ENVIRONMENT AND RESOURCES, M.S.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirement	Detail
Minimum Credit Requirement	30 credits
Minimum Residence Credit Requirement	16 credits
Minimum Graduate Coursework Requirement	15 credits must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/)).
Overall Graduate GPA Requirement	3.00 GPA required. This program follows the Graduate School's policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	Grades of BC or C may be counted toward program requirements if they are offset by equivalent AB or A grades in other courses. A 3.00 average must be maintained in the student's breadth categories as well as their individual program focus category. With the exception of research credits, a maximum of 2 credits graded S may be counted toward program requirements if approved by the student's thesis committee and the program chair. Courses that are audited or graded pass/fail or credit/no credit will not count toward program requirements.
Assessments and Examinations	All students must complete a program certification and a thesis. Students must pass a final thesis defense which constitutes the final examination.
Language Requirements	No language requirements.

REQUIRED COURSES

Code	Title	Credits
Breadth Requirements		
Category 1: Natural Science (see course list below) [1]		*6*
Category 2: Social Science & Humanities (see course list below) [2]		*6*
Category 3: Measurement & Analysis (see course list below) [3]		*6*
Individual Program Focus & Research [4]		**12**
Total Credits		**30**

1

Students choose any biological sciences and/or physical sciences courses in the 300–999 range. This course list is not meant to be all-inclusive. Students are not restricted to the courses listed here. This is a sample of appropriate courses for this category that are offered through various departments/programs. At least three credits must be from UW-Madison.

2

Students choose any social sciences and/or arts & humanities courses in the 300–999 range. This course list is not meant to be all-inclusive. Students are not restricted to the courses listed here. This is a sample of appropriate courses for this category that are offered through various departments/programs. At least three credits must be from UW-Madison.

3

Students choose any measurement/analysis/tools/methods courses in the 300–999 range. This course list is not meant to be all-inclusive. Students are not restricted to the courses listed here. This is a sample of appropriate courses for this category that are offered through various departments/programs. At least three credits must be from UW-Madison.

4

Students choose any courses, in the 300–999 range, that pertain to their individual research and thesis endeavor. At least one graduate seminar (research or topical) is required, and up to six Research credits may be used toward this category. At least six credits must be from UW-Madison (not including Research credits).

Category 1: Natural Science courses

Code	Title	Credits
AGROECOL/ AGRONOMY/ ENVIR ST 724	Agroecosystems and Global Change	3

