NATURAL RESOURCES MANAGEMENT (NRM)

NRM F101  Natural Resources Conservation and Policy
3 Credits
Offered Fall
Conservation of natural resources including history, ecological and social foundations. Examines principles of sustained yield, carrying capacity, supply and demand, and world population growth as applied to agriculture, range, forest, wildlife, fisheries, recreation, minerals and energy management. A wide range of perspectives is presented to help students develop a personal philosophy toward natural resources. Prepare a multiple resource observation plan for an undeveloped area on campus. Optional all-day field trips take place the first two Saturdays of the semester.
Prerequisites: Placement in WRTG F111X.
Lecture + Lab + Other: 3 + 0 + 0

NRM F102  Practicum in Natural Resources Management
1-2 Credits
Practical experience in natural resources management. Supervised individual study on a farm, in a greenhouse, managed forest, agency or business, or another approved location.
Prerequisites: Natural Resource Management majors only and permission of instructor.
Lecture + Lab + Other: 1-2 + 0 + 0

NRM F106  Orientation to Natural Resource Management
1 Credit
Offered Spring
Overview of career opportunities in natural resources. Includes discussions with research faculty and upper class students involved in various aspects of resource management issues.
Lecture + Lab + Other: 1 + 0 + 0

NRM F111  Introduction to Sustainability Science
3 Credits
Offered Spring
Sustaining the health, wellbeing, and productivity of social-ecological systems requires integrated assessments of social, economic, and ecological sustainability challenges. Meeting these challenges often requires action plans that move from understanding theory to the implementation of new policies and facilitation of behavioral change. This course introduces the principles that form the basis of sustainability science, with an emphasis on natural resource management issues.
Prerequisite: NRM F101; placement in WRTG F111X.
Lecture + Lab + Other: 3 + 0 + 0

NRM F150  Plant Propagation I: Seeds and Seed Germination
1 Credit
Principles and practices of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. Course will cover methods of vegetative propagation including cuttings; layering; grafting; bulb, corm and tuber propagation; and micro propagation through tissue culture. Emphasis will be on Alaska native and economically useful plants.
Recommended: basic course in high school biology.
Lecture + Lab + Other: 1 + 0 + 0

NRM F152  Plant Propagation Practicum
1 Credit
Methods of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. The practicum will emphasize hands on applications of propagation methods for commercial, educational and research applications. Emphasis will include horticultural seed production, landscape seeding and restoration practices, intermittent mist propagation systems, spore propagation and commercial micro-propagation (tissue culture).
Prerequisites: NRM F150 and F151.
Lecture + Lab + Other: 0 + 0 + 3

NRM F154  Wild and Cultivated Berries of Alaska
1 Credit
Introduction to cultivated fruit crops and Alaska wild berries. Course includes plant biology, management of wild berry stands, field cultivation and uses of fruits including strawberries, blueberries, currants, gooseberries, cloudberries, raspberries and more.
Recommended: High school biology; or completion of master gardener program.
Lecture + Lab + Other: 1 + 0 + 0

NRM F161  Wilderness Leadership Education
3 Credits
Offered Summer As Demand Warrants
Introduction to outdoor education. Includes both theoretical and practical exposure to quality judgment and decision-making, environmental education techniques and leadership development in the wilderness setting. Provides detailed exposure to the Wilderness Education Association's 18 essential components of wilderness leadership and backcountry safety. The field portion of the course includes detailed instruction in and mentored experience with modern backcountry travel techniques. Successful completion earns certification in the Wilderness Stewardship Program. Field program requires travel through rough untrailed terrain with heavy packs and average strength and stamina. No use of alcohol, tobacco, illegal drugs or firearms.
Prerequisites: Permission of instructor.
Recommended: BIOL F104X, NRM F101 and physical geography.
Lecture + Lab + Other: 0.5 + 0 + 6

