

Energy Resource Management & Development, BS

Renewable Energy Concentration



University of Wyoming, 2015-16

Freshman Fall Semester

			Hrs	Min Grade	Notes
USP First-Year Seminar			3	C	FY
USP US & Wyoming Constitutions			3	C	V; recommend ECON 1200 (Economics, Law, and Government).
ENGL	1010	College Composition and Rhetoric	3	C	C1
ES	1060	Introduction to Engineering Problem Solving	3	C	
MATH	2200	Calculus I *	4	C	Q
Credit hours subtotal:			16		

Freshman Spring Semester

			Hrs	Min Grade	Notes
ACCT	1010	Principles of Accounting I	3	C	
ERS	1300	Oil: Business, Culture, and Power	3	C	Cross listed with ECON 1300; offered spring semester.
ERS	2500	Communication Across Topics in Energy	3	C	C2; can substitute ENGL 2005 (Writing in Tech & the Sciences).
ES	2110	Statics	3	C	
MATH	2205	Calculus II	4	C	
Credit hours subtotal:			16		

Sophomore Fall Semester

			Hrs	Min Grade	Notes
CHEM	1020	General Chemistry I	4	C	PN; can substitute CHEM 1050 (Advanced General Chemistry I).
ECON	1020	Principles of Microeconomics	3	C	H; cross listed with AGECE 1020.
MATH	2210	Calculus III	4	C	
PHYS	1210	Engineering Physics I	4	C	PN
Credit hours subtotal:			15		

Sophomore Spring Semester

			Hrs	Min Grade	Notes
CHEM	1030	General Chemistry II	4	C	Can substitute CHEM 1060 (Advanced General Chemistry II).
ES	2310	Thermodynamics I	3	C	
ES	2330	Fluid Dynamics	3	C	
MATH	2310	Applied Differential Equations I	3	C	
STAT	2050	Fundamentals of Statistics	4	C	Can substitute STAT 2070 (Intro Statistics for the Social Sciences).
Credit hours subtotal:			17		

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • H and PN courses must be taken outside of the major subject, but can be cross-listed with the major.

Energy Resource Management and Development Program Notes:

This degree is a collaborative effort between the School of Energy Resources and the Colleges of Arts and Sciences, Agriculture and Natural Resources, Business, Engineering and Applied Science, and Law, as well as with the Haub School of Environment and Natural Resources. • Academic plans and course schedules may need to be altered if Math Placement scores require Math 0900, 0921, 0925, 1400, 1405, or 1450. • Students must earn a letter grade of C or better in each course and a cumulative gpa of 2.0 or better to graduate. • Students are strongly encouraged to complete an industry internship (a minimum gpa of 3.0 is typically required). Opportunities are also available for undergraduate research, a study abroad experience, or a summer field trip. Please consult with an academic advisor. • Students majoring in Energy Resource Management and Development can earn a double major by completing courses required for the Environment and Natural Resources program. Or students looking to create a focus for their coursework can add a minor to the program. Please consult with an academic advisor about these options.

* Requires MATH ACT \geq 27, MATH SAT \geq 600, Math Placement Exam \geq 5, or \geq C in MATH 1405 or 1450. (University Standard)

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Junior Fall Semester			Hrs	Min Grade	Notes
ES	2210	Electric Circuit Analysis	3	C	
ES	2410	Mechanics of Materials	3	C	
FIN	3250	Corporate Finance	3	C	
PHIL	2345	Natural Resource Ethics	3	C	H
SOIL	3130	Environmental Quality	3	C	Offered fall semester.
Credit hours subtotal:			15		

Junior Spring Semester			Hrs	Min Grade	Notes
ERS	4050	Solar Energy Conversion	3	C	Cross listed with CHEM 4050; offered spring semester every other year
ME	3360	Fundamentals of Transport Phenomena	3	C	Cross listed with ARE/ESE 3360.
MGT	3210	Management and Organization	3	C	
		Upper Division Economics Elective **	3	C	
		Technical Elective	3	C	Consult with an academic advisor for courses from an approved list.
		Elective	3	C	Consult with an academic advisor for courses from an approved list.
Credit hours subtotal:			18		

Junior Summer Semester			Hrs	Min Grade	Notes
		Practicum ***	3	S	
Credit hours subtotal:			3		

Senior Fall Semester			Hrs	Min Grade	Notes
ENR	4500	Risk Analysis	3	C	
ENR	4501	Risk Analysis Lab	1	C	Concurrent enrollment in ENR 4500 required.
ENR	4750	ENR Law and Policy	3	C	Permission of instructor required; offered fall semester.
REWM	4200	Reclamation of Drastically Disturbed Lands	3	C	Permission of instructor required; offered fall semester.
		Negotiation Elective ****	3	C	
		Elective	3	C	Consult with an academic advisor for courses from an approved list.
Credit hours subtotal:			16		

Senior Spring Semester			Hrs	Min Grade	Notes
DSCI	4260	Project Management	3	C	
ERS	4900	Energy Resource Management Capstone	3	C	C3; offered spring semester.
ME	4460	Solar and Geothermal Engineering	3	C	Cross listed with ESE 4460; offered spring semester.
ME	4470	Wind and Ocean Energy Engineering	3	C	Cross listed with ESE 4470; offered spring semester.
Credit hours subtotal:			12		

TOTAL CREDIT HOURS: 128

Energy Resource Management and Development Program Notes con't:

**** Upper Division Economics Elective.** Select one (1) from the following:

- AGEC 3750 Natural Resource Planning and Economics (3 hrs) (offered spring semester of odd years)
- AGEC 4600 Community Economic Analysis (3 hrs)
- AGEC 4720 Water Resource Economics (3 hrs)
- ECON 4420 Seminar: Economics for ENR (2-4 hrs)

***** Practicum.** Complete any combination of courses below to equal three (3) credit hours:

- ENR 3700 Wyoming Conservation Corps Practicum (1-2 hrs)
- ERS 4960 Energy Field Studies (2 hrs)
- ERS 4965 Undergraduate Research (1-3 hrs)
- ERS 4970 Internship (1-3 hrs)
- ERS 4975 Global Experience in Energy (2-4 hrs)

***** Negotiation Elective.** Select one (1) from the following:

- AGEC/ENR 4550 Negotiation Analysis (3 hrs) (offered fall semester)
- AGEC/ENR 4450 Negotiation (3 hrs) (offered spring semester)