AGRONOMY/ ATM OCN/ SOIL SCI 532	Environmental Biophysics	3
AGRONOMY/ BOTANY/ SOIL SCI 370	Grassland Ecology	3
ANTHRO/BOTANY/ ZOOLOGY 410	Evolutionary Biology	3
ATM OCN 425	Global Climate Processes	3
ATM OCN/ ENVIR ST 355	Introduction to Air Quality	3
ATM OCN/ ENVIR ST 520	Bioclimatology	3
ATM OCN/ ENVIR ST/ GEOG 332	Global Warming: Science and Impacts	3
ATM OCN/ ENVIR ST/GEOG/ GEOSCI 335	Climatic Environments of the Past	3
BOTANY 400	Plant Systematics	4
BOTANY 500	Plant Physiology	3-4
BOTANY 801	Advanced Plant Community Ecology	4
BOTANY/ENVIR ST/ F&W ECOL/ ZOOLOGY 651	Conservation Biology	3
BOTANY/ F&W ECOL 402	Dendrology: Woody Plant Identification and Ecology	3
BOTANY/ F&W ECOL 455	The Vegetation of Wisconsin	4
BOTANY/ F&W ECOL/ ZOOLOGY 460	General Ecology	4
BOTANY/ F&W ECOL/ ZOOLOGY 672	Historical Ecology	2
BOTANY/GEOG 338	Environmental Biogeography	3
BOTANY/HORT/ SOIL SCI 626	Mineral Nutrition of Plants	3
BOTANY/ ZOOLOGY 725	Ecosystem Concepts	3
BSE/ENVIR ST 367	Renewable Energy Systems	3
CBE 562	Special Topics in Chemical Engineering	1-3
CHEM/ GENETICS 626	Genomic Science	2
CIV ENGR 311	Hydroscience	3
CIV ENGR 415	Hydrology	3
CIV ENGR 500	Water Chemistry	3
CIV ENGR 501	Water Analysis-Intermediate	3
CIV ENGR/G L E 421	Environmental Sustainability Engineering	3
ENTOM 450	Basic and Applied Insect Ecology	3
ENTOM/ ZOOLOGY 302	Introduction to Entomology	4
ENVIR ST 400	Special Topics in the Environment: Biological Aspects of Envir St	1-4
ENVIR ST 401	Special Topics: Environmental Perspectives in the Physical Sciences	1-4
ENVIR ST/ GEOSCI 411	Energy Resources	3
ENVIR ST/ PHYSICS 472	Scientific Background to Global Environmental Problems	3
ENVIR ST/ POP HLTH 471	Introduction to Environmental Health	3
ENVIR ST/ POP HLTH 502	Air Pollution and Human Health	3
ENVIR ST/ SOIL SCI 324	Soils and Environmental Quality	3
F&W ECOL 379	Principles of Wildlife Management	3
F&W ECOL 401	Physiological Animal Ecology	3
F&W ECOL 655	Animal Population Dynamics	3
F&W ECOL/ ZOOLOGY 660	Climate Change Ecology	3
G L E/GEOSCI 627	Hydrogeology	3-4
GEOSCI 376	Topics in Geology	1-3
GEOSCI 731	Carbonate Geology	2
HORT 875	Special Topics	1-4
KINES/ POP HLTH 791	Physical Activity Epidemiology	3
LAND ARC 668	Restoration Ecology	3
M E 466	Air Pollution Effects, Measurements and Control	3
M E/N E 565	Power Plant Technology	3
M&ENVTOX/ POP HLTH 789	Principles of Environmental Health: A Systems Thinking Approach	3
MICROBIO/ SOIL SCI 523	Soil Microbiology and Biochemistry	3
N E 571	Economic and Environmental Aspects of Nuclear Energy	3
PL PATH 801	Teaching Biology: Special Topics	1
PL PATH/ SOIL SCI 323	Soil Biology	3
POP HLTH/ SOC 797	Introduction to Epidemiology	3
SOIL SCI 322	Physical Principles of Soil and Water Management	3
SOIL SCI 325	Soils and Landscapes	3
SOIL SCI 622	Soil Physics	3

Category 2: Social Science & Humanities courses

Code	Title	Credits
A A E 375	Special Topics	1-4
A A E 635	Applied Microeconomic Theory	3
A A E 643	Foundations of Environmental and Natural Resource Economics	3
A A E/C&E SOC/ SOC 340	Issues in Food Systems	3-4
A A E/ECON 477	Agricultural and Economic Development in Africa	3
A A E/ECON/ ENVIR ST 343	Environmental Economics	3-4