NRM F204  Public Lands Law and Policy
3 Credits
Offered As Demand Warrants
Background on selected federal lands management legislation and agency policies affecting resources conservation, development and preservation.
Prerequisites: Sophomore class standing.
Special Notes: Offered Fairbanks: Spring; Palmer: Even-numbered Years.
Lecture + Lab + Other: 3 + 0 + 0
NRM F210  Principles of Sustainable Agriculture  (a)  
3 Credits  
Offered Spring  
Development of a basic understanding of sustainable agriculture concepts including exposure to economic, social, and environments principles and ideas of sustainable agricultural practices. Agroecology is introduced as a backdrop for the development of sustainable techniques for soil, plant, and animal agriculture. Throughout the semester, sustainable agriculture concepts and principles will be related to current issues such as population growth, resource use and availability, and changing social structures and preferences.  
Prerequisites: NRM F101.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F211  Introduction to Applied Plant Science  
3 Credits  
Offered Fall  
Basic principles and requirements for plant growth and development with special attention to the production and management of field and greenhouse grown crops.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F220  Introduction to Animal Science  
3 Credits  
Offered Fall  
Introduction to the various disciplines that form the study of animal science. Topics include animal nutrition, physiology of reproduction and lactation, genetics and animal breeding, animal behavior, environmental physiology, animal health and welfare. Information is presented as it applies to traditional and non-traditional livestock species with emphasis on applications pertinent to Alaska.  
Prerequisites: NRM F210.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F240  Natural Resources Measurement and Inventory  
3 Credits  
Offered Fall  
Techniques and instrumentations used to measure and inventory natural resources, including land, timber, range, wildlife, water and recreation resources.  
Prerequisites: MATH F151X.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F251  Silvics and Dendrology  
4 Credits  
Offered Spring  
Ecological requirements and characteristics of tree species of the Northern forest and western North American forest. Silvical characteristics including range, climate, soils, shade tolerance, growth and principal enemies. Family and species characteristics for identification on sight or with a key. Field trips required.  
Prerequisites: BIOL F115X; BIOL F116X; NRM F375.  
Lecture + Lab + Other: 3 + 3 + 0

NRM F277  Introduction to Conservation Biology  
3 Credits  
Offered Spring  
Introduction to the basic ecological, genetic, management, legal and historical developments in conservation biology and focused efforts to manage biological diversity resources, with a status review of important habitats and endangered species.  
Prerequisites: BIOL F115X; BIOL F116X.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F290  Resource Management Issues at High Latitudes  
2 Credits  
Offered Fall Even-numbered Years  
Broad perspective of high latitude resource management issues. On-site analyses of resource management needs, opportunities and/or conflicts in agriculture, forestry, mining, seafood, petroleum, recreation and tourism. Includes 10 day field trip at the end of spring semester. Students must provide own sleeping gear, rain gear and hiking boots. Students must be able to hike forest trails and camp under conditions of inclement weather. May be repeated for credit with instructor’s permission.  
Prerequisite: Permission of instructor.  
Lecture + Lab + Other: 2 + 0 + 0

NRM F300  Internship in Natural Resources Management  
1-3 Credits  
Offered As Demand Warrants  
Supervised pre-professional experience in a business or agency (public or private). Open to students majoring or minoring in natural resources management only. Course may be repeated for credit up to a maximum of 6 credits.  
Prerequisites: NRM F101; junior standing with 3.0 GPA; permission of instructor; an approved internship plan.  
Lecture + Lab + Other: 0 + 0 + 3-10

NRM F300P  Internship in Natural Resources Management  
1-3 Credits  
Offered As Demand Warrants  
Supervised pre-professional experience in a business or agency (public or private). Open to students majoring or minoring in natural resources management only. Course may be repeated for credit up to a maximum of 6 credits.  
Prerequisites: NRM F101, junior standing, 3.0 GPA, permission of instructor, and an approved internship plan.  
Lecture + Lab + Other: 0 + 0 + 1-3

NRM F303X  Environmental Ethics and Actions  
3 Credits  
Offered Spring  
Exploration of the history of modern Western views of the relationship between people and nature, alternative foundations for an environmental ethic (utilitarianism, spiritual activity, rights-based and respect-based ethics) and practices of such ethics in business, profession and general lifestyle today.  
Prerequisites: Junior standing; placement in WRTG F111X.  
Attributes: UAF GER Ethics Req  
Lecture + Lab + Other: 3 + 0 + 0

