

NREM MEM Concentration Areas Course Listing

The following courses are approved for the four M.S. MEM Concentration Areas. Petitions for course additions or substitutions to a given concentration area will be considered on an ongoing basis (to be submitted to the NREM Curriculum Committee via a student's faculty advisor).

When planning your courses, remember: (i) you need 18 total credits, with 9 credits from your specialization concentration area and 3 credits from each of the other three concentration areas; (ii) 12 of the 18 total credits must be NREM classes; (iii) no more than 12 credits are allowed from 400-level classes; and (iv) you have to complete required prerequisites (identified in parentheses after each course) prior to enrolling in a course. Select courses are approved for two areas, they may only be counted once towards the total of 18 credits (i.e., no double dipping).

Applied Terrestrial Ecology (pre-requisites) ** = Currently not being offered

- **NREM 450 Wildlife Ecology & Management (BIOL 172 or consent)**
- **NREM 467: Natural Resources Conservation Planning (Could be counted if taken in Spring 2020)**
- **NREM 480 Applied Forest Ecology (NREM 301 and 380 or consent)**
- **NREM 491 Topics in NREM: Reptile and Amphibian Conservation and Management**
- **NREM 491 Topics in NREM: Terrestrial and Marine Mammal Management, Science and Regulation**
- **NREM 610 Advanced Methods in Wildlife Management & Conservation (Graduate standing or consent)**
- **NREM 680 Ecosystem Ecology (Advanced undergraduate coursework in ecology and soil science and graduate standing; or consent)**
- **NREM 682 Restoration Ecology (Advanced undergraduate ecology course and graduate standing, or consent)**
- **NREM/BOT/ZOOL 690 Conservation Biology (BIOL 375 and either ZOOL 480 or BOT 462; and either ZOOL 410, 439, 620, 623, BOT 453, 454, 456, or 492; or consent)**
- **NREM 691 Advanced Topics in NREM: Forest Nutrition and Biogeochemistry (Graduate standing or consent)**
- **NREM 691 Advanced Topics in NREM: Quantitative Ecosystem Carbon**
- **NREM 691 Advanced Topics in NREM: Sustainable Agroforestry**
- **NREM 691 Advanced Topics in NREM: Remote Sensing of Tropical Island Penology**
- **NREM 691 Advanced Topics in NREM: Conservation Biology and Modeling**
- **BOT 444/SUST 445 Ethnoecology and Conservation (BOT 440, and 350 or 453 or GEOG 330; or consent)**
- **BOT 454 Plant Community Ecology; (BOT 202 or Consent)**
- **BOT 456 Plant-Animal Interactions (BOT 201/201L or BIOL 265/265L)**
- **TPSS 481 Weed Science (TPSS 200 and CHEM 152, or consent)**
- **BOT 651 Invasion Biology (One of BOT 453, 456, MICR 485 OR ZOOL 439; and BOT 462 or BIOL 375; or consent)**
- **BOT 612 Advanced Problems (Plant-animal on Islands)**
- **BOT 661 Hawaiian Vascular Plants (BOT 461 or consent)**
- **TPSS 604 Advanced Soil Microbiology (TPSS 304 and MICR 351, or consent)**

- ZOO 439 Animal Ecology (BIOL 265 and MATH 205 or MATH 215 or MATH 241; or consent)
- **NREM 685 Landscape Ecology (Graduate standing or consent)

Environmental Policy & Economics (pre-requisites) ** = Currently not being offered

- **NREM 420 Community and Natural Resource Management (2 social science courses or consent)**
- **NREM/ECON/TPSS 429 Spreadsheet Modeling for Business and Economic Analysis (NREM 220 or ECON 130, and NREM 310 or ECON 321; or consent)**
- **NREM 491/HWST 458/BOT 458 Natural Resource Issues and Ethics in Hawai‘i (HWST 457/ BOT 457, HWST 107 and Junior standing; OR instructor consent)**
- **NREM 611 Resource and Environmental Policy (ECON 300 or ECON 301, or consent)**
- **NREM 620 Care and Collaborative Management of Natural Resources (Graduate standing or consent)**
- **NREM 637 Resource Economics (ECON 608 and ECON 629)**
- **NREM 658 Advanced Environmental Benefit-Cost Analysis (None)**
- **NREM 671 International Agricultural Systems (Consent)**
- **NREM 691 Advanced Topics in NREM: Environmental Benefit-Cost Analysis (Summer; Graduate standing or consent)**
- **NREM 691 Valuing Nature (Graduate standing or consent) (not offered until Spring 2018)**
- **NREM 691 Advanced Topics in NREM: Coastal and Marine Management Policy**
- **GEOG 413 Resource Management (Junior standing or higher)**
- **GEOG 621 Coastal Management and Planning (None)**
- **GEOG 622/PLAN 622 Environmental Impact Assessment (Graduate standing)**
- **GEOG/PLAN 637 Environment and Development (None)**
- **PLAN 620 Environmental Policies and Programs (PLAN 600 or concurrent or consent)**
- **PLAN 625 Climate, Energy & Food (PLAN 620 or concurrent or consent)**
- **PLAN 628 Urban Environmental Problems (PLAN 600 or consent)**
- **PLAN 640 Land Use Policies and Programs (PLAN 600 and 601 or consent)**
- **PLAN 671 Disaster Management: Understanding the Nature of Hazards (PLAN 670 or consent)**
- **** NREM 627 Applied Microeconomic Analysis (AREC 626 and ECON 627, or consent)**