A A E/ECON/ ENVIR ST/ URB R PL 671	Energy Economics	3
A A E/ECON/ F&W ECOL 531	Natural Resource Economics	3
AGROECOL 701	The Farm as Socio-Environmental Endeavor	3
AGROECOL 702	The Multifunctionality of Agriculture	3
AMER IND 450	Issues in American Indian Studies	3
AMER IND/ ANTHRO 314	Indians of North America	3
AMER IND/ ENVIR ST 306	Indigenous Peoples and the Environment	3
AMER IND/ ENVIR ST/ GEOG 345	Managing Nature in Native North America	3
ANTHRO 330	Topics in Ethnology	3-4
ASIAN 630	Proseminar: Studies in Cultures of Asia	3
C&E SOC/SOC 541	Environmental Stewardship and Social Justice	3
C&E SOC/SOC 929	Seminar: Class Analysis and Historical Change	3
C&E SOC/SOC 948	Seminar: Environmental Sociology	3
C&E SOC/SOC/ URB R PL 617	Community Development	3
COUN PSY 601	Best Practices in Community-Engaged Scholarship	2
ECON 711	Economic Theory-Microeconomics Sequence	3
ECON 713	Economic Theory: Microeconomics Sequence	3
ECON/ENVIR ST/ POLI SCI/ URB R PL 449	Government and Natural Resources	3-4
ED PSYCH 551	Quantitative Ethnography	3
ENVIR ST 308	Outdoors For All: Inequities in Environmentalism	3
ENVIR ST 349	Climate Change Governance	3
ENVIR ST 402	Special Topics: Social Perspectives in Environmental Studies	1-4
ENVIR ST 404	Special Topics in Environmental Humanities	1-3
ENVIR ST 922	Historical and Cultural Methods in Environmental Research	3
ENVIR ST/ GEOG 337	Nature, Power and Society	3
ENVIR ST/ GEOG 439	US Environmental Policy and Regulation	3-4
ENVIR ST/ GEOG 537	Culture and Environment	4
ENVIR ST/ GEOG 557	Development and Environment in Southeast Asia	3
ENVIR ST/GEOG/ HISTORY 460	American Environmental History	4
ENVIR ST/JOURN/ LSC 823	Science and Environment Communication	3
ENVIR ST/ PHILOS 441	Environmental Ethics	3-4
ENVIR ST/POLI SCI/ PUB AFFR 866	Global Environmental Governance	3
ENVIR ST/ PUB AFFR/ URB R PL 809	Introduction to Energy Analysis and Policy	3
ENVIR ST/ URB R PL 821	Resources Policy Issues: Regional and National	2-3
ENVIR ST/ URB R PL 865	Water Resources Institutions and Policies	3
GEOG 538	The Humid Tropics: Ecology, Subsistence, and Development	4
GEOG 930	Seminar in People-Environment Geography	2-3
GEOG/ URB R PL 503	Researching the City: Qualitative Strategies	3
HISTORY 901	Studies in American History	1-3
INTER-HE 801	Special Topics in Human Ecology	1-3
INTL ST 401	Topics in Global Security	3-4
JOURN 812	Qualitative Communication Research Methods	3
LAW 731	Constitutional Law I	3-4
LAW 744	Administrative Law	3
LAW 918	Selected Problems in International Law-Seminar	2-3
LSC 625	Risk Communication	3
M H R 710	Challenges & Solutions in Business Sustainability	2-3
POLI SCI/ PUB AFFR/ URB R PL 874	Policy-Making Process	3
PUB AFFR 860	Workshop in International Public Affairs	3
SOC 441	Criminology	3-4
URB R PL 590	Contemporary Topics in Urban and Regional Planning	1-3
URB R PL 611	Urban Design: Theory and Practice	3
URB R PL 741	Introduction to Planning	3
URB R PL 781	Planning Thought and Practice	3
URB R PL 814	Environmental and Alternative Dispute Resolution in Planning	3
ZOOLOGY 405	Introduction to Museum Studies in the Natural Sciences	2-3

Category 3: Measurement & Analysis courses

Code	Title	Credits
A A E 636	Applied Econometric Analysis I	3
A A E/CIV ENGR/ ENVIR ST/ URB R PL 561	Energy Markets	3
A A E/ECON/ ENVIR ST/ URB R PL 671	Energy Economics	3

