



Paul Smith's College
THE COLLEGE OF THE ADIRONDACKS

**2006-2007:
Programs and Course Descriptions**

This material is reflective of the 2006-2007 College Catalog. This packet is meant as a guide to Paul Smith's College programs and course descriptions. This material may change to reflect information developed between July and the publication date of the Paul Smith's College Catalog. Please refer to the official College Catalog for definitive information.

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FORESTRY, NATURAL RESOURCES AND RECREATION

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The Forestry, Natural Resources and Recreation Division offers four baccalaureate programs (BS): **Fisheries and Wildlife Sciences; Forestry; Natural Resources; and Recreation, Adventure Travel and Ecotourism;** six associate-degree programs: **Forest Recreation, Forest Technician, Outdoor Recreation, Pre-Professional Forestry, Surveying Technology, and Urban Tree Management** and one certificate program: **Geographic Information Systems.**

The location of Paul Smith's College offers an exceptional opportunity for practical, "hands-on" education in forestry, natural resources, recreation and surveying. The College is located in the midst of its own 14,200 acres of forests and lakes, which in turn is located within the north-central portion of the six-million-acre Adirondack Park. Our forest lands are actively managed and our management practices are certified by both the Forest Stewardship Council and the Sustainable Forestry Initiative. Nearby are numerous sites of value for the Division's programs, such as the High Peaks Wilderness Area, the St. Regis Canoe Area, the recreational and competitive sports facilities of Lake Placid, and a wide variety of other recreation, timber production, and fish and game management areas.

Complementing the natural laboratory offered by our location is the wide variety of forestry, natural resources, recreation and surveying facilities and equipment. These include state-of-the-art geographic information systems, global positioning systems and surveying equipment; wildlife and fisheries equipment; a sawmill and dry kiln; logging equipment; a wide range of hand and power tools; camping, canoeing, and other recreational equipment; small-engine repair and welding shops; a high-tech maple sugaring operation; and draft horses.

Summer Sessions and Externships

Students in the Forest Recreation, Forest Technician, Outdoor Recreation, and Surveying Technology programs must attend an academic summer session, generally between their first and second year. The length of the summer session varies by program, ranging from five weeks (Surveying Technology and Outdoor Recreation) to eight weeks (Forest Recreation and Forest Technician). Several programs require externships, including Recreation, Adventure Travel and Ecotourism, Outdoor Recreation, Surveying, and Urban Tree Management. Optional externships and/or summer sessions are offered for the Forestry (B.S.) and Fisheries and Wildlife Sciences Programs.

Equipment Requirements and Use

Instruction takes place in the field throughout the academic year, so appropriate field clothing is a necessity. Cold-weather clothing, rain gear, and sturdy work clothes are recommended. Students in some programs are required to purchase steel-toed boots and a hard hat with eye and ear protection. Other equipment may be required on a program-specific basis. Students are reminded that many academic courses require the use of sophisticated and/or expensive instruments and tools. A student assumes responsibility when using this equipment and will be charged for any repairs or replacement necessitated by negligence or misuse.

Safety

Paul Smith's College maintains an excellent safety record. Students are taught that safety comes first, and are required to adhere to all safety guidelines.

Our Educational Approach

The Forestry, Natural Resources and Recreation Division is proud of its hands-on approach and the very practical skills our students develop, but it is important to note that we are much more than a vocational school. In today's world, the management of natural resources is becoming increasingly complex and, to be successful, a wide range of skills is needed. The sound academic training that Paul Smith's students receive also contributes to their success after graduation. No matter what Forestry, Natural Resources and Recreation Division program students pursue, they will also gain competence in communication skills, science, mathematics, social sciences, and humanities.

Fisheries and Wildlife Sciences, B.S.

The Fisheries and Wildlife Sciences B.S. program at Paul Smith's College, with concentrations in Fisheries Sciences and Wildlife Sciences, offers students the education needed for entry-level positions in state and federal agencies, non-profit organizations, and private consulting firms and prepares students for graduate education. Program content is based upon emerging issues in natural resource management and on certification requirements of professional organizations such as the American Fisheries Society and The Wildlife Society. Program activities are coordinated with the Adirondack Watershed Institute, a research and outreach organization based at Paul Smith's College. Building on the general education core of the College, this degree includes both a set of program core requirements and core electives (48 credits), and completion of an 18- to 21-credit concentration within either Fisheries or Wildlife Sciences. A minimum of 60 credits are liberal arts and sciences courses; at least 45 credits of the minimum 120 approved credits required are in the upper-division. The degree is offered within a standard eight-semester sequence, providing opportunities for summer employment, internships or additional studies.

Core Requirements – 48 credits

BIO 210	GENERAL ECOLOGY	FWS 101	INTRODUCTION TO FISH & WILDLIFE MANAGEMENT NATURAL HISTORY OF NORTH AMERICAN VERTEBRATES
BIO 325	GENETICS	FWS 370	WATERSHED MGT
CHM 141	CHEMISTRY I	NRS 340	LANDSCAPE ECOLOGY
CHM 142	CHEMISTRY II	NRS 432	PHYSICS I OR
CHM 241	ORGANIC CHEMISTRY I	PHY 241 or PHY 141	TECHNICAL PHYSICS CAPSTONE PLANNING OR CAPSTONE GROUP PLANNING
COM 101	SPEECH		CAPSTONE PROJECT OR CAPSTONE GROUP PROJECT
COM 210	TECHNICAL COMMUNICATION		
FOR 330	FOREST SOILS		

General Education and General Electives including:

ENG 101: GE-English Composition I	ENC 101: Microeconomics	GE-Human Condition-Structural
GE-Communications-Structural	OR	GE-Human Condition-Structural
GE-Quantitative-Foundation	ECN 102: Macroeconomics	GE-Quantitative-Structural
MAT 210: Statistics	GE: Social Cultural-Foundation	GE-Social Cultural-Structural
BIO 101: Biology I	HUM 100: GE: Art of Being Human	
BIO 102: Biology II		

Concentration Core Courses:

Fisheries Science Concentration Core : 18 credits

BIO 457: Aquatic Invertebrates	FWS 480: Fisheries Biology and Management	ENV 361: Limnology
BIO 362: Ichthyology	FWS 331: Fisheries Techniques	ENV 471: Stream Ecology and Management

Wildlife Sciences Concentration Core : 23 credits

BIO 204: Plant Biology	BIO 364: Ornithology	ENV 473: Wetlands Ecosystems and Management
ENV 330: Conservation Biology	FWS 320: Techniques in Wildlife Management	FWS 470: Wildlife Management
BIO 363: Mammalogy		

In addition to completing the respective concentration *core* courses, students will complete a Program Director- and/or Division Dean-approved sequence of elective courses within their selected core, choosing as follows:

Fisheries Sciences Concentration Electives:

Biological Sciences Cluster

(choose 2 courses)
Advanced Conservation Science
Aquatic Plants
Conservation Biology
Evolution
Forest Ecology
Mammalogy
Microbial Ecology
Ornithology
Paleoecology
Physiological Ecology
Tropical Ecology
Wetlands Ecosystems and
Management
Winter Ecology

Communications Cluster

(choose one course)
Dispute Management
Mass Media
Human Dimensions Cluster
(choose two courses)
Env Impact Assessment
Environmental Law/
Regulatory Processes
Ethics
Land Use Planning
Politics of the
Environment Resource
Economics
Sustainable Development

Wildlife Sciences Concentration Electives:

Biological Sciences Cluster

(choose 2 courses)
Advanced Conservation Science
Aquatic Plants
Conservation Biology
Evolution
Forest Ecology
Mammalogy
Microbial Ecology
Ornithology
Paleoecology
Physiological Ecology
Tropical Ecology
Winter Ecology

Botany Cluster

(choose one course)
Aquatic Plants
Plant Ecology and Systematics
Plant Physiology
Understory and Ground Cover
Policy, Administration and Law Cluster
(choose one course)
Env Impact Assessment
Environmental Law/
Regulatory Processes
Land Use Planning
Politics of the Environment
Resource Economics
Sustainable Development

Forestry, B.S.

The Forestry Bachelor's degree builds on the long tradition of technical forestry instruction at Paul Smith's College. The strength of the program is the foundation of technical, field-based, and hands-on instruction that is available to students. Although it is not required, students in the Forestry Bachelor's program may also acquire one of our two-year technical degrees as well, along with all the practical training provided in those programs.

There are five concentrations available within the Forestry Bachelor's degree program. Ecological Forest Management is the most general of these and will prepare students for positions with government forestry agencies, forestry consulting firms, and non-governmental organizations. The Industrial Forestry Operations concentration is best-suited for students interested in working for forest products companies or running their own forest products firm. Vegetation Management is an excellent concentration for students with an interest in working in urban forestry, for tree care companies, for utility companies, and for resorts and other employers that manage grounds and landscapes. Forest Biology, a science-based concentration, is ideal for a student who plans to go on to graduate school and specialize in a field such as forest ecology or forest entomology. Recreation Resource Management students will be well prepared for employment by government park agencies or to work as recreation specialists with large forest products companies or other large landowners.

Each graduate of this program will have completed a rigorous core curriculum that includes forestry and related courses. The student will also have acquired the solid foundation in liberal arts and sciences, as well as in communications skills, necessary to be an effective professional and a responsible citizen.

Minimum 120 credits for B.S. degree with a minimum of 36 credits of 300/400 level courses and 60 credits of liberal arts and science credits.

General Education and General Electives: 35-40 credits depending on concentration

ENG 101: GE-English Composition I	MAT 210: Statistics	GE-Social Cultural-Foundation
GE-Communication-Structural	BIO 101: Biology I	GE-Social Cultural-Structural
GE-Quantitative-Foundation	BIO 102: Biology II	GE-Quantitative-Structural
GE-Quantitative-Foundation	HUM 100: GE-Art of Being Human	GE-Scientific Reasoning

Forestry, B.S. Concentrations

Ecological Forest Management

Concentration Requirements:

Insects and Diseases of Trees *or* Forest Health
 Forest Soils
 Introduction to GIS
 Principles of Surveying
 New Paradigms in Forestry
 Forest Resource Economics
 Forest Management
 Advanced Silviculture
Methods Cluster (choose 2)*:
 Recreation Resource Management
 Advanced GIS Techniques *or* GIS Applications
 Dispute Management
 Land Use Planning
 Biometrics
 Environmental Simulation Modeling
 Computer Applications in Science
 Risk Management and Liability
 Forestry Externship
Ecology Cluster (choose 1)*:
 Ecology
 Conservation Biology
 Landscape Ecology
 Understory and Ground Cover Flora
 Watershed Management
 Wetland Ecosystems & Management
 Advanced Conservation Science

Industrial Forestry Operations

Concentration Requirements:

Sawmill Lecture
 Principles of Surveying
 New Paradigms in Forestry
 Forest Resource Economics
 Forest Management
 Industrial Forestry Operations
 Forest Products
Business Cluster (choose 2)*:
 Financial Accounting
 Managerial Accounting
 Business Law
 Entrepreneurship
 Finance
 Human Resource Management
 Introduction to Marketing and Sales
 Strategic Planning and Policy
 Principles of Management
 The Family Business
 The Global Market
 Risk Management and Liability
Resource Management Cluster (choose 2)*:
 Introduction to GIS
 Recreation Resource Management
 Lumber Manufacturing and Kiln Drying
 Land Use Planning
 Dispute Management
 Landscape Ecology
 Environmental Law & Regulatory Process
 Advanced Silviculture
 Sustainable Development
 Watershed Management
 Forestry Externship

Vegetation Management

Concentration Requirements:

Insects and Diseases of Trees
 Landscape Fundamentals and Interpretation
 Arboriculture I
 Arboriculture II
 Forest Soils
 Introduction to GIS
 Plant Physiology
 Urban Forestry Issues
 Utility Vegetation Management
Business Cluster (choose 2)*:
 Financial Accounting
 Managerial Accounting
 Business Law
 Entrepreneurship
 Finance
 Human Resource Management
 Introduction to Marketing and Sales
 Strategic Planning and Policy
 Principles of Management
 The Family Business
 The Global Market
 Risk Management and Liability
Vegetation Management Cluster (choose 2)*:
 Advanced GIS Techniques 335 *or* GIS Applications
 Ornamental Dendrology
 Understory and Ground Cover Flora
 Plant Ecology and Systematics
 Forest Pest Management
 Landscape Ecology
 Forestry Externship

** Other courses may be allowed to substitute for those listed, with permission of the Dean of the Division.*

Forestry, B.S. Concentrations continued

Forest Biology Concentration

Concentration Requirements:

Insects and Diseases of Trees *or* Forest Health
Forest Soils
Ecology
Conservation Biology
Organic Chemistry *or* Physics
Genetics

Methods Cluster (choose 2)*:

Introduction to GIS
Biometrics
Instrumentation
Environmental Simulation Modeling
Computer Applications in Science
Forestry Externship

Biological Sciences Cluster (choose 3)*:

Plant Biology
Field Ecology *or* Natural Habitat Interpretation
Limnology
Tropical Ecology
Landscape Ecology
Plant Physiology
Physiological Ecology
Entomology
Winter Ecology
Plant Ecology & Systematics
Understory and Ground Cover Flora
Wetland Ecosystems and Management
Paleoecology

Recreation Resource Management

Concentration Requirements:

Introduction to Recreation
Recreation Resource Management *or* Forest
Recreation and Environmental Problems
Design & Admin. of Recreational Facilities
Introduction to GIS
Park Management
Forest Resource Economics *or* Resource
Economics

Recreation Cluster (choose 2)*:

Outdoor Recreation Leadership
Recreation Program Planning
Recreation Leadership and Maintenance
Winter Recreation
Expedition Planning
Facilities Management
Adventure Travel and Ecotourism
Visitor Management Services
Eco-Adventure Practicum
Grant Writing

Resource Management Cluster (choose 2)*:

Advanced GIS Techniques *or* GIS Applications
Arboriculture
Environmental Resource Analysis
Interpreting the Environment
Land Use Planning
Dispute Management
New Paradigms in Forestry
Environmental Law & Regulatory Process
Risk Management and Liability
Wilderness Management
Sustainable Development
Forestry Externship
Solid Waste Management

** Other courses may be allowed to substitute for those listed, with permission of the Dean of the Division.*

Natural Resources Management and Policy, B.S.

Few things are more important to human societies than the wise and sustainable management of natural resources, upon which they all depend. As human populations continue to grow in size and affluence, the pressure to use natural resources will only continue to increase, as will the number of conflicts surrounding their use. To be effective in dealing with these challenges, natural resource managers of the 21st century will require a sound understanding of the sciences that apply to natural resources, an understanding of how decisions regarding their use are made, and excellent communication skills.

The Natural Resource Management and Policy program prepares students for the challenges ahead with an approach based on a blend of the natural and environmental sciences, technical training in natural resource management-related subjects, and a solid foundation of the liberal arts. Included in this blend are numerous opportunities to take highly experiential or “hands-on” courses that will have students out in the forests, on the lakes, or in the wetlands that surround the campus. Graduates of this program are well prepared for positions with local, state and federal agencies involved in natural resource management or environmental consulting firms and non-profit environmental organizations.