NRM F312  Introduction to Range Management  
3 Credits  
Offered Fall Even-numbered Years  
Applied ecological treatment of soil, plant and grazing animal relationships on uncultivated lands. Origin of the discipline, management practices and important rangelands of North America; emphasis on Alaska’s rangelands and grazers.  
Prerequisites: BIOL F115X; BIOL F116X; BIOL F239.  
Lecture + Lab + Other: 3 + 0 + 0
NRM F313  Introduction to Plant Pathology  
4 Credits  
Offered Spring Odd-numbered Years  
Plant pathology; non-parasitic and parasitic causes of plant diseases; methods of plant infestation and mechanism of plant defenses; epidemiology and disease control.  
Prerequisites: BIOL F115X; BIOL F116X.  
Recommended: BIOL F239.  
Lecture + Lab + Other: 3 + 3 + 0

NRM F338  Introduction to Geographic Information Systems  
3 Credits  
Offered Fall  
Geographic data concepts including mapping systems, data sources, editing data, GIS analysis and computer mapping. Introduction to global positioning systems. GIS applications in natural resources management.  
Prerequisites: Knowledge of PCs or Unix workstations desirable.  
Cross-listed with GEOG F338.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F361  Advanced Wilderness Leadership Education  
3 Credits  
Offered Spring  
The natural environment, concentrating on outdoor leadership, environmental ethics, minimum impact camping, forest and Arctic natural history, and adaptable judgment and decision-making. Includes hiking through boreal forest and along tundra ridges, river crossing, glacier ascent, and skills to do these activities safely. Other mediums of travel could include sea kayaks, canoes or rock climbing. Three lecture sessions will preview a demanding educational field program of 5-15 days requires travel through rough un-trailed terrain with heavy packs or boats and average strength and stamina. No use of alcohol, tobacco, illegal drugs or firearms.  
Prerequisites: NRM F101; NRM F161.  
Lecture + Lab + Other: 0.5 + 0 + 6

NRM F365  Principles of Outdoor Recreation Management  
3 Credits  
Offered Fall Even-numbered Years  
Theories, practices, economics and problems fundamental to the use of land and related natural resources for recreation. The course focuses on human dimension related issues faced by recreation managers and research to address those issues.  
Prerequisites: NRM F101; STAT F200X; junior standing.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F366  Survey Research in Natural Resources Management  
3 Credits  
Offered Spring  
Research methods to support research and planning in recreation and human dimensions of natural resources management. Course topics include quantitative theories and concepts that have been applied to study human dimensions of natural resource management, survey design, survey development and administration, sampling and data analysis.  
Prerequisites: NRM F101; STAT F200X.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F369  GIS and Remote Sensing for Natural Resources  
3 Credits  
Offered Spring Even-numbered Years  
Introduces the principles and terminology of natural resources, ecosystem management and landscape ecology while developing analytical skills using spatial technologies consisting of geographic information systems, remote sensing, and global positioning systems.  
Prerequisites: NRM F338.  
Recommended: NRM F312.  
Lecture + Lab + Other: 1.5 + 1.5 + 0

NRM F370  Introduction to Watershed Management  
3 Credits  
Offered Fall  
The hydrologic cycle and the influence of land management techniques on water quantity, quality and timing. Water yield, soil erosion and non-point pollution, snowpack management, and land use alternatives.  
Prerequisites: NRM F101.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F375  Natural Resource Ecology  
3 Credits  
Offered Spring  
Basic ecology concepts, including physical (wind, temperature, water, etc.), biotic (population and community dynamics), genetic successional and landscape dynamics will be covered. Basic physiological characteristics of trees, succession, vegetation classification, and related concepts. Stand structure, diversity, competition, growth, forest-soil interactions, biomass, nutrient distribution and dynamics, energy relations, ecology of disturbances. Incorporation of these ecological principles into management plans.  
Prerequisites: NRM F240.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F380  Soils and the Environment (W)  
3 Credits  
Offered Fall  
Soil development and classification; physical and chemical properties; biological activity; water movement and nutrient cycling in natural and manipulated ecosystems.  
Prerequisites: CHEM F105X; WRTG F211X, WRTG F212X, WRTG F213X or WRTG F214X.  
Lecture + Lab + Other: 2 + 3 + 0