A A E/ENVIR ST/ POP HLTH/ PUB AFFR 881	Benefit-Cost Analysis	3
AGROECOL 702	The Multifunctionality of Agriculture	3
AGRONOMY/ ATM OCN/ SOIL SCI 532	Environmental Biophysics	3
ART 476	Intermediate Photography	4
ATM OCN 310	Dynamics of the Atmosphere and Ocean I	3
ATM OCN 311	Dynamics of the Atmosphere and Ocean II	3
ATM OCN 575	Climatological Analysis	3-4
B M I/ POP HLTH 552	Regression Methods for Population Health	3
B M I/POP HLTH 651	Advanced Regression Methods for Population Health	3
C&E SOC/ED POL/ SOC 755	Methods of Qualitative Research	3
C&E SOC/ENVIR ST/ SOC 540	Sociology of International Development, Environment, and Sustainability	3
C&E SOC/SOC 360	Statistics for Sociologists I	4
C&E SOC/SOC 361	Statistics for Sociologists II	4
CIV ENGR 310	Fluid Mechanics	3
CIV ENGR 716	Statistical Modelling of Hydrologic Systems	3
CIV ENGR/ ENVIR ST/ GEOG 377	An Introduction to Geographic Information Systems	4
CIV ENGR/ ENVIR ST/ LAND ARC 556	Remote Sensing Digital Image Processing	3
COUN PSY/ CURRIC/ED POL/ ED PSYCH/ELPA/ RP & SE 719	Introduction to Qualitative Research	3
CSCS 570	Community Based Research and Evaluation	3
ECON 703	Mathematical Economics I	3-4
ECON 709	Economic Statistics and Econometrics I	3-4
ECON 710	Economic Statistics and Econometrics II	3-4
ED PSYCH 551	Quantitative Ethnography	3
ED PSYCH 760	Statistical Methods Applied to Education I	3
ED PSYCH 761	Statistical Methods Applied to Education II	3
ED PSYCH 763	Regression Models in Education	3
ENTOM/ ZOOLOGY 540	Theoretical Ecology	3
ENVIR ST 922	Historical and Cultural Methods in Environmental Research	3
ENVIR ST/ F&W ECOL/G L E/ GEOG/GEOSCI/ LAND ARC 371	Introduction to Environmental Remote Sensing	3
ENVIR ST/GEOG/ LAND ARC/ URB R PL 532	Applications of Geographic Information Systems in Planning	3
ENVIR ST/ LAND ARC/ SOIL SCI 695	Applications of Geographic Information Systems in Natural Resources	3
ENVIR ST/ PUB AFFR/ URB R PL 809	Introduction to Energy Analysis and Policy	3
ENVIR ST/ PUB AFFR/ URB R PL 810	Energy Analysis and Policy Capstone	3
F&W ECOL 655	Animal Population Dynamics	3
F&W ECOL/HORT/ STAT 571	Statistical Methods for Bioscience I	4
F&W ECOL/HORT/ STAT 572	Statistical Methods for Bioscience II	4
GEN&WS/ GEOG 504	Feminist Geography: Theoretical Approaches	3
GEOG 378	Introduction to Geocomputing	4
GEOG 500	Qualitative Strategies in Geography	3
GEOG 560	Advanced Quantitative Methods	3
GEOG 576	Geospatial Web and Mobile Programming	4
GEOG/ URB R PL 503	Researching the City: Qualitative Strategies	3
INTER-HE 793	Research Methods	3
JOURN 658	Communication Research Methods	4
JOURN/POLI SCI/ URB R PL 373	Introduction to Survey Research	3
LSC 560	Scientific Writing	3
POLI SCI 813	Multivariable Statistical Inference for Political Research	3
POP HLTH 798	Epidemiologic Methods	3
POP HLTH/ SOC 797	Introduction to Epidemiology	3
PUB AFFR 818	Introduction to Statistical Methods for Public Policy Analysis	3
PUB AFFR 819	Advanced Statistical Methods for Public Policy Analysis	3
PUB AFFR 820	Community Economic Analysis	3
STAT 303	R for Statistics I	1
STAT 304	R for Statistics II	1
STAT 305	R for Statistics III	1
URB R PL 841	Urban Functions, Spatial Organization and Environmental Form	2-3