General Education Electives and General Electives

ENG 101: English Composition I	CHM 141: Chemistry I	GE-Quantitative Structural
GE-Communication Structural	HUM 270: Ethics	GE-Communication Structural
BIO 101: Biology I	GE-Human Condition Structural	GE-Social Cultural Foundation
BIO 102: Biology II	GE-Scientific Reasoning Structural	GE-Social Cultural Structural
HUM 100: Art of Being Human	GE-Quantitative Foundation	GE-Social Cultural Structural
BIO 210: General Ecology	GE-Quantitative Structural	

Core Requirements 23 Credits

NRS 340: Watershed Management	ENV 455: Sustainable Development	SOC 462: Capstone Project or
ENV 315: Env Law & Regulatory Process	SOC 461: Capstone Project Planning Seminar	SOC 464: Capstone Group Project
HUM 400: Nature and Art	or SOC 463: Capstone Project Group	ECN 410: Resource Economics
ENV 420: Environmental Impact Assessment	Planning Seminar	

Experiential Electives 6 Credits: choose 2 courses from the following list

SOC 115: Adirondack Expedition	FOR 120: Insect and Diseases of Trees	PHY 241: Physics I
FOR 140: Arboriculture I	GIS 201: Introduction to GIS	PHY 242: Physics II
FOR 250: Arboriculture II	FOR 101: Introduction to Forestry	SRV 245: Principles of Surveying
FOR 110: Dendrology	REC 101: Introduction to Recreation	REC 250: Recreation Leadership and Maintenance
CHM 310: Environmental Chemistry	SRV 101: Introduction to Surveying	FOR 150: Sawmill Lecture
FWS 331: Fisheries Techniques	ENV 361: Limnology	FOR 260: Silviculture
FOR 335: Forest History	FOR 220: Lumber Manufacturing and Kiln Drying	SRV 240: Surveying II
FOR 245: Forest Measurements	FOR 275: Maple Syrup and Sap Production	FOR 235: Timber Harvesting
FOR 330: Forest Soils	ENV 222: Natural Habitat Interpretation	REC 280: Winter Recreation
REC 132: Interpreting the Environment	REC 120: Outdoor Recreation Leadership	

Concentration Requirements 12 Credits—must be 300/400 level choose 4 courses in one of the Areas of Knowledge below

Distributive Areas of Knowledge Courses 12 Credits—choose 4 courses, one each from an Area of Knowledge other than the concentration area (preferably at the 300/400 level)

Environmental Science

ENV 450: Advanced Conservation Science	FOR 335: Forest History	BIO 355: Plant Physiology
ENV 330: Conservation Biology	BIO 363: Mammalogy	FWS 320: Techniques in Wildlife Management
BIO 361: Entomology	BIO 371: Microbial Ecology	FOR 380: Understory and Ground Cover Flora
CHM 310: Environmental Chemistry	BIO 364: Ornithology	ENV 473: Wetlands Ecosystems & Management
FWS 331: Fisheries Techniques	BIO 472: Paleoecology	BIO 476: Winter Ecology
FOR 310: Forest Ecology	BIO 204: Plant Biology	

Monitoring and Evaluation

GIS 335: Advanced GIS Techniques	FWS 331: Fisheries Techniques	BIO 371: Microbial Ecology
BIO 430: Biometrics	CHM 430: Instrumentation	ECN 410: Resource Economics
CHM 310: Environmental Chemistry	GIS 201: Introduction to GIS	ENV 473: Wetlands Ecosystems & Management
ENV 431: Environmental Simulation Modeling		

Liberal Studies

SOC 400: American Labor Movement	SOC 300: Cultural Anthropology	SOC 310: Mobility in Modern Society
ENG 340: Contemporary Environmental Writers	GEO 400: Geography of World Cultures	HUM 300: Philosophy of Nature
POL 300: Contemporary Political Systems		

Public Participation/Communications

GIS 335: Advanced GIS Techniques	ENG 340: Contemporary Environmental Writers	ENG 400: Writing on Nature and the Environment
COM 300: Dispute Management		

Management & Policy

ENV 450: Advanced Conservation Science	NRS 331: Land Use Planning	FWS 320: Techniques in Wildlife Management
COM 300: Dispute Management	FOR 350: New Paradigms in Forestry	ENV 473: Wetlands Ecosystems & Management
FWS 380: Fisheries Management	ECN 410: Resource Economics	NRS 335: Wilderness Management

Recreation, Adventure Travel and Ecotourism, B.S.

The Bachelor of Science (B.S.) Degree in Recreation, Adventure Travel and Ecotourism (RATE) prepares leaders for professional positions in the field of participatory nature-based tourism. The RATE program seeks to develop students who can plan, conduct and assess ecologically- and economically-sustainable outdoor pursuits programs within public or private settings committed to global sustainability. Within RATE coursework students will develop critical thinking, management, organization, problem solving, decision making, communication, collaboration and leadership skills that will be transferable to any professional context. The RATE program addresses wholesome recreation that supports and improves the health of local and global ecosystems, economies and human cultures.

Students in RATE will have exposure to all of the following knowledge areas: 1) Principles of Sustainability, Recreation, and Nature, 2) Cultural and Global Relationships, 3) Management and Administration, and 4) Outdoor Pursuits Programming and Leadership, in conjunction with a strong liberal arts foundation. Students will also be required to develop and articulate an Emphasis along with its outcomes as part of their course of study. According to their Emphasis within RATE, graduates can be excellent candidates for outdoor pursuits activity leadership (guiding) positions, recreation resource management positions in public and private parks and reserves, and for positions involving the administration of adventure travel and ecotourism programs and trips. RATE programs of study are highly individualized, building upon the particular interests and career goals of each student, and drawing upon the full array of courses of the Paul Smith's College curriculum. All students are strongly urged both to consult with RATE program advisors and to review planning guides found on the Paul Smith's College website (www.paulsmiths.edu) when planning individual schedules, in order to ensure their timely progress toward degree completion.

The minimum number of credit hours necessary to meet degree requirements for the RATE program is 120. A minimum of 60 credits of the total shall be drawn from the liberal arts and sciences. At least 40 credits shall be 300- or 400-level courses. Students must note that several RATE courses (indicated by *) have prerequisite courses that must be taken before enrollment in the RATE course.

RATE Core Requirements: 40 Credits

ECN 400 or MGT 101	GLOBAL MARKET or INTRODUCTION TO ENTREPRENEURSHIP (OCEO)	REC 320	ADVENTURE TRAVEL & ECOTOURISM
ENV 455	SUSTAINABLE DEVELOPMENT (OCEO)	REC 361	EXPEDITION PLANNING
	LANGUAGE ELECTIVE	REC 362	ECO-ADVENTURE PRACTICUM
	LANGUAGE ELECTIVE	REC 480	ISSUES IN RATE
REC 101	INTRODUCTION TO RECREATION (OCEO)		CAPSTONE PLAN
REC 210	RISK MANAGEMENT & LIABILITY		CAPSTONE PROG
REC 395	RATE EXTERNSHIP		

General Education and General Electives: 59 Credits including:

The selection of General Electives will be guided by (a) the student's emphasis, (b) the extent to which the student fulfills the 60 credit Liberal Arts and Science requirement in his or her choice of program electives, (c) the need for the student to have at least 40 credits of 300/400 courses, and (d) the student's personal interests.

ENG 101: English Composition I
GE-Communication Structural
GE-Communication Structural
HUM 100: Art of Being Human

GE-Quantitative Foundation
GE-Quantitative Structural
GE-Quantitative Structural
GE-Scientific Reasoning Foundation

GE-Scientific Reasoning Structural
GE-Scientific Reasoning Structural
GE-Social Cultural Foundation

RATE Program Electives: 24 credits**

RATE electives may be selected from a list of approximately 100 courses from all related disciplines available for reference at www.paulsmiths.edu, the Registrar's Office, or the Forestry Division offices. The selection of Program Electives will be guided by the RATE student's chosen emphasis.

Principles of Sustainability, Recreation & Nature:

Dendrology	Forest Management	Ornithology
General Ecology	Forest Recreation & Env Problems	Politics of the Environment
Environmental Impact Assessment	Forest Soils	Recreation Resource Management
Env Law & Regulatory Processes	Hotel, Resort & Tour Orientation	Understory and Ground Cover Flora
Env Resources & Society I/II	Introduction to GIS	Watershed Management
Forest Ecology	Intro to Wildlife Management	Wetlands Ecosystem Management
Forest Health	Land Use Planning	Wilderness Management
Forest History	Limnology	Winter Ecology

Outdoor Pursuits, Programming & Leadership:

Adirondack Nature-Based Tour	Earth Trek Practicum II	Outdoor Recreation Externship
Adv Skills and Development I/II	Food Service Sanitation	Recreation Leadership & Maint
Draft Horse Management	Interpreting the Environ	Recreation Program Planning
Earth Trek Basecamp	Natural Habitat Interpretation	Special Topics: Backcountry Skiing
Earth Trek Planning and Administration	Outdoor Recreation Leadership	Winter Recreation
Earth Trek Practicum I	Outdoor Recreation Practicum	

Management & Administration:

Financial Accounting	The Global Market	Managerial Accounting
Business Law	Hospitality Futures	Strategic Plan & Policy
CAD Drafting	Hospitality Law	Microeconomics
Design & Admin of Rec Facilities	Hotel Accounting	Mobility in Mod Soc
Dispute Management	Hotel Practicum	Park Management
Introduction to Entrepreneurship	Hotel/Rest Externship	Principles of Management
Facilities Plan & Env Management	Hotel, Resort Tour Orientation	Resource Economics
The Family Business	Human Resource Management	Resort and Recreation Management
Finance	Intro Marketing & Sales	The Service Economy
Front Office Property Management	Macroeconomics	Visitor Management Services

Cultural & Global Relationships:

The Adirondacks	Introduction to Nature and Culture	Physical & Cultural Geography I/II
Adirondack Expedition	Geography of World Cultures	Social Issues
Contemporary Environ Writers	Gerontology	Elementary and Intermediate Spanish
Cultural Anthropology	Geography of World Destinations	Wilderness in American Literature
Cultural Ecology of Mexico	Issues in Philosophy	World Literature
Ecopsychology	Nature & Art	Writing on Nature and Environment
Ethics	Non-Western Cultures	
Elementary and Intermediate French	Philosophy of Nature	

** Other courses may serve as RATE electives if approved by the Dean of the Division.

Forest Recreation, A.A.S.

This program provides the training needed to qualify for a position in the rapidly-growing field of forest recreation and park management. Opportunities for employment can be found with local, state and federal agencies in the development and operation of recreation areas. Positions in the private sector may be found with forestry and other land-holding industries. The program offers the student both theoretical and practical training in forest recreation.

The Forest Recreation Program is currently recognized by the Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD, 20814-2198, 301-897-8720, a specialized accrediting agency recognized by the Commission on Recognition of Postsecondary Accreditation.

A minimum of 69 credit hours is required for completion of this A.A.S. program; one-third of the credit hours shall be in the liberal arts and sciences.

First Semester

ENG 101: GE-English Composition I
GE-Quantitative Foundational
REC 101: Introduction to Recreation
HUM 100: GE-The Art of Being Human
FOR 101: Introduction to Forestry

Fourth Semester

FOR 241: Forest Mensuration II
FOR 230: Forest Health
REC 215: Forest Recreation and Environmental Problems
SRV 240: Surveying II

Second Semester

GE-Communication Structural
GE-Quantitative Structural
REC 132: Interpreting the Environment
FOR 260: Silviculture
FOR 110: Dendrology
FOR 200: Forest Mapping

Fifth Semester

REC 275: Design and Administration of Recreational Facilities
FOR 340: Forest Management
GE-Social/Cultural Foundational
GE-Social/Cultural Structural
FWS 201: Introduction to Wildlife Management

Third (Summer) Semester

FOR 240: Forest Mensuration I
REC 250: Recreation Leadership and Maintenance
SRV 201: Surveying I

Forest Technician, A.A.S.

This program is designed to prepare students for employment in a variety of forestry -related positions, both in government agencies and private forestry companies. During their two years of study, students will be exposed to the major concepts of forestry. In addition, students will obtain practical experience and rigorous training through actual applications of these concepts in the field. Practical course work includes saw milling, timber cruising, timber harvesting, and surveying. Students gain further experience in silviculture, forest management, and forest recreation, as well as such supporting fields as wildlife conservation and aerial photograph interpretation.

The Forest Technician Program is recognized by the Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD, 20814-2198, 301-897-8720, a specialized accrediting agency recognized by the Commission on Recognition of Postsecondary Accreditation.

A minimum of 70 credit hours is required for completion of this A.A.S. program; one-third of the credit hours shall be in the liberal arts and sciences.

First Semester

ENG 101: GE-English Composition I
GE-Quantitative Foundational
FOR 101: Introduction to Forestry
HUM 100: GE-The Art of Being Human
FOR 110: Dendrology

Second Semester

GE-Communication Structural
GE-Quantitative Foundational
FOR 200: Forest Mapping
FOR 260: Silviculture
FOR 150: Sawmill Lecture
GIS 220: Aerial Photographic Interpretation

Third (Summer) Semester

SRV 201: Surveying I
FOR 240: Forest Mensuration
FOR 220: Lumber Manufacturing and Kiln Dying

Fourth Semester

SRV 240: Surveying II
FOR 240: Forest Mensuration I
FOR 235: Timber Harvesting
FOR 230: Forest Health
REC 201: Forest Recreation

Fifth Semester

FOR 340: Forest Management
FWS 201: Introduction to Wildlife Management
GE- Social/Cultural Foundational
GE-Social/Cultural Structural
GE-Human Condition Structural

Outdoor Recreation, A.A.S.

This program provides students knowledge of and experience with various outdoor recreation concepts, recreational user behavior, resource management techniques and current business systems. Opportunities for employment can be found in the private commercial and tourism industry with retailers, outfitters, small business operators, private campgrounds, private ski areas and year-round resorts. Positions with local, state and federal agencies in the recreation service area may include jobs with national forests, state campgrounds and county park systems. This program offers the student both theoretical and practical training in outdoor recreation. Graduates of the program are prepared to design, develop and lead programs and operate recreational sites and businesses.

A minimum of 69 credit hours is required for completion of this A.A.S. degree program; one-third of the credit hours shall be in the liberal arts and sciences.

First Semester

ENG 101: GE-English Composition I
GE-Quantitative Foundation
REC 101: Introduction to Recreation
HUM 100: GE-The Art of Being Human
REC 110: Adventure Skills Development I

Second Semester

GE-Communication Structural
GE-Quantitative Structural
REC 132: Interpreting the Environment
*Business Elective
REC 120: Outdoor Recreation Leadership

Third (Summer) Semester

REC 263: Outdoor Recreation Practicum
REC 290: Outdoor Recreation Externship

Fourth Semester

*Business Elective
REC 240: Recreation Program Planning
REC 270: Recreation Resource Management
**GE-Scientific Reasoning Foundational
GE-Social/Cultural Foundational

Fifth Semester

REC 275: Design and Administration of
Recreational Facilities
**GE-Scientific Reasoning Structural
Open Elective
GE-Social/Cultural Structural
REC 280: Winter Recreation

*Business Electives: Financial Accounting (ACC 101), Managerial Accounting (ACC 102), Principles of Marketing and Sales (MKT 300), or Human Resource Management (MGT 310)

**Students considering other forestry majors should choose Dendrology (FOR 110)

***Students should consider either Introduction to Wildlife Management (FWS 201) or General Ecology (BIO 210)

Surveying Technology, A.A.S.

Students in this program learn the concepts and principles needed for a career in land surveying. They gain extensive hands-on experience in the application of these concepts and principles to field problems. The surveying externship provides the students with additional experience working with an established land surveying company.

The Surveying Technology Program is accredited by the Technology Accreditation Commission of the Accrediting Board for Engineering and Technology, Inc., 111 Market Place, Suite 1050, Baltimore, MD, 21202, 410-347-7700, a specialized accrediting agency recognized by the U.S. Secretary of Education.

The New York State Education Department has registered this program for professional purposes. Graduates of the program receive two years of credit toward the admission requirements for the licensing examination for Land Surveyor in New York State.

A minimum of 74 credit hours is required for completion of this A.A.S. degree program; one-third of the credit hours shall be in the liberal arts and sciences.

First Semester

ENG 101: GE-English Composition I
GE-Quantitative Foundational
FOR 101: Introduction to Forestry
HUM 100: GE-The Art of Being Human
FOR 110: Dendrology

Second Semester

GE-Communication Structural
SRV 110: Graphic Communications
GIS 220: Aerial Photographic Interpretation
SRV 101: Introductory Surveying
MAT 145: GE-Trigonometry
PHY 140: GE-Technical Physics

Third (Summer) Semester

SRV 230: Construction Surveying
SRV 295: Surveying Externship

Fourth Semester

SRV 260: Route Surveying
SRV 250: Topographic Surveying
GIS 260: Geodesy, GPS, & GIS
MAT 210: Statistics
GE- Social/Cultural Foundational

Fifth Semester

SRV 270: Law and Land Surveying
SRV 299: Special Problems in Surveying
*Communications Elective
GE-Human Condition Structural

***Communications Electives:** Speech (COM 101), Technical Communications (COM 210), Business Communications (COM 105)

Urban Tree Management, A.A.S.

The Urban Tree Management Program prepares students to perform as trained technicians for the planning, planting, and maintenance of trees and shrubs in the urban environment. The primary emphasis of the program focuses on the field of arboriculture, including proper tree surgery methods. Students also receive classroom instruction and hands-on training in the areas of landscaping, greenhouse operations and turf management.

Graduates are in high demand in this growing profession. Many go to work for established tree care companies, landscaping firms or tree nurseries. Some students continue their education in pursuit of a bachelor's degree in Forestry (including the Forestry Vegetation Management or Urban Forestry concentrations at PSC).

A minimum of 66 credit hours is required for completion of this A.A.S. degree program; one-third of the credit hours shall be in the liberal arts and sciences.