NRM F403  Environmental Decision-Making (O, W)  
3 Credits  
Offered Fall  
Analysis of philosophical/ethical, economic, scientific and political foundations of diverse natural resource management perspectives.  
Prerequisites: COJO F131X or COJO F141X; NRM F101; junior standing.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F407  Environmental Law  
3 Credits  
Offered Spring Odd-numbered Years  
The role of common law theory in regulatory, statutory and constitutional interpretation in the field of environmental protection, including air and water pollution, toxic/hazardous substances and land-use regulation.  
Prerequisites: Junior or senior class standing.  
Lecture + Lab + Other: 3 + 0 + 0
### Natural Resources Management (NRM)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Offered</th>
<th>Prerequisites</th>
<th>Lecture + Lab + Other:</th>
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<tr>
<td>NRM F410</td>
<td>Numerical Methods for Natural Resources Management</td>
<td>4</td>
<td>Fall</td>
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<tr>
<td>NRM F430</td>
<td>Resource Management Planning</td>
<td>3</td>
<td>Spring</td>
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<td>NRM F435</td>
<td>GIS Analysis</td>
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<td>NRM F440</td>
<td>Silviculture</td>
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<td>NRM F450</td>
<td>Forest Management</td>
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<td>NRM F452</td>
<td>Forest Health and Protection</td>
<td>3</td>
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<td>NRM F453</td>
<td>Harvesting and Utilization of Forest Products</td>
<td>3</td>
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<td>NRM F454</td>
<td>Comparative Farming and Sustainable Food Systems</td>
<td>3</td>
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<td>NRM F460</td>
<td>Interpretive Services</td>
<td>3</td>
<td>As Demand Warrants</td>
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<td>NRM F464</td>
<td>Wilderness Management</td>
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<td>NRM F466</td>
<td>Environmental Soil Chemistry</td>
<td>3</td>
<td>Spring</td>
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<td>NRM F470</td>
<td>Terrestrial Carbon Management</td>
<td>3</td>
<td>Lecture + Lab + Other</td>
<td>BIOL F371 or NRM F375.</td>
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<td>NRM F480</td>
<td>Soil Management for Quality and Conservation</td>
<td>3</td>
<td>Lecture + Lab + Other</td>
<td>Cross-listed with NRM F489. RAP-NRM F480.</td>
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<td>NRM F484</td>
<td>Senior Thesis in Natural Resources Management</td>
<td>(W)</td>
<td>Lecture + Lab + Other</td>
<td>NRM F380.</td>
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<td>NRM F485</td>
<td>Soil Biology</td>
<td>(n)</td>
<td>Lecture + Lab + Other</td>
<td>GEOG F483 and permission of instructor.</td>
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<td>NRM F488</td>
<td>Land Management of Ecosystems</td>
<td>(a)</td>
<td>Lecture + Lab + Other</td>
<td>Cross-listed with BIOL F468.</td>
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<td>NRM F489</td>
<td>Alaska Soil Geography Field Trip</td>
<td>(a)</td>
<td>Lecture + Lab + Other</td>
<td>Cross-listed with BIOL F468.</td>
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<td>NRM F613</td>
<td>Resilience Internship</td>
<td>2</td>
<td>Lecture + Lab + Other</td>
<td>NRM F480, or a course in soils.</td>
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<td>NRM F616</td>
<td>Ecological Background for Resilience and Adaptation</td>
<td>(a)</td>
<td>Lecture + Lab + Other</td>
<td>Cross-listed with BIOL F461.</td>
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**Prerequisites:**
NRM F480: BIOL F371 or NRM F375
NRM F485: GEOG F483 and permission of instructor.
NRM F488: NRM F211; NRM F277; NRM F375 or BIOL F371.
NRM F489: NRM F380, or a course in soils.
NRM F613: ANTH F617; BIOL F613; ECON F613.
NRM F616: ANTH F667, BIOL F667, ECON F667 or NRM F667; ANTH F668, BIOL F668, ECON F668 or NRM F668.
NRM F616: Graduate standing.
NRM F613: Graduate standing.
NRM F488: Graduate standing.
NRM F616: Graduate standing.