Geospatial Analysis & Modeling (pre-requisites) ** = Currently not being offered

- **NREM 477 GIS for Resource Managers (Either NREM 310 or MATH 140 or MATH 373, and NREM 301; or consent)**
- **NREM 664 Small Watershed Modeling (CEE 424 or concurrent or GG 425 or concurrent or BS degree from NREM, or consent)**
- **NREM 677 Remote Sensing of the Environment (1 Physics course (e.g. PHYS 151), 1 calculus course (e.g. NREM 203), and 1 statistics course (e.g. NREM 310), or consent)**
- **NREM 640 Land System Science (Graduate standing or consent)**
- **NREM 691 Advanced Topics in NREM: Remote Sensing of Tropical Island Penology**
- GEOG 470 Remote Sensing (GEOG 370 or consent)
- GEOG 471 3D Mapping and Analysis
- GEOG 472 Field Mapping (Junior standing or higher, or consent)
- GEOG 489 Applied GIS (NREM 477 or an introductory course is recommended)
- PLAN 673 Info Systems for Disaster Management and Humanitarian Assistance (PLAN 670 or consent)
- PLAN 473 GIS for Community Planning (Junior standing or higher)
- TPSS/GEOG 680 Geospatial Analysis of Natural Resource Data (GEOG 388 or ZOOL 631; or consent)

Land & Water Resource Management (pre-requisites) ** = Currently not being offered

- **NREM460/TPSS 450 Sustainable Nutrient Management in Agroecosystems (NREM 304 and CHEM 161)**
- **NREM 467 Natural Resource Conservation Planning**
- **NREM 612 Predicting & Controlling Degradation in Human-Dominated Ecosystems (NREM 301 and 304 (or equivalent) and 600)**
- **NREM 631 Sustainable Agriculture Seminar**
- **NREM 640 Land System Science (Graduate standing or consent)**
- **NREM 662 Watershed Hydrology (NREM 203 or equivalent and 304 or equivalent; or consent)**
- **NREM 664 Small Watershed Modeling (CEE 424 or concurrent or GG 425 or concurrent or BS degree from NREM, or consent)**
- **NREM 665 Coastal and Wetland Ecology and Management**
- **NREM 691 Advanced Topics in NREM: Quantitative Ecosystem Carbon**
- **NREM 691 Advanced Topics in NREM: Fisheries Ecology**
- BOT/ZOOL 450 Natural History of Hawaiian Islands (1 semester of biological sciences)
- GEOG 405 Water and the Environment (Pre: 101 or 300 or 400 or 401 or 402 or MET 101 or MET 200 or MET 302 or MET 303 or MET 310, or consent. DP)
- GEOG 423 Human Dimensions of the Coastal Ocean (Junior standing or consent)
- GEOG 618 Human Environment Systems (Graduate standing or consent)
- HWST 455 Ola I Ka Wai; Water and Sovereignty in Hawai'i (HWST 307 and HAW 202 (or concurrent) or consent.)
- HWST 457/BOT 457 'Āina Mauiola: Hawaiian Ecosystems (HWST 107, BOT 105, and Junior standing; or consent)
- HWST 459/BOT 459/SUST459 Strategies in Hawaiian Resource Use (HWST 457 or BOT 457 (or concurrent), or consent)
- HWST 650 Hawaiian Geography and Resource Management (HWST 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent))
- LWEV 588 Legal Aspects of Water Resources and Control (None)
- OCN 457 Coastal Ecosystem Ecology (OCN 201, 201 Lab, and OCN 310)
- ZOOL 410 Corals and Coral Reefs (BIOL 265)
- HWST 651 'Āina Waiwai: Water, Food Sovereignty, & Circular Economies
- **NREM 463 Irrigation and Water Management (NREM 203 (or equivalent) and NREM 304 (or equivalent), or consent)
- **NREM 660 Hydrologic Processes in Soils (None)
- **NREM 461 Soil and Water Conservation (NREM 301 or 304)

Options for Research Method courses

- NREM 691 Introduction to R for Biologists (baseR)
- NREM 691 Principles of Modeling
- NREM 691 Conservation Biology and Modeling