First Semester

ENG 101: GE-English Composition I
FOR 110: Dendrology
FOR 101: Introduction to Forestry
HUM 100: GE-The Art of Being Human
FOR 120: Insects and Diseases of Trees

Second Semester

GE-Communication Structural
GE-Quantitative Foundational
FOR 140: Arboriculture I
FOR 130: Landscape Fundamentals and Interpretation
GE-Social/Cultural Foundational

Third (Summer) Semester

FOR 290: Urban Tree Management Externship

Fourth Semester

Communications Elective
FOR 250: Arboriculture II
FOR 210: Equipment: Small Engines Repair
GE-Quantitative Structural
ACC 101: Financial Accounting
FOR 200: Forest Mapping

Fifth Semester

FOR 330: Forest Soils **or**
FOR 310: Forest Ecology
FOR 225: Greenhouse-Turf Practice
**Business Elective
FOR 285: Urban Forestry Issues
GE-Human Condition Structural

**Business Electives: Human Resource Management (MGT 310) or Business Law (MGT 201)

Geographic Information Systems Certificate

Geographic Information Systems (GIS) and related techniques for spatial data collection and analysis are increasingly-important tools in forestry, recreation, natural resources, environmental science, and related disciplines. The GIS Certificate Program is designed to allow students currently enrolled in other programs to develop and demonstrate their skills in this important area. It is also possible for a student to enroll solely in this program on either a part-time or full-time basis.

For students enrolled in baccalaureate-degree programs, it ordinarily will be possible to complete the requirements for the certificate within the same time frame as the four-year degree. Students enrolled in two-year programs will typically require an additional semester to complete all the requirements for the certificate. For currently-enrolled students in all programs, it is critical that they work closely with their advisor to ensure proper and timely selection of courses, including prerequisite courses.

A minimum of 15 credit hours is required to complete this program, but several of the required courses or restricted electives have prerequisites, so students starting with no applicable college-level course credits will typically have to complete a minimum of 22 credit hours.

Program Requirements:

Required Courses

GIS 201: Introduction to GIS
GIS 335: Advanced GIS Techniques
GIS 420: GIS Applications
Restricted Electives (3 courses)

Restricted Electives (choose 3 courses)

GIS 220: Aerial Photography Interpretation	GEO 101: General Geography or GEO 200: Physical and Cultural Geography
SRV 220: Computer-Aided Design and Drafting	NRS 431: Land Use Planning
SRV 101: Introductory Surveying	ENV 431: Environmental Simulation Modeling
SRV 201: Surveying I	NRS 432: Landscape Ecology
SRV 245: Principles of Surveying	ENV 120: Geology
FOR 240: Forest Mensuration or FOR 245: Forest Measurements	FOR 200: Forest Mapping
NRS 340: Watershed Management	

Note: Course Prerequisites: Students lacking applicable college-level prerequisite courses will need to complete such courses during the first term of enrollment. Some selections from the “Restricted Electives” category may have pre- or co-requisite courses themselves. For example, Introductory Surveying requires Trigonometry. Students are advised to check catalog course descriptions and to consult with advisors before registering for any GIS Certificate course(s).

HOSPITALITY, RESORT and CULINARY MANAGEMENT

Nancy L. Scanlon, Ph.D.

Dean and Professor

518-327-6215

The Hospitality, Resort and Culinary Management Division offers two baccalaureate programs: **Culinary Arts and Service Management (B.P.S)** and **Hotel, Resort and Tourism Management (B.S.)**; four associate programs: **Culinary Arts (A.A.S.)**, **Culinary Arts (Baking Track) (A.A.S.)**, **Culinary Arts (A.O.S.)**, and **Hotel and Restaurant Management (A.A.S.)**; and one certificate program: **Baking and Pastry Arts**.

There are eight food laboratories on the Paul Smith's campus, along with a retail bake shop, a student-run café, a 32-seat restaurant training center, (The Wally Ganzi, Jr./Palm Restaurant Training Complex), and a state-of-the-art "World Link" technology classroom. The College also owns the 88-room Hotel Saranac, registered with the Historic Hotels of America, located in nearby Saranac Lake. The Hotel Saranac has its own residence hall, accommodating up to 50 students.

The Hotel Saranac Practicum

The Paul Smith's tradition continues for most students to gain work experience at the College-owned Hotel Saranac. Here, students fulfill requirements for both academic as well as hands-on learning, performing jobs in various rotations with the guidance of both College faculty and Hotel staff. Hotel Management and Culinary Arts students will spend a semester-long work experience rotating through the various departments of the Hotel Saranac. Additionally, culinary students may choose a semester focused on baking that includes hands-on experience in the campus bakery and retail outlet, as well as in the College's Hotel Saranac. Upon entry into the programs, the students will be scheduled for their practicum semester.

Study-Abroad Internships

Paul Smith's College provides additional learning experiences with partner institutions in Europe. Currently, two programs provide an opportunity for study in either Italy or Switzerland. Students must meet with their advisors to pursue these options and discuss eligibility requirements. All Study-Abroad Internships require that the student present both a valid passport and student visa one semester prior to departure. **Student advisors will provide guidance for students regarding the experience that best suits their individual needs.**

Industry Experience

Students are required to obtain industry experience to develop their career goals. Each year Job Fairs are held with industry recruiters coming to the PSC campus to interview and offer students a wide range of job opportunities. These "hands on" industry experiences supported by theoretical lecture courses in industry topics and a firm general education core provide the graduates of Paul Smith's College with the skills and experience to be competitive in today's job market.

Professionalism is stressed throughout this program and is applied to work habits as well as to student appearance. Uniform, personal appearance and conduct codes are strictly enforced. Hotel and Restaurant Management and Culinary Arts students are required to be clean shaven (a neat mustache is allowed), and have properly trimmed hair (top of the ear and top of the back of collar for males; tied up and under head covers for females). Excess make-up is discouraged in labs and jewelry must not be worn in laboratory settings. Equipment and uniform requirements are described below.

Equipment and Uniform Requirements

All students are required to purchase equipment and uniforms they will need for their courses at Paul Smith's College. In order to ensure uniformity in training, this packet of materials must be obtained through the Pack Basket (College store). Students will be billed for these items and will be able to pick them up when they arrive on campus. A detailed sizing chart and order form will be sent to students before registration. It is recommended that male students bring a suit or sport jacket and dress pants to use for College functions and job interviews. Women are encouraged to bring professional attire, such as a pantsuit or business dress for the same purpose.

BAKING AND PASTRY ARTS CERTIFICATE - Students are required to have five complete sets of professional chef's whites, a pair of black safety kitchen shoes, a chef's neckerchief and a pastry tool kit. These items make up the uniform packet for which the student will be billed.

CULINARY ARTS - Students are required to have five complete sets of professional chef's whites, a pair of black safety kitchen shoes and a complete kit of professional knives. Headwear consists of white skullcaps for freshman and sophomores (provided in initial package) and green skullcaps for juniors and seniors. These items make up the uniform packet for which the student will be billed. The student will also need a pair of black dress pants (male) or knee-length black skirt (female), a long-sleeved white dress shirt, and a black bow tie. These items are not available through the College and should be purchased separately.

HOTEL and RESTAURANT MANAGEMENT- The equipment and uniform requirements for Hotel and Restaurant Management are similar to those for Culinary Arts, except that the knife set is less extensive; students will need only two sets of cook's whites, white skull cap, and safety black shoes, which will be included in the uniform packet. A pair of black dress pants (male) or knee-length black skirt (female), a long-sleeved white dress shirt, a black bow tie and black dress shoes are required for this program. These items are not available through the College and should be purchased separately.

Culinary Arts and Service Management, B.P.S.

The position of chef has changed dramatically over the past few decades. A chef today is also a manager of facilities, staff and food production. The Bachelor of Professional Studies (B.P.S.) Degree in Culinary Arts and Service Management will develop a student's ability to research, analyze, and manage contemporary restaurants and food service operations. At the same time, the B.P.S. Program continues the Paul Smith's tradition of "learning while doing" with a focus on historical and future culinary developments, as well as the science of culinary preparations.

The minimum number of credit hours required to complete this program is 125; a minimum of 40 credits must be in the liberal arts and sciences.

General Education and General Electives: 35 credits including:

ENG 101: GE-English Composition I	GE-Social Cultural Foundation
GE-Communication Structural	HUM 100: GE-Art of Being Human
GE-Quantitative Foundation	GE-Scientific Reasoning Structural
GE-Quantitative Structural	Electives
GE-Quantitative Structural	

Core Requirements: 90 credits:

CUL 170: Food Service Sanitation	Language
CUL 280: Nutrition	Language
RES 132: Dining Room and Kitchen Operations	HOS 331: Hospitality Futures
CUL 230: Food Service Operations Management	HOS 300: The Service Economy
ACC 101: Financial Accounting	BAK 232: Advanced Patisserie
CUL 101: Culinary Preparation I (Cooking Module 1)	CUL 320: American Gastronomy
CUL 102: Culinary Preparation II (Cooking Module 2)	HUM 270: Ethics
BAK 150: Foundations of Baking (Baking Module 1)	CUL 380: Advanced Kitchen Menu Management
CUL 260: Commercial Cooking and Catering	Capstone Planning or Capstone Group Planning
CUL 295: Culinary Externship	RES 330: Facilities Planning and Environmental Management
RES 431: Cultural Enology	MGT 400 Strategic Planning and Policy
CUL 341: Culinary Futures/Food Technology	MKT 305: Advertising and Promotion
ECN 400: The Global Market	Capstone Project or Capstone Group Project
FIN 310: Finance	

Hotel, Resort and Tourism Management, B.S.

The Bachelor of Science Degree in Hotel, Resort and Tourism Management will prepare graduates for exciting careers in the hotel and tourism fields. This dynamic industry is now one of the largest in the world. The Hotel, Resort and Tourism Management Program focuses on those skills necessary for the effective operation of hotels and resort properties today. Students will be prepared to research, analyze, strategically plan, control, and coach a property to success while learning how to build teams and invigorate the workforce.

The minimum number of credit hours required to complete this program is 124; one-half of the credit hours shall be in the liberal arts and sciences.

General Education and General Electives: 48 credits including:

ENG 101: GE-English Composition I	GE-Social Cultural Foundation
GE-Communication Structural	HUM 100: GE-Art of Being Human
GE-Communication Structural	GE-Scientific Reasoning Foundation*
GE-Quantitative Foundation	GE-Scientific Reasoning Structural
GE-Quantitative Structural	GE-Scientific Reasoning Structural
GE-Quantitative Structural	Electives

*Students who intend to also pursue the A.A.S. degree should take Food Service Sanitation.

Core Requirements: 76 credits:

FIN 310: Finance	Language Elective
RES 132: Dining Rm&Kitch Ops OR other Intro MGT course	Language Elective
ACC 101: Financial Accounting	HOS 331: Hospitality Futures
HOS 210: Hotel Accounting	HOS 300: The Service Economy
HOS 295: Hotel Externship	ECN 101: Macroeconomics
HOS 265: Hotel Practicum	ECN 102: Microeconomics
Business Elective (300/400 level course)	HUM 310: Human Resource Management
SOC 310: Mobility and Modern Society	HUM 270: Ethics
SOC 300: Cultural Anthropology	Capstone Planning or Capstone Group Planning
MGT 201: Business Law	RES 330: Facilities Planning and Environmental Management
HOS 400: Resort and Recreation Management	MGT 400: Strategic Planning and Policy
SOC 400: The American Labor Movement	Capstone Project or Capstone Group Project

Culinary Arts, A.A.S.

The Culinary Arts Program at Paul Smith's College is accredited by the American Culinary Federation, 180 Center Place Way, St. Augustine, FL, 32095, 904-824-4468, a specialized accrediting agency recognized by the Council of Higher Education Administration. One objective of this program is to provide students with the rigorous and concentrated training necessary for careers in the rapidly-expanding food service industry. The program emphasizes the science and techniques associated with the selection, preparation, and service of foods to both large and small groups.

The program also provides excellent preparation for those students who wish to pursue the Bachelor of Professional Studies Degree in Culinary Arts and Service Management offered at Paul Smith's College. Transition from the Culinary Arts A.A.S. Degree to the B.P.S. Degree in Culinary Arts and Service Management is seamless.

To earn this degree, the student must complete the courses listed below in a sequence approved by the Dean of the academic division in conjunction with the Academic Standards Committee.

First Semester

ENG 101: GE-English Composition I
RES 132: Dining Room and Kitchen Operations
CUL 101: Foundations of Culinary Preparation I
(Cooking Module #1)
CUL 102: Foundations of Culinary Preparation II
(Cooking Module #2)
HUM 100: GE-The Art of Being Human

Second Semester

GE-Communication Structural
GE-Quantitative Foundational
BAK 150: Foundations of Baking (Baking Module
#1)
CUL 150: International Cuisine (Cooking Module
#3)
CUL 170: Food Service Sanitation

Third or Fourth Semester

MAT 135: Mathematics for Financial Decision
Making
**GE-Human Condition Structural
CUL 250: Advanced Cooking Techniques
(Cooking Module #4)
CUL 280: Nutrition/Food Science
*GE-Social/Cultural
Foundational

Third or Fourth Semester

CUL 260: Commercial Cooking & Catering
CUL 230: Food Service Operations
Management
GE-Social/Cultural Structural

Fourth or Fifth Semester

CUL 295: Culinary Externship

*Students considering CASM should take Sociology I (SOC 101) or Psychology (PSY 101)

**A language is recommended

Culinary Arts, A.A.S. Baking Track

Increasingly, full-service restaurants in the United States have embraced fresh baked goods and in-house desserts as products that set them apart from their competition. Many such properties cannot afford a full-time qualified baker and rely on their existing culinary staff. One objective of the Baking Track for students in the Culinary Arts Program is to prepare the graduate for those positions which require a strong background in general culinary arts as well as sufficient baking skills to produce a wide array of breads, pastries, and specialty desserts.

Students pursuing this track may choose to enroll in the Culinary Arts and Service Management Baccalaureate Program at Paul Smith's College. Transition from the A.A.S. Culinary Arts Baking Track to the Culinary Arts and Services Management B.P.S. Degree is seamless.

To earn this degree, the student must complete the courses listed below in a sequence approved by the Dean of the academic division in conjunction with the Academic Standards Committee.

First Semester

ENG 101: GE-English Composition I
RES 132: Dining Room and Kitchen Operations
CUL 101: Foundations of Culinary Preparation I
(Cooking Module #1)
CUL 102: Foundations of Culinary Preparation II
(Cooking Module #2)
HUM 100: GE-The Art of Being Human

Second Semester

GE-Communication Structural
GE-Quantitative Foundational
BAK 150: Foundations of Baking (Baking Module #1)
CUL 150: International Cuisine (Cooking Module #3)
CUL 170: Food Service Sanitation

Third or Fourth Semester

MAT 135: Mathematics for Financial Decision Making
**GE-Human Condition Structural
CUL 250: Advanced Cooking Techniques
(Cooking Module #4)
CUL 280: Nutrition/Food Science
*GE-Social/Cultural Foundational

Third or Fourth Semester

BAK 232: Advanced Patisserie
BAK 242: Commercial Baking Block
CUL 230: Food Service Operations Management
GE-Social/Cultural Structural

Fourth or Fifth Semester

CUL 295: Culinary Externship

*Students considering CASM should take Sociology I (SOC 101) or Psychology (PSY 101)

**A language is recommended

Culinary Arts, A.O.S.

The Culinary Arts (A.O.S.) Degree is similar to the College's current A.A.S. degree in the same field in that it involves three traditional semesters of study and two semesters that focus on experiential training. The three traditional semesters will place a stronger emphasis on technical skill development and less on liberal arts and sciences than the A.A.S. degree. Communications skills, including development of the student's writing skills, along with mathematics and science and an appreciation of diversity are integrated into many of the technical courses.

A.O.S. students planning to earn a baccalaureate degree in Culinary Arts and Service Management should be aware that the B.P.S. degree requires the completion of the College's General Education Requirements. These courses are NOT required in the standard A.O.S. degree and will thus require more than one additional "bridge" semester for completion of the baccalaureate. A.O.S. students interested in this option should work closely with their academic advisor.

A minimum of 60 credits is required for the A.O.S. degree.

First Semester Courses

CUL 101 FD OF CULINARY PREP I (CM#1)
CUL 102 FD OF CULINARY PREP II (CM#2)
CUL 120 THE CAREERIST
CUL 170 FOOD SERVICE SANITATION

Second Semester Courses

BAK 150 FOUNDATION OF BAKING (BM#1)
CUL 110 CLASSICAL KITCHEN
CUL 150 INTERNATIONAL CUISINE (CM#3)
RES 132 DINING RM KITCH OPERATIONS

Third or Fourth Semester Courses

BAK 232 ADVANCED PÂTISSERIE
CUL 130 INTRODUCTION TO BEVERAGE & TABLE SERVICE
CUL 250 ADVANCED COOKING TECHNIQUES (COOKING MODULE #4)
CUL 280 NUTRITION AND FOOD/SCIENCE
*BUSINESS ELECTIVE

Third or Fourth Semester Courses

CUL 260 COMMERCIAL COOKING & CATERING
RES 232 CATERING PLANNING AND MANAGEMENT
CUL 230 FOOD SERVICE OPERATIONS MANAGEMENT

Fifth Semester Courses

CUL 295 CULINARY EXTERNSHIP

Hotel and Restaurant Management, A.A.S.

