		3	C-	
	C or better in MATH 2205 or Advanced Placement credit in MATH 2205.				SC		ES 2110 and MATH 2205			SC	
PHYS 1220	Engineering Physics II		4			MATH 2310	Applied Differential Equations I		3		
	C or higher in MATH 2200, 2205 and concurrent enrollment in MATH 2210						C or better in MATH 2205. (Note: MATH 2210 is required for the sequel.)				
Total			17			Total			18		

Junior year (1)											
ESE 3005	Engineering Experimentation	ME	3	D		ESE 3160	Thermal/Fluid Science Lab	ME	3	D	
	ME Success Curriculum, ES 1060, ES 2120						ME Success Curriculum, ES 2330; ME/ESE 3005				
ESE 3020	System Dynamics	ME	3	D		ESE 3360	Fund. of Transport Phenomena	ME	3	D	
	ME Success Curriculum, ES 2210 and MATH 2310						ME Success Curriculum, ES 2310, ES 2330 and MATH 2310.				
ESE 3040	Thermodynamics II	ME	3	D		ENR 4750	ENR Law and Policy		3		
	ME Success Curriculum, CHEM 1020 and ES 2310						ENR 2000 and upper division standing or permission of instructor				
ESE 3060	Numerical Methods for Engineers	ME	3	D			Technical Elective		3		
	ME Success Curriculum, ES 1060; corequisite of MATH 2310						Technical Elective		3		
	ESE Elective		3			Total			15		

Senior year											
ESE 4060	Systems Design I	ME	3	D		ESE 4070	Systems Design II	ME	3	D	
	ME Success Curriculum, ESE/ME 3040 and ESE/ME/ARE 3360						ME Success Curriculum, ESE/ME 4060 and WB				
ENR 3000	ENR Problem Solving	H	3			ENR 4900	ENR Policy in Practice	COM3	3	C	
	ENR 2000						ENR 3000				
	Technical Elective		3				ESE Elective		3		
	Technical Elective		3				Business Elective		3		
	Human Culture	H	3				Technical Elective		3		
Total			15			Total			15		

KEY

Fall only	Prerequisite(s)
Spring only	

Total Program Credits: 129

*Students must have a minimum cumulative GPA of 2.0 in all Engineering courses and overall GPA of 2.0 for graduation. A minimum GPA of 2.0 is required in ME/ESE courses. Grade requirements are D or better except those specifically listed. Note: a minimum of 48 hours of upper division coursework, 30 hours of which must be from the University of Wyoming.

SC: ME Success Curriculum is completed when the student has a 3.0 overall GPA in the seven courses (MATH 2200, MATH 2205, MATH 2210, ES 1060, ES 2120, ES 2210, ES 2310, ES 2330 and ES 2410).

ME: Crosslisted with Mechanical Engineering.

MSE: Math/Science and Business Electives must be selected from a department-approved list

ESEE: Two ESE Electives to be chosen from: ECON 1300 Oil: Business, Culture, and Power; ENR 2000 Environment and Society; ENR 4890 Applied GIS; POLS 4051 Environmental Politics; POLS 4350 Sustainable Development and Global Policy; GEOL 3500 Global Change - A Geologic Perspective; GEOL 3650 Energy - A Geologic Perspective; PETE 4000 Environment, Tech, and Society; and ENR 4890 Economics of Natural Resource Scarcity.

TE: Five Technical Electives to be chosen from: PETE 2050 Intro to Petroleum Engineering; GEOL 4190 Petroleum Geology; CE 3400 Intro to Environmental Engineering; CE 4430 Environmental Engineering Chemistry; ME 3400 Heating, Ventilation and Air Conditioning; ME 3450 Properties of Materials; ME 4020 Mechatronics; ME 4340 Gas Turbine Engines; ME 4470 Wind and Ocean Energy Engineering; ME 4460 Solar and Geothermal Engineering; ESE 4330 Internal Combustion Engines; ESE 4360 Nuclear Engineering; and ESE 4380 Steam Plant Engineering.

1 Before enrolling in any upper division ME course, students must complete the ME Success Curriculum (3.0 GPA in MATH 2200, MATH 2205, MATH 2210, and the seven ES courses).