THE UNIVERSITY OF MICHIGAN
SCHOOL OF NATURAL RESOURCES
& ENVIRONMENT

RESOURCE ECOLOGY & MANAGEMENT CONCENTRATION

Summary of Requirements for Master of Science (M.S.) Degree
Effective Fall 1994

	Requirement*	Notes	Course #	Credits	Term
REM Core	3 specialization courses from at least two different REM specialization areas. See attached list for specific courses *[Conc-specific requirement]*	Specialization Areas: Autoecology, Organisms, and Habitats; Community and Ecosystem Function; Population Dynamics; Spatial Analysis			
Distribution	Minimum 3 credit hour course outside REM—either RPB or LA *[School-wide requirement]*	See OAP for NRE Distribution list.			
Analytics	2 Analytics courses *[School-wide requirement]*	NRE 438 or equivalent and one additional course from NRE Analytics list.			
Electives	Electives	11-14 credit hours; Choose from any U-M graduate courses at 400-level or above.			
Opus	Opus *[School-wide requirement]*	3-6 credit hours of NRE 700 or 6 credit hours of NRE 701; See OAP for Opus requirements or changes.			
Cognates	Minimum 4 credit hours outside of M.S. degree program *[Rackham requirement]*	Can be double counted with other degree requirements.			
TOTALS	**TOTAL CREDIT HOURS****	**Minimum 36 credit hours**			
	TOTAL SNRE CREDIT HOURS	**Minimum 19 of 36 credit hours**			

*Any waiver or substitution of degree requirement must be approved by the appropriate faculty and submitted to OAP.
**All 36 credit hours must be taken on a graded basis, if taught for a grade. Courses modified as Satisfactory/Unsatisfactory do not count toward the 36 credit hour degree program.

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RESOURCE ECOLOGY & MANAGEMENT PLAN
Summary of Requirements for Master of Science (M.S.) Degree
Effective Fall 2003

REM SPECIALIZATION COURSES BY AREA

All Master of Science students should select the appropriate specialization courses with the help of their faculty advisors to best meet their educational and career goals.

The following list of courses is not exhaustive. If you find a course that you think is more appropriate and appears to fit under one of the four areas, you should petition use of the course to help meet the specialization requirement.

All M.S. REM students are required to take three specialization courses from at least two different REM specialization areas:

1. *Autoecology, Organisms, and Habitats*

NRE 409/EEB 487	Ecology of Fishes (3,4)
NRE 415	Wildlife Behavior and Ecology (3)
NRE 418	Biology and Management of Insects (must be taken for 3 or 4)
NRE 422/Biology 440	Biology of Fishes (3)
NRE 430/Biology 489	Soil Properties and Processes (3)
NRE 433/Biology 433	Ornithology (4)
NRE 437	Woody Plants: Biology and Identification (4)
NRE 451/Biology 451	Biology of Mammals (4)
NRE 455/Biology 477	Laboratory in Field Ecology (5)
NRE 505	Human Resource Ecology (2,4)
NRE 515	Wildlife Behavior and Ecology (No longer offered; 3,4)
NRE 516	Aquatic Entomology (3)
NRE 524	Great Lakes Algae (2)
EEB 437	Biology of Invertebrates (5)
EEB 442	Biology of Insects (5)
EEB 444	Fish Behavior (4)
EEB 450	Biology of Amphibians and Reptiles (5)
EEB 458	Biology of the Algae (5)
EEB 459	Systematic Botany (4)
EEB 463	Neotropical Plants (3)
EEB 558	Aquatic Flowering Plants (3)
NRE 507 (UMBS)	Habitats and Organisms: Science of Interactions (5)
EEB 442 (UMBS)	Biology of Insects (5)
EEB 453 (UMBS)	Field Mammology (5)
EEB 457 (UMBS)	Algae in Freshwater (5)
EEB 471 (UMBS)	Bryophytes (5)
EEB 486 (UMBS)	Biology and Ecology of Fish (5)

EEB 556 (UMBS)	Field Botany of Northern Michigan (5)
Geo Sci 442	Earth Surface Processes and Soils (4)
Geo Sci 448	Geomorphology 2: Glacial and Periglacial (4)

2. *Community and Ecosystem Function*

NRE 402	Spring Ecosystems (4)
NRE 408	Wetland Ecology (3)
NRE 411	Fluvial Ecosystems (4)
NRE 419	Agricultural/Forest Pest Management (must be taken for 3 or 4)
NRE 427	Aquaculture (3,4)
NRE 432	Forest Hydrology and Watershed Management (2,3)
NRE 435	Forest/Terrestrial Ecology (4)
NRE 453	Tropical Conservation and Resources Management (3)
NRE 476/Biology 476	Ecosystems Ecology (3)
NRE 511	Introduction to Aquatic Ecosystems (4)
NRE 517/EIH 580	Conservation of Biological Diversity (3)
NRE 521	Insect Ecology (3)
NRE 528	Advanced Forest Ecology (3)
NRE 553	Agroforestry (3)
NRE 589	Ecological Restoration (3)
EEB 483	Limnology: Freshwater Ecology (3)
EEB 484	Limnology Laboratory (4)
EEB 492	Behavioral Ecology (4)
EEB 497	Community Ecology (3)
EEB 498	The Ecology of Agroecosystems (3)
EEB 595	Tropical Biology: An Ecological Approach (8)
EEB 681	Ecosystems of North America (5)
EEB 431 (UMBS)	Ecology of Animal Parasites (5)
EEB 474 (UMBS)	Wetlands Ecology (5)
EEB 482 (UMBS)	Limnology (5)
EEB 483 (UMBS)	Limnology: Freshwater Ecology (5)
EEB 492 (UMBS)	Behavioral Ecology (5)
EEB 583 (UMBS)	Field Problems in Plant Ecology (5)
EEB 585 (UMBS)	Ecology of Streams and Rivers (5)

3. *Population Dynamics*

NRE 425/Biology 496	Population Ecology (4)
NRE 460	Fishery Science (4)
EEB 480	Evolution and Ecology Inference (4)
EEB 481	Population Dynamics and Ecology (4)
EEB 490	Population and Quantitative Genetics (3)
EEB 495	Plant Ecology (3)

4. *Spatial Analysis*

NRE 420	Principles of GIS (4)
NRE 441	Remote Sensing of the Environment (4)
NRE 530	Geography: Spatial Analysis, Theory and Practice
NRE 540	GIS and Natural Resource Applications (2)
NRE 542	Optical Instruments and Measurements for Remote Sensing (3)
NRE 544	Geo-referenced Data Applications (2)
EECS 450	Radar Remote Sensing (3)