This curriculum is designed to serve both students who plan to begin work in the industry upon completion of the two-year program and students who wish to pursue a baccalaureate degree. This program is designed to provide a student with the skills and background required for an excellent start in the hospitality industry and to help assure rapid professional development. The program also allows students to continue and complete the baccalaureate degree offered at Paul Smith's College in Hotel, Resort and Tourism Management.

The following courses are suggested for fulfillment of this degree:

First Semester

ENG 101: GE-English Composition I
HUM 100: GE-The Art of Being Human
GE-Quantitative Foundational
HOS 101: Hotel, Resort and Tourism Industry
Orientation
ACC 101: Financial Accounting

Second Semester

GE-Communication Structural
GE-Quantitative Structural
HOS 150: Front Office/Property Management
CUL 101: Foundations of Culinary Preparation I
(Cooking Module #1)
CUL 170: Food Service Sanitation

Third or Fourth Semester

*Business Elective
*Business Elective
GE-Scientific Reasoning Foundational
PSY 101: Psychology **or**
SOC 101: Sociology I
RES 132: Dining Room and Kitchen Operations
**GE-Human Condition Structural

Third or Fourth Semester

HOS 295: Hotel Externship

Third, Fourth, or Fifth Semester

HOS 265: Hotel Practicum
HOS 210: Hotel Accounting
GE-Social/Cultural Structural

***Business Electives:** Managerial Accounting (ACC 102), Business Law (MGT 201), Principles of Marketing and Sales (MKT 300), Principles of Management (MGT 300), Human Resource Management (MGT 310) or other elective with Dean approval.

**A language is recommended

Baking & Pastry Arts Certificate

The Baking & Pastry Arts Certificate Program offers two academic semesters on Paul Smith's Campus in an intensive hands-on curriculum dealing with the skills necessary to become a journeyman baker. The third semester is an externship in the baking industry at either a commercial or retail bakery outlet.

From breads and rolls to tortes, desserts and confections, students will learn in a real-life bakery environment, by producing quality baked goods for the A.P. Smith's on-campus retail outlet. Students will incorporate their technical skills with the business practices necessary to merchandise product and manage the commercial bakery outlet.

Graduates of the certificate program will be qualified to enter the workforce as journeyman bakers, assistants to pastry chefs, retail bakery management trainees, or commercial bakers. Hotel bake shops, restaurant pastry departments, private retail bakery operations, and in-store bakeries actively seek those individuals who successfully complete the program requirements.

Admission to the program is available: (1) as an additional option for students completing any Culinary Arts Program at Paul Smith's College; (2) to students who have completed comparable programs at other colleges; (3) for those individuals with industry experience with recommendations from the foodservice industry; or (4) those with a keen interest who would like to own or operate a retail/wholesale bakery business.

A minimum of 36 credits are required for the Baking and Pastry Arts Certificate.

First Semester

BAK 101	PRINCIPLES OF BAKING
BAK102	BAKING BLOCK ONE
BAK 103	PASTRY BLOCK TWO
BAK 121	RETAIL OPERATIONS MANAGEMENT
CUL 120	THE CAREERIST
CUL 170	FOOD SERVICE SANITATION

Second Semester

BAK 104	BAKING BLOCK THREE
BAK 105	BAKING BLOCK FOUR
BAK 130	BAKERY CAFÉ FACILITY OPERATIONS
BAK 140	PRINCIPLES OF RESTAURANT DESSERTS
CUL 230	FOOD SERVICE OPERATIONS MANAGEMENT
CUL 280	NUTRITION AND FOOD SCIENCE

Third Semester

BAK 295	BAKING EXTERNSHIP
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SCIENCES, LIBERAL ARTS AND BUSINESS

Dr. Phillip Taylor, III
Dean, Associate Professor
518-327-6272

This division offers four baccalaureate degrees: a **Bachelor of Science Degree in Biology**, a **Bachelor of Science Degree in Natural Resources**, a **Bachelor of Science Degree in Business Management and Entrepreneurial Studies**, and a **Bachelor of Arts Degree in Liberal Studies in Nature and Culture**. Associate of Arts degree programs are also offered in: **Liberal Arts Environmental Studies**; and **Liberal Arts General Studies Concentration**. The division provides both the general education core and advanced upper-division courses in mathematics, sciences, English composition, social sciences and humanities required of Paul Smith's students in degree programs, and coursework in accounting, business and management, components of many of the degree programs across the academic divisions.

Situated in the heart of the Adirondacks in northern New York State, Paul Smith's College offers a challenging and stimulating education on a campus of more than 14,000 acres of breath-taking natural beauty amid forests, streams, wetlands, fresh air, and lakes. The six programs in the Sciences, Liberal Arts and Business Division offer a multitude of career options to students. Paul Smith's is the perfect place — with its 14:1 student -to-instructor ratio, its “family” atmosphere, and its recognition that students are individuals — for those who are not yet sure what they wish their careers to be, and want to start at a place where they can get special attention and advice as they determine their professional and personal goals.

The baccalaureate program in Environmental Science, with its emphasis on environmental sustainability, prepares graduates with knowledge and technical skills for the 21st Century. Coursework includes a foundation in Biology, Chemistry and Geographic Information Systems (GIS) technology. A choice of upper-division electives in natural and physical sciences and resource management allows majors to choose broad training or specialization. The baccalaureate program in Biology provides a strong foundation in the life sciences followed by a selection of upper-division biology electives. Students can tailor their upper-division coursework in preparation for graduate studies in the health sciences, natural and physical sciences, or toward careers in natural resource conservation, education, health services or other subdisciplines of biology. The baccalaureate program in Liberal Studies, a program new to the College, offers students opportunity to study the intersection of nature and human culture from a standpoint of philosophical, rather than scientific inquiry, and serves as a springboard for advanced studies in the humanities, the social sciences, and other fields of human endeavor.

The associate-degree programs in General Studies work best as transfer degrees. The General Studies Concentration often helps students discover their professional interests and potential. The Environmental Studies Concentration takes advantage of the College's pristine surroundings but can also transition easily into one of the baccalaureate programs offered by this division of the College.

The diverse programs of the Sciences, Liberal Arts and Business Division offer a firm foundation in traditional disciplines and experiential coursework in the most relevant issues of the new century.

Biology, B.S.

Biology

In addition to providing the required knowledge base, Paul Smith's B.S. program in Biology teaches students how to formulate questions, how to observe and record natural phenomena, how to analyze and evaluate data, and how to draw conclusions from scientific results. In the spirit of our hands-on, experiential approach to learning, Paul Smith's students have full access to a unique "living laboratory", which includes 14,200 acres of College-owned forests, wetlands, lakes, and streams. They are encouraged to study natural habitats and environmental issues first-hand, often within walking distance of their residence halls. A minimum of 120 credit hours is required for completion of this B.S. Degree Program; 40 of the credit hours shall be at the 300/400-level.

Pre-Health Sciences: Students planning to pursue a graduate degree in the Health Sciences most often choose biology as their pre-professional field of study. Within the Biology program, Paul Smith's College offers all of the prerequisite courses needed for graduate-school entry in order to pursue careers in Health Science fields, such as Physical Therapy, Pharmacy and Medicine.

Shared Sciences Core: 37 credits

BIO 101: Biology I	CHM 241: Organic Chemistry I
BIO 102: Biology II	PHY 241: Physics I
MAT 125: College Algebra*	BIO 210: General Ecology
	SOC 461: Capstone Project Planning Seminar or
MAT 210: Statistics	SOC 463: Capstone Group Project Planning Seminar
CHM 141: Chemistry I	SOC 462: Capstone Project or SOC 464: Capstone Group Project
CHM 142: Chemistry II	

Biology Concentration Core: 13 credits

BIO 220: Evolution
BIO 205: Animal Biology **or** BIO 204: Plant Biology
BIO 240: Microbiology
BIO 325: Genetics

Upper Division Electives—18 credits (choose 6):

Biochemistry (CHM 330), Biotechnology (BIO 455), Cell Biology (BIO 340), Anatomy & Physiology I (BIO 350), Anatomy & Physiology II (BIO 351), Entomology (BIO 361), Ichthyology (BIO 362), Mammalogy (BIO 363), Ornithology (BIO 364), Plant Physiology (BIO 355), Conservation Biology (ENV 330), Paleocology (BIO 472), Physiological Ecology (BIO 474), Winter Ecology (BIO 476), Microbial Ecology (BIO 371), Biology Externship (BIO 490), Special Topics in Biology (BIO 499)

General Education and **General Electives- 52 credits including:

GE: ENG 101: English Composition I	GE: Social/Cultural Structural
GE: Communication Structural	GE: HUM 100: The Art of Being Human
GE: Communication Structural	GE: Human Condition Structural
GE: Social/Cultural Foundational	GE: Human Condition Structural
GE: Social/Cultural Structural	

*College Algebra (MAT 125) or higher

****Pre-Professional Students** should include Physics II (PHY 242), Organic Chemistry II (CHM 242) and Calculus I (MAT 241) as General Elective courses in preparation for meeting the entrance requirements of graduate programs or professional schools (e.g., physical therapy school).

Environmental Science

A broad science foundation and technical expertise characterizes this degree program. In addition to building foundational knowledge and skills in Biology and Chemistry, students will gain expertise with Geographic Information Systems technology. This technology is used in a wide variety of situations to store and analyze geographic data related to human use of land and other natural resources. A variety of upper-division electives allows students to tailor their coursework to their interests within this broad field of science.

Pre-Health Sciences: Students planning to pursue a graduate degree in the Health Sciences most often choose biology as their pre-professional field of study. Within the Biology program, Paul Smith's College offers all of the prerequisite courses needed for graduate-school entry in order to pursue careers in Health Science fields, such as Physical Therapy, Pharmacy and Medicine.

Shared Sciences Core: 37 credits

BIO 101: Biology I	CHM 241: Organic Chemistry I
BIO 102: Biology II	PHY 241: Physics I
MAT 125: College Algebra*	BIO 210: General Ecology
	SOC 461: Capstone Project Planning Seminar or SOC 463 Capstone Group Project Planning Seminar
MAT 210: Statistics	SOC 462: Capstone Project or SOC 464: Capstone Group Project
CHM 141: Chemistry I	
CHM 142: Chemistry II	

Environmental Science Concentration Core: 16 credits

POL 202: Politics of the Environment
GIS 201: Introduction to Geographic Information Systems
GIS 335: Advanced GIS Techniques
CHM 310: Environmental Chemistry
ENV 110: The Adirondack Environment

Upper Division Electives—18 credits (choose 6):

Limnology (ENV 361), Atmospheric Science, Stream Ecology and Management (ENV 471), Wetlands Ecosystems and Management (ENV 473), Environmental Impact Assessment (ENV 420), Environmental Law and Regulatory Process (ENV 315), Special Topics in Environmental Science (ENV 499), Advanced Conservation Science (ENV 450), Forest Soils (FOR 330), Land Use Planning (NRS 331), Sustainable Development (ENV 455), Watershed Management (NRS 340), Landscape Ecology (NRS 432), Special Topics in Natural Resources (NRS 499)

General Education and **General Electives- 49 credits including:

GE: ENG 101: English Composition I	GE: Social/ Cultural Structural
GE: Communication Structural	GE: HUM 100: The Art of Being Human
GE: Communication Structural	GE: Human Condition Structural
GE: Social/ Cultural Foundational	GE: Human Condition Structural
GE: Social/ Cultural Structural	

*College Algebra (MAT 125) or higher

****Pre-Professional Students** should include Physics II (PHY 242), Organic Chemistry II (CHM 242) and Calculus I (MAT 241) as General Elective courses in preparation for meeting the entrance requirements of graduate programs or professional schools (e.g., physical therapy school).

Business Management and Entrepreneurial Studies, B.S.

A Paul Smith's College entrepreneur is a person who is proactive and excited about the potential of business to create new ideas and opportunities. They are people who identify challenges and create profitable solutions for themselves and for others using the four pillars of PSC entrepreneurship: Leadership, Innovation, Stewardship and Tradition.

Program Objectives: The Entrepreneurial Studies students will:

- Develop skills in entrepreneurship, strategic management and operational planning
- Take traditional business core courses integrating entrepreneurial studies
- Integrate their liberal arts education with business education to foster life long learning skills
- Develop analytic, reflective thinking, critical thinking and problem-solving skills
- Develop skills in team management, conflict resolution and consensus building
- Expand oral, written and listening communication skills
- Develop ethical understanding and reasoning abilities
- Develop a stewardship orientation in business decision-making
- Use information technologies as they influence the structure and processes of organizations and economies, and as they influence the roles and techniques of management
- Engage in case analyses of business within a global context

PSC Business Program Mission

The Paul Smith's College business program mission is to be a leader in providing hands-on entrepreneurial learning experiences for our students. We focus our teaching on both the current business climate and teach our students to predict the future of their business and the economy. We serve the community by:

- promoting stewardship as an important part of modern sustainable business practice;
- building on the entrepreneurial tradition of our namesake, Paul A. Smith who proved that hard work and great entrepreneurial skills can simultaneously create a financial empire and serve the common good;
- fostering innovation by continually challenging ourselves to create new solutions to current problems;
- educating ethical, responsible business leaders of the future.

Leading the innovation in entrepreneurship education, our program provides students with the opportunity to study all dimensions of entrepreneurship beginning in their first year of collegiate study and continuing throughout their four years of study at PSC. The Entrepreneurial Studies Curriculum is integrative in nature with each of the four years of study being marked by an expansive Learning Project. This project is supported by core business classes. Assignments from these traditional core business classes will overlap with the Learning Project courses each year.

Business Management & Entrepreneurship Studies Curriculum 2006-2007

Each year of study builds on the Core BMES and General Education curricula from the previous years of study. The recommended sequence of courses is delineated below:

Phase I Courses: First Year of Study

ECN 101: Macroeconomics	MGT 160: Foundational Entrepreneurship I
ECN 102: Microeconomics	MGT 161: Foundational Entrepreneurship II
ACC 101: Financial Accounting	GE Communication Literacy—Foundation
ACC 102: Managerial Accounting	GE Communication Literacy—Structural
MAT 135: Math for Financial Decision Making	GE Human Condition Literacy—Foundation

Phase II Courses: Second Year of Study

MAT 210: Statistics	GE Social/Cultural Literacy—Foundation
MGT 201: Business Law	GE Science Literacy—Foundation
Business Communication Elective ¹	GE Science Literacy—Structural
MGT 260: Business Ethics Simulation	GE Human Condition Literacy—Structural
Liberal Arts/Science Elective*	Open Elective

Phase III Courses: Third Year of Study

MGT 300: Principles of Management	Liberal Arts/Science Elective*
MKT 300: Principles of Marketing & Sales	ACC 201: Small Business Accounting
FIN 310: Finance	Liberal Arts/Science Elective*
MGT 310: Human Resources Management	Liberal Arts/Science Elective—UD*
MGT 360: Entrepreneurial Practicum/Colloquium	Open Elective

Phase IV Courses: Fourth Year of Study

MGT 310: Operations Management	Open Elective
MGT 400: Strategic Planning	Open Elective
SOC 461: Capstone Research Methods Seminar	Liberal Arts/Science Elective—UD*
MGT 461: Capstone Consulting Project	Liberal Arts/Science Elective—UD*
MIS 410: Management Information Systems	Liberal Arts/Science Elective—UD*

*May be used for General Education Requirements

¹ Business Communications Electives include: COM 105: Technical Business Communications, COM 300: Dispute Management or COM 210: Technical Writing.

“4 + 1” Articulation Agreement

Students can also consider pursuing a Master’s degree in Business Administration, or an M.S. in Human Resource Management, Information Systems or Manufacturing from Clarkson University through a “4 + 1” articulation agreement between Paul Smith’s College and Clarkson University, thereby earning both a Bachelor’s degree and a Master’s degree in only five years.

Liberal Studies – Nature and Culture, B.A.

The Liberal Studies – Nature and Culture, B.A. degree program consists of eight traditional semesters, including a Practicum Experience. The Nature and Culture degree focuses on the interaction of humans with the natural world using nature as a subject for intellectual inquiry. Students of Nature and Culture will learn how different cultures view themselves in relation to the natural world and explore how those views impact the living world. The program emphasizes the importance of using a three-pronged approach to build and focus the students' understanding the relationship between nature and culture and of the importance of stewardship.