**Notes:**
- (n): offered as needed
- (W): offered as warranted
- (a): offered as approved
- (a): offered as approved
- (a): offered as approved

**Description:**
- Terrestrial Carbon Management: Climate change and its relationship to carbon dynamics have become elements of natural resource management options for landowners within the state and across the country and the globe. Offered Spring.
- Soil Management for Quality and Conservation: Managing soil in disturbed and natural ecosystems to reduce soil losses and maintain or improve soil quality. Offered Odd-numbered Years.
- Senior Thesis in Natural Resources Management: Problem-solving with emphasis on writing and analysis. Individual project under the guidance of faculty sponsor involving formulation of a question in natural resources management and preparation of a formal, comprehensive written report. Final thesis and presentation. Offered Fall Even-numbered Years.
- Soil Biology: Major groups of organisms in the soil and their interrelationships; the major biological processes which take place in the soil and their significance to soil productivity, plant growth and environmental quality; and methodology for studying soil organisms and soil biological processes. Offered Fall Even-numbered Years.
- Land Management of Ecosystems: Natural resource topics related to the management of the terrestrial environment in regions such as the Pacific Northwest, Hawaii and the circumpolar North. A basic understanding of the ecology of a specific region is presented prior to a spring break field trip designed to give the student a broad understanding of important topics affecting the management of important natural resources in the selected region. Offered Spring As Demand Warrants.
- Alaska Soil Geography Field Trip: Hands-on experiences with soil morphology and exploration of the relationships between soil genesis and other ecological factors including vegetation, geology, landform, climate and hydrology. Includes discussion of soil classification and land use interpretations. Students must provide their own camp gear, be able to walk on uneven or rocky ground and be physically fit for field work. Offered Summer; As Demand Warrants.
- Resilience Internship: Students of the Resilience and Adaptation Program participate in internships to broaden their interdisciplinary training, develop new research tools and build expertise outside their home disciplines. Internships are for eight to ten weeks of full time commitment and take place during the student’s first summer in the program. In autumn students meet to discuss their internship experiences and make public presentations. Offered As Demand Warrants.
- Ecological Background for Resilience and Adaptation: Provides the ecological background that is necessary for understanding the role of ecology in complex systems involving interactions among biological, economic, and social processes. Designed for incoming students of the Resilience and Adaptation Program (RAP), who have not received training in ecology. Offered Fall.
NRM F630  Resource Management Planning
3 Credits
Offered Spring
Application of planning and conflict resolution principles to natural resources management. Examines plans prepared in response to current Alaska resource disputes, including wolf, brown bear, boreal forest and recreation river plans. Includes public involvement, consensus building, the basic steps in the planning process and resource dispute simulations. Review resource management plans and develop plans for a local resource management issue.
Prerequisites: Graduate standing.
Lecture + Lab + Other: 3 + 0 + 0

NRM F637  Evolution of Conservation Concepts and Policy
3 Credits
Offered As Demand Warrants
Resource policy issues development and implementation including forestry, mining, fisheries, oil, wildlife and other topics as demand warrants. Focus on policy issues involved in management of Alaska’s resources.
Prerequisites: Graduate standing.
Cross-listed with NRM F430.
Lecture + Lab + Other: 3 + 0 + 0

NRM F638  GIS Programming
3 Credits
Offered Spring Odd-numbered Years
GIS programming for ArcView, Arc/Info and ArcGIS. Programming techniques for customizing GIS, efficient batch processing, and development of custom tools for GIS display and analysis.
Prerequisites: NRM F338.
Lecture + Lab + Other: 3 + 0 + 0

NRM F639  Advanced Outdoor Recreation
3 Credits
Offered Spring Even-numbered Years
Evaluation of contemporary outdoor recreation management models and the linkage between management programming and visitor response. Development of a synthesized model and testing with contemporary problems.
Prerequisites: Graduate standing.
Lecture + Lab + Other: 3 + 0 + 0
NRM F666  Survey Research in Human Dimensions of Natural Resources  
3 Credits  
Offered Fall Even-Numbered Years  
Social science concepts applied to survey-based human dimensions research. Survey research methods including operationalizing research questions into measurable variables, designing survey instruments, assessing reliability and validity, sampling and data analysis.  
Prerequisites: Graduate standing.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F667  Resilience Seminar I  
1 Credit  
Offered As Demand Warrants  
Provides a forum for new students of the Resilience and Adaptation graduate program to explore issues of interdisciplinary research that are relevant to sustainability. A considerable portion of the seminar is student-directed, with students assuming leadership in planning seminar activities with the instructor.  
Prerequisites: Enrolled in Resilience and Adaptation Graduate Program.  
Recommended: ANTH F647, BIOL F647, ECON F647 or NRM F647 (taken concurrently).  
Cross-listed with ANTH F667; BIOL F667; ECON F667.  
Lecture + Lab + Other: 2 + 0 + 0