The Nature and Culture degree program is built upon the College's already well-established strengths in environmental and cultural stewardship and in the liberal arts. It also intensifies the College's focus on upper-division courses by incorporating existing liberal arts courses recently developed to support the College's other baccalaureate programs

The design of the program is flexible enough to allow students to pursue their individual interests, while they are also developing a solid foundational experience in the liberal arts. Upon graduation, a wide range of career opportunities are open to the Paul Smith's Nature and Culture, B.A. student. Careers in professional and environmental writing, human resources management, and business are all available. In addition, the students may choose concentration electives that prepare them for further academic study. The requirements for masters programs in science education, sociology, environmental MBA programs and other graduate opportunities can all be met within the standard curriculum.

Minimum 120 credits for B.A. degree with 37 credits in 300/400 level courses.

Program Requirements – 27 credit hours

Speech or American Roots Music	Introduction to Nature and Culture	Capstone Planning or Capstone Group Planning
The Adirondacks or Adirondack Expedition	Liberal Studies Practicum	Capstone Project or Capstone Group Project
Inquiry into Values or Issues in Philosophy	GE-Social Cultural Foundation	

General Education and General Electives minimum 53 credits including:

ENG 101	GE-English Composition I		GE-Quantitative-Structural:
	GE-Communication Structural		GE-SCI REASON-Foundation
	GE-Art of Being Human		GE-SCI REASON-Structural
HUM 120	Western Culture		GE-SCI REASON-Structural:
	GE-Human Condition-Structural:	SOC 110	Non-Western Cultural
	GE-Quantitative-Foundation		GE-Social Cultural Structural
	GE-Quantitative-Structural		

Literature, Language and the Arts – 15 credit hours choose five courses from the following:

Advanced Composition	Ethics	Wilderness in American Literature
American Literature I or II	Language Elective	Women and Literature
Art of Film	Nature and Art	World Literature
Contemporary Environmental Writers	Studio Art	Writing on Nature and the Environment
Creative Writing	Technical Communication	

Human Social and Economic Environment - 15 credit hours choose five courses from the following:

Adventure Travel & Ecotourism	Introduction to Recreation	Philosophy of Nature
Cultural Anthropology	Management, Macroeconomics	Resource Economics
Dispute Management	Microeconomics	The Service Economy
Geography of World Cultures	Organizational Behavior	Western and World Music
Global Market		

Science and Politics of the Environment – 15 credit hours choose five courses from the following:

The Adirondacks	General Ecology	Mass Media,
Environment Law & Regulatory Processes	Interpretation of the Environment	Microbes and Society
Environment Resource and Society I OR II	Introduction to Forestry	Natural Habitat Interpretation
Environmental Science	Issues in Philosophy	Sustainable Development
Forest Resource Economics	Landuse Planning	

Natural Resources—Environmental Science, B.S.

The Paul Smith's College Program in Environmental Science, a baccalaureate degree offered through the Division of Sciences, Liberal Arts and Business, prepares Natural Resources professionals for the 21st Century. Courses involve learning technical skills and contemplating basic scientific questions associated with natural resource management. Students will use the scientific approach to better understand human impact on the environment and explore the scientific foundation for rational decision-making. Program minimum credits for B.S. degree 121 credits, 45 credits of 300/400 level course work.

General Education Electives and General Electives

ENG 101: English Composition I	HUM 100: Art of Being Human	GE-Quantitative Foundation
GE-Communication Structural	BIO 210: General Ecology	GE-Quantitative Structural
MAT 241: Calculus I	CHM 141: Chemistry I	GE-Communication Structural
MAT 210: Statistics	HUM 270: Ethics	GE-Social Cultural Foundation
BIO 101: Biology I	GE-Human Condition Structural	GE-Social Cultural Structural
BIO 102: Biology II	GE-Scientific Reasoning Structural	GE-Social Cultural Structural

Core Requirements 20 Credits

NRS 340: Watershed Management	ENV 455: Sustainable Development	SOC 462: Capstone Project or SOC 464: Capstone Group Project
ENV 315: Env Law & Regulatory Process	SOC 461: Capstone Project Planning Seminar or SOC 463: Capstone Project Group Planning Seminar	
HUM 400: Nature and Art		
ENV 420: Environmental Impact Assessment		

Experiential Electives 6 Credits: choose 2 courses from the following list

SOC 115: Adirondack Expedition	FOR 120: Insect and Diseases of Trees	PHY 241: Physics I
FOR 140: Arboriculture I	GIS 201: Introduction to GIS	PHY 242: Physics II
FOR 250: Arboriculture II	FOR 101: Introduction to Forestry	SRV 245: Principles of Surveying
FOR 110: Dendrology	REC 101: Introduction to Recreation	REC 250: Recreation Leadership and Maintenance
CHM 310: Environmental Chemistry	SRV 101: Introduction to Surveying	FOR 150: Sawmill Lecture
FWS 331: Fisheries Techniques	ENV 361: Limnology	FOR 260: Silviculture
FOR 335: Forest History	FOR 220: Lumber Manufacturing and Kiln Drying	SRV 240: Surveying II
FOR 245: Forest Measurements	FOR 275: Maple Syrup and Sap Production	FOR 235: Timber Harvesting
FOR 330: Forest Soils	ENV 222: Natural Habitat Interpretation	REC 280: Winter Recreation
REC 132: Interpreting the Environment	REC 120: Outdoor Recreation Leadership	

Concentration Requirements 15 Credits—must be 300/400 level choose 5 courses in one of the Areas of Knowledge below
Distributive Areas of Knowledge Courses 12 Credits—choose 4 courses, one each from an Area of Knowledge other than the concentration area (preferably at the 300/400 level)

Environmental Science

ENV 450: Advanced Conservation Science	FOR 335: Forest History	BIO 355: Plant Physiology
ENV 330: Conservation Biology	BIO 363: Mammalogy	FWS 320: Techniques in Wildlife Management
BIO 361: Entomology	BIO 371: Microbial Ecology	FOR 380: Understory and Ground Cover Flora
CHM 310: Environmental Chemistry	BIO 364: Ornithology	ENV 473: Wetlands Ecosystems & Management
FWS 331: Fisheries Techniques	BIO 472: Paleoecology	BIO 476: Winter Ecology
FOR 310: Forest Ecology	BIO 204: Plant Biology	

Monitoring and Evaluation

GIS 335: Advanced GIS Techniques	FWS 331: Fisheries Techniques	BIO 371: Microbial Ecology
BIO 430: Biometrics	CHM 430: Instrumentation	ECN 410: Resource Economics
CHM 310: Environmental Chemistry	GIS 201: Introduction to GIS	ENV 473: Wetlands Ecosystems & Management
ENV 431: Environmental Simulation Modeling		

Liberal Studies

SOC 400: American Labor Movement	SOC 300: Cultural Anthropology	SOC 310: Mobility in Modern Society
ENG 340: Contemporary Environmental Writers	GEO 400: Geography of World Cultures	HUM 300: Philosophy of Nature
POL 300: Contemporary Political Systems		

Public Participation/Communications

GIS 335: Advanced GIS Techniques	COM 300: Dispute Management
ENG 340: Contemporary Environmental Writers	ENG 400: Writing on Nature and the Environment

Management & Policy

ENV 450: Advanced Conservation Science	NRS 331: Land Use Planning	FWS 320: Techniques in Wildlife Management
COM 300: Dispute Management	FOR 350: New Paradigms in Forestry	ENV 473: Wetlands Ecosystems & Management
FWS 380: Fisheries Management	ECN 410: Resource Economics	NRS 335: Wilderness Management

Liberal Arts, A.A. **(Environmental Studies)**

The Environmental Studies Program emphasizes the essential role of the humanities and social sciences in solving environmental problems. This program has been designed for those students interested in a less-technical environmental curriculum, one focusing on both human and environmental systems. It is especially appropriate for those who plan to continue their education in the management and policy fields beyond the associate degree.

A few of the many challenging careers in this field include natural resources management, environmental and resource policy, environmental education, land-use planning, and environmental law, all of which are offered in four-year and graduate programs.

Students who wish to complete the baccalaureate program in Natural Resources at Paul Smith's College should plan their course of study with their advisors, follow the directions in the curriculum below, and select those options which fulfill the prerequisites for the appropriate concentration.

A minimum of 62 credit hours is required for completion of this A.A. degree program; three-quarters of the credit hours shall be in the liberal arts and sciences.

First Year Courses

BIO 101	BIOLOGY I
ENG 101	GE-ENGLISH COMPOSITION I
FOR 101	INTRODUCTION TO FORESTRY
HUM 100	GE-ART OF BEING HUMAN
SOC 105	ENVIRONMENT, RESOURCES & SOCIETY I
BIO 102	BIOLOGY II
	GE-COMMUNICATION-STRUCTURAL
HST 215 or	THE ADIRONDACKS OR ADIRONDACK
SOC 115	EXPEDITION
	GE-QUANTITATIVE-FOUNDATION
SOC 106	ENVIRONMENT, RESOURCES & SOCIETY II

Second Year Courses

BIO 210	GENERAL ECOLOGY
ECN 102	MICROECONOMICS
ENG 115	WILDERNESS IN AMERICAN LITERATURE
ENV 222	NATURAL HABITAT INTERPRETATION
	GE-QUANTITATIVE-STRUCTURAL
	ELECTIVE
	*ELECTIVE
	GE-HUMAN COND-STRUCTURAL
	GE-SOCIAL CULTURAL-FOUNDATION
POL 202	POLITICS OF THE ENVIRONMENT

*Chemistry 141 is recommended. Students planning to enroll in the Natural Resources Program must take Chemistry 141.

Liberal Arts, A.A. (General Studies)

This A.A. Degree Program curriculum is designed for those students seeking a broad and flexible program in the liberal arts and sciences. It includes a basic core with five distinct emphases.

Minimum 60 credit hours for the A.A. degree with 45 in the Liberal Arts and Sciences.

The Basic Core: 39-49 credits

English Composition I and II	6 credits
Advanced Composition	3 credits
Mathematics	6-8 credits
Natural and Environmental Sciences	6-8 credits
Western Culture	3 credits
Speech	3 credits
Foreign Language Sequence	6 credits
Social Sciences	6 credits

EMPHASIS AREAS—17-21 credits with emphasis in the following areas.

- A) Interdisciplinary: credits consistent with a student's career/transfer plans
- B) Humanities
- C) Social Sciences
- D) Mathematics
- E) Nat./Environ. Sciences

First Year Courses

ENG 101	GE-ENGLISH COMPOSITION I
	GE-ART OF BEING HUMAN
HUM 120	WESTERN CULTURE
	LANGUAGE SEQUENCE
	GE-QUANTITATIVE-FOUNDATION
COM 101	SPEECH
	GE-COMMUNICATION-STRUCTURAL
	LANGUAGE SEQUENCE
	GE-QUANTITATIVE-STRUCTURAL
	GE-SOCIAL CULTURAL-FOUNDATION

Second Year Courses

ENG 200	ADVANCED COMPOSITION
	LA/SCI ELECTIVE
	ELECTIVE
	ELECTIVE
	GE-SCIENTIFIC REASON-FOUNDATION
	LA/SCI ELECTIVE
	ELECTIVE
	ELECTIVE
	ELECTIVE
	GE-SCIENTIFIC REASON-STRUCTURAL

Paul Smith's College Course Descriptions

BAKING

BAK 101: Principles of Baking **2 Credit Hours** Fall Sem.

This course introduces the students to the foundations of baking. Topics covered include weights and measures, formula conversion, scaling, basic baking chemistry, mixing techniques, yeast breads, quick breads, short doughs, cookie doughs, and basic cakes.

BAK 102: Baking Block One **3 Credit Hours** Fall Sem.

Baking students will be introduced to quantity production of a variety of baked goods found in a retail bakery operation. Students will begin to develop an understanding of how a retail bakery works by rotating through various positions during production. Under supervision, students will produce products for their retail bakery outlet, the foodservice on campus, and a limited number of wholesale accounts. Students will be introduced to various equipment and tools specific to a retail bakery, restaurant bakery and/or small hotel bakery operation. Students will learn the use of a beam balance and platform-type scale. Students will observe demonstrations in basic cake decorating and simple ways of finishing products for a retail operation. They will be taught various production methods used for cakes, quick breads, yeast breads, rolls, sweet dough and Danish production.

BAK 103: Pastry Block Two **3 Credit Hours** Fall Sem.

Students will be introduced to artisan bread production and a more advanced variety of pastries. In this hands-on unit, the students will develop a proficiency in working with puff pastry, pate a choux, tarts, cake decorating, icings, fillings and simple cold desserts. Prerequisite: Baking Block One (BAK 102).

BAK 104: Baking Block Three **3 Credit Hours** Spring Sem.

In this production lab, students will use the knowledge and skills learned in Principles of Restaurant Desserts (BAK 140) to raise their level of proficiency in working with pastry basics, tarts and flans, specialty cakes and gateaux, Bavarians and mousses, basic sugar work and decorative work with chocolate. Prerequisites: Baking Block One (BAK 102) and Pastry Block Two (BAK 103).

BAK 105: Baking Block Four **3 Credit Hours** Spring Sem.

In this production lab, students will show a more advanced variety of cakes and pastries, that include work with mousse, Bavarians, hippen and tuile cookies, as well as sugar and chocolate work, truffles and molding chocolates. Prerequisite: Baking Block Three (BAK 104).

BAK 110: Advertising and Merchandising **1 Credit Hour** Fall Sem.

Students will develop skills in marketing and merchandising bakery items. Students will be introduced to push and pull marketing, packaging, media advertising, and display design.

BAK 121: Retail Operations Management **2 Credit Hours** Fall/Spring Sems.

This course focuses on the advertising and merchandising of a retail bakery and the baked goods produced. Students will learn the formula costing of bakery products produced, sales and merchandising, inventory and ordering skills, coffee brewing, costing of beverages sold and measurement of customer satisfaction.

BAK 130: Bakery/Café Facilities Operations **1 Credit Hour** Spring Sem.

This course will provide a student with an understanding of the knowledge and skills required for the successful operation of a retail bakery/café. The major project for this course is the design of a footprint for a retail bakery/café to include the development of a business plan, a sales plan and an operational budget. Prerequisite: Retail Operations Management (BAK 121).

BAK 140: Principles of Restaurant Desserts **3 Credit Hours** Spring Sem.

This course introduces the baking student to the art of restaurant desserts and dessert presentation. The student will, through demos and hands-on application, begin to develop the skill necessary to plate and serve attractive desserts with appropriate sauces and garnishes. Prerequisite: Principles of Baking (BAK 101).

BAK 150: Foundations of Baking (Baking Module #1) **4 Credit Hours** Fall/Spring Sems.

In this laboratory course, the student will be exposed to a foundational array of baking preparations and skills. The student will be exposed to quick breads; yeast-raised products including artisan breads; pies, tarts, cookies, and cakes; and introductory pastry items such as pâte à choux, puff pastry, and phyllo dough, as well as custards, fillings, and cold dessert sauces. Additional emphasis will be placed on formula conversion, scaling, and mixing techniques that differentiate baking from cooking.

BAK 232: Advanced Patisserie **3 Credit Hours** Fall/Spring/Sum Sems.

A lecture/laboratory class that focuses on the preparation of classical pastries and contemporary restaurant desserts. Students will learn the techniques and procedures used in the production of European-style tortes, petit fours sec and glace, Bavarians, mousse, poached fruits, and confections. Strong emphasis will be placed on piping techniques and styles used in decorating cakes and desserts. Prerequisite: Baking Block One (BAK 102) or permission of the instructor and/or Dean of the Division.

BAK 242: Commercial Baking Block **4 Credit Hours** Summer Sem.

An on-the-job training module that prepares the students to produce a standard array of baked goods found in most bakeshops and hotel/restaurant pastry shops. Students will learn to prepare the following items in a volume format: breads, rolls, quick breads, donuts, Danish pastries, puff pastry desserts, pâte à choux, hippen cookies, cakes, tortes, mousse, Bavarians, fruit fillings, cheesecake, specialty cookies, and basic work with chocolate. Prerequisite: Foundations in Baking (Baking Module #1) or permission of the instructor and/or Dean of the Division.

BAK 295: Baking Externship **6 Credit Hours** As Required

Students will complete a minimum of a semester of bakery industry experience. Students will sign a contractual agreement with an externship site. The following options are available: 1) Competitive participation in one of the externships developed by the College; or 2) Independent externship in the industry secured by the student that meets the approval of the Program Coordinator. Verified work experience of one year prior to enrollment at Paul Smith's may be substituted for either option, providing that experience is comparable and applicable to the student's major (see Externship Verification Process section). Enrollment in either of the two options requires a cumulative GPA of 2.00 or better. Grading is pass/fail based on completion of the contractual agreement with the externship property and adherence to their rules and regulations of employment as well as to Paul Smith's College rules of student conduct.

BUSINESS

ACC 101: Financial Accounting **3 Credit Hours** Fall/Spring Sems.

The basic principles of financial accounting are studied. Students learn the rules of debit and credit and the step-by-step process in completing the accounting cycle. Development of format, and use of various financial statements are discussed. Students learn the capital structures of various types of business organizations. Internal control and data processing procedures are introduced. Special attention is given to the study of current assets, fixed asset s, and depreciation. (3 hours lecture).

ACC 102: Managerial Accounting **3 Credit Hours** Spring Sem.

Study of the principles of financial accounting begun in Financial Accounting (ACC 101) is continued, including in-depth studies of cash flows, internat ional accounting, and corporate structure. A foundation of managerial accounting is also presented, including standard costing, budgeting, profit planning, break-even analysis, and responsibility accounting in decision-making situations. (3

hours lecture). Prerequisite: Financial Accounting (ACC 101).

ACC 201: Small Business Accounting
3 Credit Hours **d.b.a.**

This course will familiarize students with accounting principles and practices applicable to small business organizations. Various business models will be explored. Students will analyze and maintain financial information using small business accounting software and assess the financial implications of small business decision-making. (3 hours lecture). Prerequisite: Financial Accounting (ACC 101).

ECN 101: Macroeconomics

3 Credit Hours **Fall Sem.**

An examination of macroeconomics, including an introduction to economic systems, money and banking, monetary and fiscal policy, economic growth, and the theories and measurement of national income, employment and international trade. (3 hours lecture).

ECN 102: Microeconomics

3 Credit Hours **Fall/Spring Sems.**

A course in microeconomics dealing with the theory of the firm and consumer behavior within a market system. Emphasis is placed on the relationship between market structure and price and output determination. Current economic problems are used to clarify the development and application of economic models. (3 hours lecture).

ECN 400: The Global Market

3 Credit Hours **Fall Sem.**

Students will develop an understanding of the global nature of all business and how much of our future lies outside the boundaries of the United States. This course will evaluate recent paradigm shifts from isolationism to regionalized and global economics. Additionally, students will reflect on agreements that have forced the issues of the global market into political debate. (3 hours lecture). Prerequisites: Macroeconomics (ECN 101) or The Service Economy (HOS 300).

ECN 410: Resource Economics

3 Credit Hours **Fall Sem.**

This course describes several conceptual tools and the conventional analytical framework used to characterize the optimal allocation of natural resources over time. While neo-classical resource economics forms the focus, an important component of the course includes an introduction to the field of ecological economics and the three-fold framework of resource management decisions (biophysical constraints and opportunities, economic feasibility, and institutional acceptability). The goal is to enable students to understand and appreciate the economic component of a sustainable relationship between the natural

environment system and the political and economic systems of the global society. (3 hours lecture).

Prerequisite: Microeconomics (ECN 102).

FIN 310: Finance

3 Credit Hours **Fall/Spring Sems.**

A course that presents detailed financial concepts as applied to both corporate and entrepreneurial business environments. The course will cover financial theory and applications using case studies. The course will address those issues of finance that apply to today's business, such as ratios, liquidity, profitability, financial forecasting, operating and financial leverage, etc. (3 hours lecture). Prerequisite: Financial Accounting (ACC 101)I or equivalent.

MGT 101: Introduction to Entrepreneurship

3 Credit Hours **Spring Sem.**

A modern small-business course that focuses on the traits and methods of management required of successful owner/operators in today's business environment. Students will explore why some entrepreneurs fail while others succeed repeatedly. Additionally, the students will learn how to assess their chances for success by discovering how to recognize their own strengths and weaknesses. (3 hours lecture).

MGT 105: Introduction to Business

3 Credit Hours **Fall Sem. 2006 Only**

An introductory course designed to expose the student to the way that business functions as it relates to its internal and external environment in the free enterprise system. Business structures are examined, and a wide range of topics, including organization, financing, banking, production, purchasing, selling, advertising, data processing, social responsibility, and related topics are discussed. Relations between business and consumers, labor, government, and the international market are examined. (3 hours lecture).

MGT 160 & 161: Foundational

Entrepreneurship I & II

3 Credit Hours **Fall & Spring Sems.**

In this year-long, hands-on course, student teams propose, plan and launch their own campus-based entrepreneurial venture. General management issues integrating marketing, financial, and management functions are experienced from the perspective of the entrepreneur or business owner. The entrepreneurial process is investigated, including entrepreneurial characteristics, small business trends, start-up and growth strategies, and common problems facing small business owners and entrepreneurs. The goal is for students to learn not only *what* strategic challenges entrepreneurs face in the launch and growth of their businesses, but also *how* entrepreneurs effectively launch and grow their companies using various strategies. (3 hours lecture).

MGT 201: Business Law

3 Credit Hours **Fall/Spring Sems.**

An introductory course designed to develop a basic understanding of the legal aspects of business. The functions and operations of the court system are discussed. Formation of the single proprietorship, partnership, and the corporation types of business

are examined. Contracts, their formation, legal effect, and discharge; trust and agency; employer-employee relationships; and government regulation are also discussed. (3 hours lecture).

MGT 260: Business Ethics Simulation

3 Credit Hours **Spring Sem.**

This course provides an opportunity to participate in a series of business simulations that demonstrate a wide array of business issues and business decision making. The course will also focus on debate of ethical issues in business. Particular emphasis will be given to businesses with entrepreneurial roots. Concepts including ethical reasoning, critical thinking, strategic thinking and professional articulation of personal ideologies will serve as a backdrop for the class. The goal is for students to learn not only *what* is involved in ethical decision making, but also *how* ethical decision making can be effectively used. (3 hours lecture). Prerequisite: Sophomore standing.

MGT 300: Principles of Management

3 Credit Hours **Fall/Spring Sems.**

A course designed to introduce students to the management functions of planning, organizing, leading, and controlling. Management theory is examined from an historical viewpoint and principles are applied using the systems approach and contingency as related to contemporary management practice. Students focus on industry examples and problem solving. (3 hours lecture). Prerequisite: Junior standing.

MGT 310: Human Resource Management

3 Credit Hours **Fall/Spring Sems.**

The study of human resource management as it relates to the contemporary employment environment. Human resources planning is emphasized and job planning, job design, recruitment, selection, hiring, training, evaluation, promotion, compensation systems and termination are discussed. Leadership skills are developed, and motivation theory is examined. The role of labor unions is discussed, and legislative requirements affecting employment practices are examined. (3 hours lecture). Prerequisite Junior standing.

MGT 320: The Family Business

3 Credit Hours **Fall Sem.**

More than 80% of the businesses in the United States are private entrepreneurs. Although there is a preponderance of "flag" brands throughout this country, the lifeblood of free enterprise is still the family operation. The blend of family values, family systems, and business operations can lead to a very challenging environment for ownership. The course will focus not only on the systems necessary to run a family business, but also on the psychological, human issues that inevitably arise. (3 hours lecture). Prerequisite: Junior standing.

MGT 325: Franchising
3 Credit Hours **d.b.a.**

Franchising provides many with an opportunity to reach the "American Dream" of becoming an entrepreneur. Tying in with a "flag" operation allows private entrepreneurs to take advantage of the experience and image that a brand brings to the table. For the small firm with multiple outlets, the opportunity to continue expansion and gain substantial market share through franchising a concept is quite enticing. This course offers students an opportunity to become familiar with the systems, legal issues, financing opportunities, and strategies for promotion that exist in the U.S. for franchise concepts. (3 hours lecture). Prerequisite: Junior standing.

MGT 330: Operations Management
3 Credit Hours **Fall/Spring Sems.**

This course addresses the management of operations in manufacturing and service firms. Diverse activities, such as determining the size and type of production process, purchasing the appropriate raw materials, planning and scheduling the flow of materials and the nature and content of inventories, assuring product quality, and deciding on the production hardware and how it gets used, comprise this function of the company. Managing operations well requires both strategic and tactical skills. The course will cover such topics as: process analysis, workforce issues, materials management, quality and productivity, technology, and strategic planning, together with relevant analytical techniques. This course will provide a survey of these issues. (3 hours lecture). Prerequisite: Junior standing.

MGT 360: Entrepreneurial Practicum
3 Credit Hours **d.b.a.**

This on-the-job experience is designed to provide practical application of the knowledge gained during the student's first two years of study in Business Management and Entrepreneurial Studies. Students may choose to work in an entrepreneurial setting within the North Country or in a variety of other business practices. Students will be exposed to numerous aspects of business development, customer service and human resources and operations management. Students will write a business plan for the business and share it with the practicum participants. Prerequisite: BMES junior standing and a cumulative GPA of 2.00.

MGT 400: Strategic Planning & Policy
3 Credit Hours **Spring Sem.**

An inter-disciplinary senior seminar emphasizing the analysis of complex business problems in domestic and global settings. Using a strategic management framework, this course integrates core business knowledge across all functional and decision-support areas to arrive at

economically-sound, ethically-principled, value-adding solutions. This case-based seminar will focus on issues of venture capital and other forms of capitalization and enterprise growth; initial public offerings (IPO's); small business management problems and entrepreneurial strategy. (3 hours lecture). Prerequisites: Senior standing and completion of all required BMES courses through the third year of study.

MGT 460: Capstone Consulting Seminar
3 Credit Hours **Spring Sem.**

Student consultants are assigned an entrepreneurial client and will develop a formal "client-deliverable" project, such as a strategic marketing plan, a business plan or a financial plan. This client project will reflect the research completed in Capstone Research Methods Seminar (SOC 460) in the previous semester. This consulting service will be provided to clients *pro bono* to further our stewardship goals for the entrepreneurial studies students. The project serves as a "capstone" of the BMES program. (3 hours lecture). Prerequisite: Senior standing and completion of Capstone Research Methods Seminar (SOC 460).

MGT 499: Special Topics in Management
3 Credit Hours **d.b.a.**

Theories of management evolve at an exponential rate. Dealing with the management of people, inside and outside an organization, is complex due to the nature of human behaviors. Organizational structures change as the definition of these organizations mutate in response to economic conditions and the needs of those stakeholders who make the organization breathe. As new approaches rise to the surface, this free-form course will allow members of the faculty to research and present new concepts in management and leadership. (3 hours lecture). Prerequisite: Junior standing or permission of the Dean of the Division.

MIS 410: Management Information Systems
3 Credit Hours **Fall Sem.**

This course guides the student through an overview of the management information systems strategies. Students analyze common MIS problems and the solutions implemented to address them. Common issues associated with managing different components of an information system in an organization are also covered. (3 hours lecture). Prerequisite: Senior standing.

MKT 300: Principles of Marketing & Sales
3 Credit Hours **Fall/Spring Sems.**

Students are introduced to the functions of a marketing system to gain a better understanding of the consumer and industrial market place. Different strategies necessary to market a product or service are discussed from scientific and practical viewpoints. Topics discussed include product planning and development, quality, pricing promotions, and channels of distribution. (3 hours lecture). Prerequisite: Junior standing.

MKT 305: Advertising and Promotion
3 Credit Hours **Fall Sem.**

Students will learn to evaluate advertising as an institution in society and investigate advertising,

both as a tool of marketing and as a process of mass communication. Topics such as marketing research, media selection, budget allocation, publicity, and personal selling efforts will be discussed. Through various assigned projects, students will design and produce advertisements in a variety of mediums. (3 hours lecture). Prerequisite: Junior standing.

MKT 310: Retailing
3 Credit Hours **d.b.a.**

Consumers still drive the U.S. economy. Retailing today is at an interesting crossroads. As consumers spend ever more of their disposable income, the industry that exchanges that tender for goods is faced with unique opportunities. Franchising, niche marketing, aggressive point-of-sale merchandising, the use of the Internet, and competitive pricing strategies combine to make the exchange of goods for money a complex science. This course will prepare students for entrance into the dynamic, fascinating, psychologically-driven, fast-paced and ever-changing retail business sector. (3 hours lecture). Prerequisite: Principles of Marketing (MKT 300).

CULINARY ARTS

CUL 101: Foundations of Culinary Preparation I (Cooking Module #1)
4 Credit Hours **Fall/Spring Sems.**

This 1st semester course provides the student with an introduction to foundational cooking. It includes study of the basic tenets of kitchen safety, sanitation and food service mathematics. The primary focus is the theory and skill development of knife handling, preparation of stocks, soups, sauces and the primary cooking methods. Product identification, the use of herbs, spices and seasonings, as well as fundamental techniques in fabrication will also be introduced.

CUL 102: Foundations of Culinary Preparation II (Cooking Module #2)
4 Credit Hours **Fall/Spring Sems.**

This 1st semester course is a continuation of Foundations of Culinary Preparation I (Cooking Module #1) (CUL 101) that continues focus on foundational cooking. The student will continue to develop knife skills, the preparation of stocks, soups, sauces and the primary cooking methods through the application of these methods on the preparation of restaurant-plated appetizers and entrees. Product identification, the use of herbs, spices and seasonings and fundamental techniques in fabrication will also be introduced, as well as preliminary baking skills that include the preparation of yeast products and quick breads. This course is competency based in alignment with accreditation requirements of the American Culinary Federation. Prerequisite: Foundations of Culinary Preparation I (Cooking Module #1) (CUL 101).

CUL 110: Classical Kitchen
2 Credit Hours Spring Sem.

A lecture/laboratory course designed to develop the student's understanding of the history, preparation, and service of classical French Cuisine. Emphasis will be placed on the works of Auguste Escoffier and Ferdinand Point. Additionally, students will reinforce culinary skills introduced in Foundations of Culinary Preparation I and II. Prerequisites: Foundations of Culinary Preparation I (Cooking Module #1) and Foundations of Culinary Preparation II (Cooking Module #2) (CUL 101, CUL 102) or permission of the instructor and/or the Dean of the Division.

CUL 120: The Careerist
3 Credit Hours Fall/Spring Sems.

An introductory course designed to assist first-time college students in adjusting to Paul Smith's College and identifying the tolls needed for success, both in college and life. This course is for students who are not required to take General Education courses, but who do need to utilize a variety of current essential career skills applicable to culinary and hospitality organizations. These skills are specifically designed to help those students.

CUL 130: Introduction to Beverage and Table Service
2 Credit Hours Fall Sem.

This course introduces students to the various styles of table service and the organization, sequencing and timing of service. In addition, students explore wine and beverage basics as applied to table service and the primary rules for food and beverage pairings.

CUL 150: International Cuisine
(Cooking Module #3)

4 Credit Hours Spring Sem.
A course designed to develop the student's understanding of various international cuisines as well as the contributing historical events, cultures, religions, climates, and topographies that shaped the cuisines. These countries or regions may include, but not be limited to: Japan, Thailand, the Philippines, Mexico, North Africa, the Middle East, Italy, France, China, the Caribbean, Spain, India and Greece. This course is competency based in alignment with accreditation requirements of the American Culinary Federation. Prerequisites: Foundations of Culinary Preparation I (Cooking Module # 1) and Foundations of Culinary Preparation II (Cooking Module #2) (CUL 101, CUL 102).

CUL 170: Food Service Sanitation
3 Credit Hours Fall/Spring Sems.

This course focuses on the importance of sanitation in the food service industry. Students gain an understanding of the causes of food-borne illnesses and learn how sound sanitation management procedures can reduce

food-borne disease as well as improve food quality and the overall success of the operation. Details concerning food supplies, food handling, the facility, and training with regard to sanitation will be included. The process of the HACCP food safety program will be presented and applied. Students may elect to take a food service sanitation certification examination through the Educational Foundation of the National Restaurant Association.

CUL 230: Food Service Operations Management
3 Credit Hours Spring Sem.

This course is designed to introduce the student to the causal relationship between menu development and the financial impact on restaurant operations. This course walks the student through the development cycle, beginning with the market research process to the support functions of purchasing and receiving, storing and requisition of food and beverages to produce menu items. Students become familiar with accounting practices related to foodservice operations, such as costing recipes, setting appropriate selling prices based on fixed/variable costs and forecasting to determine food/labor needs. This course also addresses the ongoing processes necessary for sustained menu profitability.

CUL 250: Advanced Cooking Techniques
(Cooking Module #4)

4 Credit Hours d.b.a.
A course designed to encompass three primary areas of cooking: Garde Manger, Advanced Cooking and Nutrition. Students will become familiar with preparations including, but not limited to, canapés, hors d'oeuvres, complex salads, relishes, dressings and marinades, cold buffet platters, galantines and pâtés and hot food preparations and plate presentations that are aligned with contemporary restaurant concepts. Nutritional preparations of foods and alternative methods designed to retain natural vitamin and mineral contents of food, as well as preparations for an ever-increasing population of consumers interested in low-fat, low-sodium, low-carbohydrate foods and food preparations will be stressed. Prerequisites: Foundations of Culinary Preparation I (Cooking Module #1) and Foundations of Culinary Preparation II (Cooking Module #2) (CUL 101, CUL 102).