NRM F668  Resilience Seminar II  
1 Credit  
Offered As Demand Warrants  
Provides a forum for new students of the Resilience and Adaptation graduate program to explore issues of interdisciplinary research relevant to sustainability. The seminar provides support to each student planning their summer internship and preparing and presenting a thesis research prospectus.  
Prerequisites: ANTH F647, BIOL F647, ECON F647 or NRM F647; ANTH F667, BIOL F667, ECON F667 or NRM F667.  
Cross-listed with ANTH F668; BIOL F668; ECON F668.  
Lecture + Lab + Other: 2 + 0 + 0

NRM F670  Biometeorology  
3 Credits  
Offered Fall Odd-numbered Years  
Radiation and energy balance relationships for natural and modified surfaces; physical environment in relation to biology and ecology of plants and animals; implications for resource and environmental management.  
Prerequisites: Biological or physical science background; graduate standing.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F672  Nutrient Cycling  
3 Credits  
Offered Spring Odd-numbered Years  
Examination of physical, chemical and biological processes controlling nutrient element recycling, availability and retention in natural and managed ecosystems.  
Prerequisites: CHEM F106X, NRM F375 or BIOL F371; NRM F380.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F675  Theoretical Forest Ecosystem Science  
3 Credits  
Offered Spring Even-numbered Years  
Theoretical concepts of forest ecosystem dynamics including theoretical developments in the description of plant growth, ecosystem productivity, decomposition and plant carbon allocation. Development of a model using the basic theoretical constructs.  
Prerequisites: Undergraduate major in biological sciences or renewable resources including at least one course in ecology, one approved college-level mathematics course and graduate standing.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F685  Soil Microbiology and Biochemistry  
3 Credits  
Offered As Demand Warrants  
Current topics in soil microbiology and biochemistry. Based on readings from the primary literature and discussions in class. Each student will be expected to lead at least one discussion, write a research proposal and present the proposal to class.  
Prerequisites: At least one course in soil science; one course in microbiology.  
Lecture + Lab + Other: 3 + 0 + 0

NRM F688  Land Management of Ecosystems  
3 Credits  
Offered Spring As Demand Warrants  
Natural resource topics related to the management of the terrestrial environment in regions such as the Pacific Northwest, Hawaii and the circumpolar North. A basic understanding of the ecology of a specific region is presented prior to a spring break field trip designed to give the student a broad understanding of important topics affecting the management of important natural resources in the selected region.  
Prerequisites: NRM F211; NRM F277; NRM F375 or BIOL F371.  
Stacked with NRM F488.  
Lecture + Lab + Other: 3 + 0 + 40

NRM F689  Alaska Soil Geography Field Trip  
1 Credit  
Offered Summer As Demand Warrants  
Soil geography along an ecological transect in selected areas of Alaska. Hands-on experiences with soil morphology and exploration of the relationships between soil genesis and other ecological factors including vegetation, geology, landform, climate and hydrology. Includes discussion of soil classification and land use interpretations. Students must provide their own camp gear, be able to walk on uneven or rocky ground and be physically fit for field work.  
Prerequisites: NRM F380, or a course in soils.  
Stacked with NRM F489.  
Lecture + Lab + Other: 1 + 0 + 0

NRM F692  Graduate Seminar  
1-3 Credits  
Topics in natural resources management and geography explored through readings, student presentations, group discussions and guest speakers.  
Prerequisites: Graduate standing.  
Cross-listed with GEOG F692.  
Lecture + Lab + Other: 1-3 + 0 + 0

NRM F698  Non-thesis Research/Project  
1-9 Credits  
Lecture + Lab + Other: 0 + 0 + 0
NRM F699 Thesis
1-12 Credits
Lecture + Lab + Other: 0 + 0 + 0

NRM F699A Thesis
1-12 Credits
Lecture + Lab + Other: 1-12 + 0 + 0

NRM F699B Thesis
1-12 Credits
Lecture + Lab + Other: 1-12 + 0 + 0

NRM F699C Thesis
1-12 Credits
Lecture + Lab + Other: 1-12 + 0 + 0