CUL 260: Commercial Cooking and Catering
6 Credit Hours Fall/Spring/Sum Sems.

This course focuses on practical hands-on training that is the culmination of a culinary student's first year. The course includes the application of culinary techniques, the use and care of equipment, the pressure of à la carte preparation and service, and the effective handling and use of supplies. Students will rotate through various positions in the College-owned and operated Hotel Saranac. Prerequisites: Foundations of Culinary Preparation I (Cooking Module #1) and Foundations of Culinary Preparation II (Cooking Module #2) (CUL 101, CUL 102) or permission of the instructor and/or the Dean of the Division.

CUL 280: Nutrition/Food Science
3 Credit Hours Fall/Spring Sems.

This course focuses on the functions that carbohydrates, fats, protein, water, vitamins, and minerals have in the body. Students will study human nutritional requirements through the life

cycle. The application of chemistry and physics principles to the selection, preparation, processing and storage of foods will be examined.

CUL 295: Culinary Externship
6 Credit Hours Fall/Spring/Sum Sems.

Students spend a semester or more of food preparation work at a hotel, restaurant, resort, or contract food service operation. Students will sign a contractual agreement with an externship site. The following options are available: 1) Competitive participation in one of the externships developed by the College; or 2) Independent externship in the industry secured by the student that meets the approval of the Dean. Verifiable full-time, work experience of one year or more in the culinary industry, prior to enrollment at Paul Smith's, may be substituted for either option one or two. (See Externship Verification Process section). Enrollment in either of the two options requires a cumulative-GPA of 2.00 or better. Grading is Pass/Fail based on completion of the contractual agreement with the externship property and adherence to their rules and regulations of employment as well as to Paul Smith's College rules of student conduct. Prerequisite: One full semester of course work in the Culinary Arts program.

CUL 299: Special Topics in Culinary Arts
3 Credit Hours d.b.a.

This course will provide students with an opportunity to study culinary arts topics which are not normally offered. These courses are selected for their potential to contribute both to the professional and intellectual development of students. In most cases, student demand or faculty expertise (or both) are factors which influence the selection and timing of these courses.

CUL 320: American Gastronomy
3 Credit Hours Fall/Spring Sems.

American Gastronomy will focus on research of original native culture, U.S. geography, and indigenous natural resources, all of which have influenced what and how we eat today. Specific historical and cultural events will be tracked to determine their effect on the eating habits of Americans. Students will also examine the impact of European, African, and Asian influences on the evolution of American cuisine. Students will observe and evaluate meals whose roots are ethnically pure and follow the same meals through their evolution to modern times. Development of unique micro-cultures will be studied; specific cuisines will be prepared, and evaluated. Prerequisites: Foundations of Culinary Preparation I (Cooking Module #1), Foundations of Culinary Preparation II (Cooking Module #2), International Cuisine (Cooking Module #3), and Advanced Cooking Techniques (Cooking Module #4) (CUL 101, CUL 102, CUL 150, CUL 250) or permission of the instructor and/or the Dean of the Division.

CUL 341: Culinary Futures/Food Techniques

4 Credit Hours **d.b.a.**
A lecture/lab course which will explore current and future trends in restaurant menus, as well as dealing with an understanding of how science and technology are changing the way society and our industry cooks, operates and lives. Through lectures, demonstrations, and hands-on applications, this course will cover a wide and varied array of topics and trends as they evolve and shift in a dynamic industry. Students will be exposed to the methods that chemists and technologists use to present products for market using high-tech emulsifiers, fat substitutes, flavor enhancers, irradiation technology, sous-vide (vacuum cooking) and genetic engineering. Prerequisites: Foundations of Culinary Preparation I (Cooking Module #1), Foundations of Culinary Preparation II (Cooking Module #2), International Cuisine (Cooking Module #3), and Advanced Cooking Techniques (Cooking Module #4) (CUL 101, CUL 102, CUL 150, CUL 250).

CUL 380: Advanced Kitchen and Menu Management

4 Credit Hours **Spring Sem.**
A comprehensive lecture/laboratory course that will require the student to research contemporary cuisines, analyze demographic data, and plan and design menus. Students will perform menu tastings, establish standardized recipes, develop training modules and production schedules, and develop labor schedules. Food requisitions will be submitted to support preparation and service of the menus to the public. Prerequisites: Food Service Operations Management (CUL 230), Dining Room and Kitchen Operations (RES 132), and Foundations of Culinary Preparation I and II (Cooking Modules #1 & #2) (CUL 101, CUL 102) or permission of the instructor and/or the Dean of the Division.

CUL 499: Special Topics in Culinary Arts

3 Credit Hours **d.b.a.**
Culinary Arts have become legitimate areas of study that encompass not only technical skills, but also an understanding of history, anthropology, geography, agriculture, customs and language. This special topics course will provide an opportunity for faculty, with unique backgrounds in academic and technical areas of culinary arts, to offer instruction. Sample topics might include: artisan bread baking, chocolate centerpieces, sugar work, ice carving techniques, historical influences of foods on various cultures, the impact of ethnic backgrounds on cuisine, etc. Prerequisite: Junior standing or permission of the Dean of the Division.

FISHERIES & WILDLIFE

FWS 101: Introduction to Fisheries and Wildlife Management

3 Credit Hours **d.b.a.**
This course will serve as a primer to students in the Fisheries and Wildlife Sciences Program. Its purpose is to create the awareness that management of fisheries and wildlife resources is firmly steeped in the biological sciences. The basic science behind managing populations of birds, mammals, and fish will be explored (data collection, analyses, presentation). Furthermore, the student will be exposed to reality of the roles that communication, human dimensions, and policy play in fisheries and wildlife management. (2 hours lecture, 3 hours lab).

FWS 201: Introduction to Wildlife Management

3 Credit Hours **Spring Sem.**
This course provides an introduction to the principles involved in the maintenance of sustainable wildlife populations. The focus of the course is in two major areas: (1) the ecological and biological principles underlying wildlife conservation, such as habitat, population dynamics, and animal behavior, and (2) the role of humans in wildlife conservation, including both the effects of wildlife exploitation and the effects of various restoration and management practices. The major emphasis of the course is on, but not completely limited to, terrestrial vertebrate animals. (3 hours lecture).

FWS 320: Techniques in Wildlife Management

3 Credit Hours **Fall Sem.**
This course will address techniques used to reduce, maintain and increase wildlife population densities. Techniques that directly impact the organisms themselves as well as techniques that affect organisms through manipulation of habitat will be covered. The focus is primarily on mammals, but birds, amphibians, and reptiles will also be included to some extent. (2 hours lecture, 3 hours lab). Prerequisite: Biology I and II (BIO 101, BIO 102) and General Ecology (BIO 210).

FWS 331: Fisheries Techniques

3 Credit Hours **Fall Sem.**
This course provides laboratory and field experience in fish collection, identification, anatomy, and fishery monitoring and evaluation techniques including netting, electrofishing, and quantitative fishing analysis. Emphasis in lecture is placed on the theory, principles and practices of fisheries science and monitoring and evaluation techniques used in population dynamics studies and management of streams, ponds, and lakes. New York Department of Environmental Conservation practices of fisheries administration in the Adirondacks including the use of hatcheries and the use of rotenone will also be explored. This course provides essential knowledge for students interested in Natural Resources programs. (2 hours lecture, 3 hours lab). Prerequisites: Biology I or II (BIO 101, 102), or Introduction to Fisheries & Wildlife Management FWS 101 or equivalents.

FWS 370: Natural History of North American Vertebrates

3 Credit Hours **Fall Sem.**
This course introduces students to the biodiversity and natural history of vertebrates that live in North America. The focus will be on fish, amphibians, reptiles, birds and mammals with an emphasis on vertebrates that live in the eastern United States. Students will be able to identify vertebrates as well as demonstrate an understanding of vertebrate anatomy, physiology, behavior, reproduction, life history and ecology. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102).

FWS 380: Fisheries Management

3 Credit Hours **Spring Sem.**
This course provides a basic understanding of fisheries management principles. Emphasis in lecture is placed on the theory, principles and practices of fisheries science and management of streams, ponds and lakes. The course will cover fisheries assessments, population estimation techniques, age and growth studies, watershed evaluation, stream and lake improvement, fish life history features, and fish stocking and propagation. New York State Department of Environmental Conservation practices of fisheries administration and management in the Adirondacks a Federal Fish and Wildlife Services management of the Lake Champlain Basin will also be explored. (3 hours lecture). Prerequisites: Introduction to Fisheries & Wildlife Management FWS 101 or Biology I or II (BIO 101, BIO 102).

FWS 470: Wildlife Management

3 Credit Hours **Spring Sem.**
This advanced course deals with the principles that guide natural resource professionals in management of wildlife, including those used in management of game animals for harvest, in maintenance of and restoration of viable populations, and in ecosystem management. The historical and philosophical context for these approaches is emphasized. The course also deals with application of principles to actual problems in management and conservation. Applications are illustrated with the extensive use of case studies. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102) and General Ecology (BIO 210).

FWS 480: Fisheries Biology and Management

3 Credit Hours **Spring Sem.**
Fisheries management is based on the use of scientific information, communication skills, and an understanding of human dimensions to manipulate aquatic populations, aquatic habitats, and humans to sustain or increase the benefits of fishery resources. In this class, students will become intimate with an understanding of the science foundation beneath fisheries management that can help humans make informed decisions. Students will 1) study the scientific approaches used to

assess fish population and community dynamics, 2) review the components and managing limiting factors, and 3) learn the historic and contemporary roles of humans in traditional and emerging management approaches in fisheries protection, maintenance, and restoration. Class discussion of case histories will provide focal points for developing an understanding of the complexity of fisheries management. (3 hours lecture).
Prerequisites: Biology I and II (BIO 101, BIO 102), and General Ecology (BIO 210).

FORESTRY

FOR 101: Introduction to Forestry
3 Credit Hours Fall/Spring Sems.
A lecture and laboratory course which gives students a broad survey of forestry history, federal, state and private forest management, timber harvesting practices, outdoor recreation, wildlife, silviculture, mensuration, and aspects of the forest products industry. The laboratory is designed to get students into the woods and introduce the use of hand tools, saws, mechanized equipment and safe woodworking practices. The course covers procedures for measuring trees, wildlife habitat improvement, scaling, and running a compass line. (2 hours lecture, 4 hours lab).

FOR 110: Dendrology
3 Credit Hours Fall/Spring Sems.
The identification, taxonomy, ecology, geographic ranges and uses of trees of North America with emphasis on the commercially-important species. Field trips survey native Adirondack trees, shrubs, and some introduced ornamentals. (2 hours lecture, 3 hours lab).

FOR 120: Insects and Diseases of Trees
3 Credit Hours Fall Sem.
This course presents the basic terminology and principles pertaining to the study of entomology and tree pathology. The taxonomy and morphology of insects will be covered, along with the categories and characteristics of diseases that affect trees. The students will learn to identify common insects and diseases of trees. Various control strategies will be presented with an emphasis on environmentally-sound methods. (2 hours lecture, 2½ hours lab).

FOR 130: Landscape Fundamentals and Interpretation
2 Credit Hours Spring Sem.
Emphasis is placed on the principles of design, installation, and care of ornamental trees with associated plants. Instruction is provided for student-produced planting designs. The designs will take into consideration buildings, paths of movement, soils and various plant features such as color, size, shape and texture. (2 hours lecture).

FOR 140: Arboriculture I
3 Credit Hours Spring Sem.
The first of a two-course sequence concerning the discussion and practical training laboratory application of the skills needed to practice arboriculture. Material covered will include tree physiology, tree surgery, tree removal methods, fertilization, and general maintenance practices of shade and ornamental trees. (2 hours lecture, 6 hours lab). Prerequisite: Insects and Diseases of Trees (FOR 120) or permission of the instructor.

FOR 150: Sawmill Lecture
3 Credit Hours Spring Sem.
This course is designed to train forestry students in the design and operation of a circular saw sawmill and the role of sawmilling in today's forest industries. Students learn how to determine saw diameters, tooth style, gauges, and horsepower requirements for a variety of situations based on species and average largest log processed. Methods of determining sawmill efficiencies are discussed in detail. The course trains the students in the hand lens identification of approximately 35 northeastern species of woods, hardwood and softwood lumber and log grading, and the maintenance of sawmill machinery. (2 hours lecture, 3 hours lab).

FOR 200: Forest Mapping
2 Credit Hours Spring Sem.
This course will cover the basics of interpreting, using and creating maps for a variety of forestry, recreation and natural resource applications. After being introduced to basic map reading skills, such as the use of scales, understanding map symbols and interpreting topographic contours, students will learn how to make basic field sketch maps by hand and progress to using and creating maps with computer software including both Computer-Aided Design and Drafting (CADD) and Geographic Information Systems (GIS). While much of the work will be done at drafting tables and computers, field components will include the use of compasses and maps for navigating in the forest, drawing of field sketch maps, and an introduction to the use of Global Positioning Systems (GPS) in the field. (1 hour lecture, 2 hours lab).

FOR 210: Equipment: Small Engines Repair
2 Credit Hours Fall Sem.
This course is designed to train forestry students in the operating principles and maintenance of 2-stroke and 4-stroke cycle single cylinder gasoline engines. Lectures, videos, and discussions center on the disassembly, assembly and operating principles of small engines. Students learn the importance of lubricating oils and the application of scheduled maintenance to promote long engine life. (4 hours lab).

FOR 215: Equipment Maintenance: Welding
2 Credit Hours d.b.a.
This course is designed to train forestry students in welding, using oxygen/acetylene cutting, welding and brazing equipment and a variety of electric arc welding processes. Lectures, videos, and discussions are supplemented with applied laboratory activities and experiments. Students are encouraged to learn welding as it applies to future

professional plans and the equipment of specific forestry operations. The ability to perform maintenance welding and evaluate the welding of others is emphasized as a potential employment advantage for forestry students. (4 hours lab).

FOR 220: Lumber Manufacturing and Kiln Drying
4 Credit Hours Summer Sess.
This course is designed to train the student in the efficient and safe operation of sawmill and dry kiln facilities. Students will study the inter-relationships of log grading, log break-down into lumber, lumber grading (hardwood and softwood), and proper stacking procedures. The selection of drying schedules, wood/water relationships, kiln sample selection and monitoring, and kiln control will also be studied. (Four 40-hour weeks). Prerequisite: Sawmill Lecture (FOR 150).

FOR 225: Greenhouse-Turf Practice
3 Credit Hours Spring Sem.
Students receive instruction and practical laboratory experiences in various phases of greenhouse management. This includes a study of the construction and function of a greenhouse. Students will learn how to propagate annuals and woody plants from seeds and cuttings. The turf study portion of this course is intended to provide students with a working knowledge of how to install and maintain various types of turf grasses. (2 hours lecture, 2 hours lab). Prerequisite: Enrollment in Urban Tree Management Program, or permission of the instructor.

FOR 230: Forest Health
2 Credit Hours Fall Sem.
This seven-week course is designed to give students an introduction to some of the most important factors that affect the health of forest ecosystems, especially forest fire, insects, and disease. The overall concept of "forest health" is introduced and important concepts of forest ecology that relate to forest health are covered. The bulk of the course is devoted to coverage of particular issues related to forest fire (effects, behavior, and control), insects and disease (major species, their effects, and control) and other factors, such as pollution and deforestation. (3 hours lecture for 7 weeks).

FOR 235: Timber Harvesting
4 Credit Hours Fall Sem.
This course is designed to develop not only an awareness of the techniques, operations and safety implications involved in felling, skidding, bucking, and marketing forest products, but also the communication and problem-solving skills and self-confidence needed to work effectively in most timber extraction situations. This course typically has a commercial operation in an area which the students have cruised in the Forest Mensuration (FOR 241) block; thus they have sufficient information available with which to develop and then implement the harvest plan

from the forester's perspective and the woods worker's point of view. This includes estimation of fiber to be extracted, marketing of the trees to be removed, cutting down the trees using the OSHA-approved Swedish Felling Technique, skidding of the trees with College-owned equipment, and bucking the stems in a manner deemed to be the highest and best use for fiber. The communication skills are highlighted by meetings with various professionals in the field to see how the real world functions. (Five 28-hour weeks). Prerequisites: Introduction to Forestry (FOR 101) and Silviculture (FOR 260), or permission of the instructor.

FOR 240: Forest Mensuration I
2 Credit Hours Summer Sess.
This course introduces the skills needed to measure land and timber resources using tools common in the field of forestry. It involves an introduction to orienteering using a hand compass and pacing, and land measurements using a staff compass and two-chain topographic tape. An introduction to individual tree measurements is completed, along with topographic and aerial photographic interpretation. Basic forest sampling and statistical analysis are introduced in preparation for the final project, in which a timber inventory is planned, executed, and analyzed. (Two 40-hour weeks). Prerequisite: Dendrology (FOR 110).

FOR 241: Forest Mensuration II
4 Credit Hours Fall Sem.
Forest Mensuration II builds on the foundation established in Forest Mensuration I (FOR 240). A variety of timber cruising techniques are discussed, executed, and analyzed, including fixed radius plot sampling, point sampling, timber trespass, continuous forest inventories, and 3-P cruising. Forest inventory skills (e.g., cull identification and estimation, simple linear regression, computer analysis of inventory data and technical report writing) are also emphasized and integrated into field project assignments. The emphasis is on more independent work by students that helps to better simulate working-world conditions and situations, as well as to develop self-confidence and a strong work ethic. (Five 28-hour weeks). Prerequisites: Forest Mensuration I (FOR 240) and Surveying I (SRV 201), or permission of the instructor.

FOR 245: Forest Measurements
3 Credit Hours Spring Sem.
This course introduces the measurement principles and techniques used in timberland inventory, including the use of technical forestry equipment and computers to set up, perform, compute, and analyze timber cruises of different types to determine volumes of merchantable timber in a given stand. Basic statistics, map and

aerial photograph interpretation, land area measurements, and forest inventory skills (e.g., cull identification and estimation, simple linear regression and technical report writing) are emphasized and integrated into field-project assignments. (3 hours lecture, 4 hours lab). Prerequisites: Introduction to Forestry (FOR 101) and Dendrology (FOR 110).

FOR 250: Arboriculture II
3 Credit Hours Fall Sem.
This is the second course of a two-course sequence concerned with the care and maintenance of trees. Topics covered will include tree physiology, plant selection, planting site modification, planting guidelines, construction damage to trees, and pest management. The lab sessions will provide the opportunity to apply tree maintenance practices and explore specialized areas of arboriculture, such as hazard tree management and lightning protection of trees. (2 hours lecture, 3 hours lab). Prerequisite: Arboriculture I (FOR 140) or permission of the instructor.

FOR 260: Silviculture
3 Credit Hours Spring Sem.
This course provides a detailed introduction to different silvicultural systems and practices, with an emphasis on the underlying ecological basis of silviculture. While the course is national and even international in scope, it focuses most particularly on the Northeastern U.S. The course makes heavy use of the College's own land and surrounding forests as a "laboratory." A centerpiece of the course is the project in which students are assigned a plot on the Paul Smith's College Forest, for which they develop a silvicultural prescription, implement the prescription on the ground, and write a detailed report on their work. (2 hours lecture, 4 hours lab). Prerequisites: Introduction to Forestry (FOR 101) and Dendrology (FOR 110), or permission of the instructor.

FOR 270: Draft Horse Management
3 Credit Hours d.b.a.
This course introduces the student to the care, management, and use of draft horses in a variety of work situations. Lectures focus on care, maintenance, anatomy, and facility requirements for optimum management. Laboratories will concentrate on handling, harnessing, and driving horses in a variety of applications (i.e., one-horse, two-horse team, log skidding, wagon driving.) (2 hours lecture, 3 hours lab).

FOR 275: Maple Sap and Syrup Production
3 Credit Hours Spring Sem.
This course is designed to teach students the many dimensions of successful operation and management of a sugar bush. The skills learned from this course will range from managing sugar maples for sap production to marketing maple syrup. The College's Sugar Bush will be the classroom for this course and provide students with the hands-on experience. The student may be asked to demonstrate his or her knowledge by conducting tours for the public. (2 hours lecture, 3 hours lab).

FOR 285: Urban Forestry Issues
2 Credit Hours Spring Sem.
This course explores special topics of interest related to the field of urban tree management. Students will learn how to perform job cost estimation and gain an appreciation for the intricacies of running a tree care business. Insurance and tax issues will be studied, along with the importance of maintaining a professional image. Management and planning strategies for urban forestry departments will be examined. The course will also cover issues pertaining to personnel management and conflict resolution. (2 hours lecture). Prerequisite: Sophomore standing.

FOR 290: Urban Tree Management Externship
6 Credit Hours Summer Sess.
This is a first-job experience in the green industry. The student is required to complete a minimum of 400 hours in a position approved by the Program Coordinator. Students are informed of various job opportunities offered through the College Placement Office or the Program Coordinator. A student may decide to independently select a job experience upon approval of the Program Coordinator. Grading is pass/fail. Prerequisite: Satisfactory completion of all first-year URTM courses, or permission of the instructor.

FOR 310: Forest Ecology
3 Credit Hours Spring Sem.
The course deals with forest ecosystems-assemblages of trees and their communities and the environments in which they live. Ecological principles governing forest establishment, competition, succession and growth will be covered, providing the student with an understanding of ecological relationships which are basic to managing trees and forests from the urban environment to the forested watershed. (3 hours lecture). Prerequisites: Introduction to Forestry (FOR 101) and Dendrology (FOR 110), or General Ecology (BIO 210).

FOR 320: Industrial Forest Operations
3 Credit Hours Fall Sem.
This course presents an overview of the forest industry, with a primary emphasis on industrial forestry in the northeastern U.S. and adjacent Canada. The course will cover timber harvesting and wood procurement operations, including both the technologies used and major social, economic, and environmental factors that affect these operations. The course will also provide an overview of the main types of forest industrial facilities operating in the region. While the emphasis will be on larger industrial facilities (large sawmills, pulp mills, furniture plants, etc.), smaller operations will also be covered. Throughout the course, an important element will be the role that foresters typically play when working with, or for, a forest industry firm. (3 hours lecture, field trips). Prerequisite: Introduction to Forestry (FOR 101).

FOR 330: Forest Soils
3 Credit Hours Spring Sem.

A synthesis of landscape interpretation from the very bedrock up, through parent materials, land-use history, vegetation, and ultimately to atmosphere and climate, as they all work together to form forest soils. Emphasis is on New York State soils as a basis for comparison with soils of other forested regions of the United States (New England, Great Lakes, Southeast, Northwest). Here is an attempt to find out why plants, especially tree species, grow where they do. (2 hours lecture, 3 hours lab).

FOR 335: Forest History
3 Credit Hours Fall Sem.

The development of forests of the United States and adjacent Canada since the end of the Ice Age is reconstructed. Evidence is from dendrochronological studies, fossil radiocarbon techniques, the written record, and structure of present forest stands. Both natural and human disturbances are examined. In addition to reconstruction of past forests and the observation of present ones in the field, we will predict the nature of future forests. (2 hours lecture, 4 hours lab). Prerequisites: Dendrology (FOR 110) and Natural Habitat Interpretation (ENV 222).

FOR 340: Forest Management
4 Credit Hours Spring Sem.

This course is designed to teach the fundamentals of decision-making in relation to forest management. The course has three major parts. The first part deals with land and timber appraising techniques: the time value of money and investment decision models are discussed, along with forest taxation. The second part deals with the traditional methods for regulating even- and uneven-aged forests, rotation determination and allowable cut calculations. The third part covers the more advanced topics, such as linear programming for maximization, multiple use management practices (with an emphasis on recreation, wildlife, and water), appraisal of non-timber resources and the fundamentals for writing a forest management plan. Computers are used extensively and the use of Geographic Information Systems for development of the students' management plans is strongly encouraged. (3 hours lecture, 4 hours lab). Prerequisites: Forest Mensuration (FOR 240) and Silviculture (FOR 260), or permission of the instructor.

FOR 350: New Paradigms in Forestry
3 Credit Hours Fall Sem.

This course will examine past, present and emerging paradigms, policies and issues in forestry. The course will begin with an overview of man's relationship to forests and how that has evolved over time. Key developments in the emergence of

professional forestry and forest conservation will also be covered. Much of the course will be devoted to covering recent or emerging paradigms or issues in forestry (e.g., ecosystem management, social/community forestry, forest certification) and to understanding how factors such as politics, demographics, and increasing scientific forestry in the United States. Over the course of the semester we will discuss forestry issues ranging from very local issues (those affecting forests in the Adirondacks or other parts of the Northeast) all the way up to global forestry issues. (3 hours lecture). Prerequisite: Junior standing or permission of the instructor.

FOR 370: Ornamental Dendrology
3 Credit Hours Fall Sem.

This course provides the opportunity to study woody plants that are used for ornamental purposes. Students will be required to identify and name the plants on the study list. Information pertaining to the uses of the plants, site requirements, and pest problems will also be covered. The teaching format will include the use of references, slide presentations and field trips. (1 hour lecture, 3 hours lab). Prerequisite: Dendrology (FOR 110) or permission of the instructor.

FOR 380: Understory and Ground Cover Flora
3 Credit Hours Fall Sem.

Once the student is familiar with the northern forest over-story, he or she may want to become equally familiar with the under-story, the small plants, which grow beneath: their personality, portraits, strategies, site requirements, relations to other organisms, edibility, toxicity, and medicinal use. This should be good training for those who plan to teach, do research, or lead interpretive walks for the public. Instruction will be in the form of two 55-minute lectures per week, plus one two-hour laboratory/field trip per week. Two of the weekday laboratories will be replaced by an all-day, eight-hour Saturday field trip to the Champlain Valley in September. (2 hours lecture, 2 hours lab). Prerequisites: Dendrology (FOR 110), or Natural Habitat Interpretation (ENV 222), or permission of instructor. Prior knowledge of over-story trees and botanical nomenclature is assumed.

FOR 395: Forestry Externship
3 Credit Hours d.b.a.

Students spend from 240 to 400 hours working for an organization that carries out forestry-related activities, such as an industrial firm, consulting company, government agency, non-profit conservation/ environmental group, or a research institute. The student must identify a sponsoring supervisor at the chosen organization and have the supervisor provide both a written description of the proposed student work plan and a final performance review. It is the responsibility of the student to secure the externship, and to obtain approval, prior to beginning the externship, from the Dean of the Division or the designated Externship Coordinator. Grading is on a pass/fail basis. Prerequisite: One full year of course work in major.

FOR 400: Forest Products
3 Credit Hours Fall Sem.

The major emphasis of this course is on wood and its use as the raw material for forest products industries. The physical and chemical nature of wood, important wood properties and the nature and properties of major wood products will be covered. To a lesser degree, non-wood products will also be covered. In the lab portion of this course, students will learn how to identify the wood of a wide range of tree species and also learn how to measure basic wood properties, such as percent moisture and density. (2 hours lecture, 3 hours lab). Prerequisites: Industrial Forest Operations (FOR 320) or Forest Management (FOR 340).

FOR 410: Forest Resource Economics
3 Credit Hours Fall Sem.

This course will cover important economic principles of relevance to forestry and natural resource management, including supply and demand, pricing, net revenue maximization, marginal analysis, investment evaluation, taxation, market and non-market goods and services, and the economics of multiple use. These principles will be related to specific forestry issues, such as the determination of optimal rotation ages; land and equipment investment decisions; timber stand improvement decisions; determining the effects of taxes on forestry investments; and incorporating non-timber products into forest management decision making. (3 hours lecture). Prerequisites: Introduction to Forestry (FOR 101) and Microeconomics (ECN 102).

FOR 420: Advanced Silviculture
3 Credit Hours Spring Sem.

This course will cover advanced topics in applied silviculture, with a heavy emphasis on forest stand dynamics, innovative silviculture practices, and the relationship of silviculture to major forestry issues (e.g., forest certification and endangered species management). While emphasizing the Silviculture of northeastern forests, the course will also cover major silvicultural practices and issues of the southern and western United States. In the laboratory portion of the course, students will take field trips to see silvicultural practices applied to the field, collect data for use in site evaluations and growth and yield models, and gain experience with silviculture and forest stand growth models (e.g., the Northeast Decision Model and SILVAH). (2 hours lecture, 4 hours lab). Prerequisite: Silviculture (FOR 260).

FOR 430: Forest Pest Management
3 Credit Hours d.b.a.

In this course, students will learn about the biology, classification, and management of major forest and shade tree pest species. Topics covered will include insect and disease agent classification, general biology of major pest species, forest pest impacts and control, and the role of pests (positive and negative) in forest ecosystems. In the

laboratory portion of the course, students will learn to collect and identify forest pests and also learn to recognize the signs and effects of pests in the forest and on individual trees. (2 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102) and Dendrology (FOR 110), or permission of instructor.

FOR 440: Utility Vegetation Management

3 Credit Hours Spring Sem.
This course presents an overview of vegetation management issues, programs and techniques of importance to organizations that maintain powerlines, pipelines, and other types of right-of-ways that require control of vegetation. The development of utility vegetation management programs and strategic planning issues will also be covered. The lab component of the course will focus primarily on use of computers and other technology for program development and management, but will also cover some advanced or specialized arboriculture techniques of relevance to utility vegetation management and will involve one or more field trips to see utility vegetation management project sites. (2 hours lecture, 3 hours lab). Prerequisite: Arboriculture (FOR 140).

GEOGRAPHIC INFORMATION SYSTEMS

GIS 201: Introduction to GIS

3 Credit Hours Fall/Spring Sems.
This course will introduce students to the most widely used Geographic Information System software called ArcView. Students will learn what GIS is and how it works. High-quality maps will be created through projects that require students to analyze and organize information tailored to various situations. Students will also learn how professionals in a wide range of fields are using GIS and how it can be a useful tool in their future careers. (2 hours lecture, 3 hours lab).

GIS 220: Aerial Photographic Interpretation

3 Credit Hours Spring Sem.
This course introduces the students to the general uses of aerial photography with applications to forestry and surveying. The students learn to recognize man-made and natural features from a bird's-eye view. They also develop skills at measuring areas, distances, bearings, heights of objects, and elevations of the ground. Forestry applications will include timber typing, stand measurements, and timber volumes. Surveying and mapping applications are also presented. (4 hours lab). Prerequisite:

College Algebra (MAT 125) or taken concurrently.

GIS 260: Geodesy, GPS and GIS

4 Credit Hours Fall Sem.
An intensive hands-on course introducing concepts and applications in Geodesy, Global Positioning Systems (GPS) and Geographic Information Systems (GIS), with an emphasis on their use in surveying. Students will apply these concepts and technologies in several group and individual projects. GPS hardware and software, as well as GIS software, will be used extensively. (Five 28-hour weeks) Prerequisite: Topographic Surveying (SRV 250).

GIS 335: Advanced GIS Techniques

3 Credit Hours d.b.a.
This course provides advanced training and experience in Geographic Information Systems (GIS). Advanced GIS Techniques is a continuation of Introduction to GIS (GIS 201) where students will learn new skills and refine skills previously acquired. Topics include data acquisition and automation, Global Positioning Systems (GPS), spatial analysis, cartographic modeling and output design. Software used during the course will include MS PowerPoint, ArcView, Spatial Analyst, and GPS Pathfinder. Students will be required to select a project that will focus on creating a database, using both Spatial Analyst and GPS, analyzing their own data, producing a high-quality map product, and presenting the findings in a public format. (2 hours lecture, 3 hours lab). Prerequisite: Introduction to GIS (GIS 201).

GIS 420: GIS Applications

3 Credit Hours d.b.a.
This course provides students with the experience of how Geographic Information Systems (GIS) are applied to forestry and natural resources. GIS Applications is a project-oriented course which is the final GIS course taught in the series. Projects include application of GIS in forestry, landscape ecology, wetlands, land management and surveying. Software used during the course will include MS PowerPoint, ArcView, Spatial Analyst and GPS Pathfinder. Students will be required to select and plan their own project that will focus on an application of GIS, thus creating a database, analyzing their own data, creating metadata, producing a high-quality map product, and presenting their methods, results and map products professionally. (2 hours lecture, 3 hours lab).

HOSPITALITY & RESTAURANT

HOS 101: Hotel, Resort and Tourism Industry Orientation

3 Credit Hours Fall/Spring Sems.
An introductory course covering hotel operations from the biblical inns to the present complex structure of hotels/resorts and the evolution of tourism due to improvements in transportation and communication. The course will familiarize the student with hospitality business organization and the positions in the industry.

HOS 150: Front Office/Property Management

3 Credit Hours Spring Sem.
A course that prepares the student for front desk operations, including a general understanding of property management systems. Topics such as telephone answering skills, yield management, room selling strategies and night audit analysis will be discussed.

HOS 210: Hotel Accounting

3 Credit Hours Fall/Summer Sems.
A course designed for the Hotel/Restaurant student who has completed a course in introductory accounting at the college level. It consists of explanation and demonstration of the more common techniques and methods by which management can interpret, analyze, and make decisions from information provided by accounting systems. Accounting statements are prepared in accordance with the 'Uniform System of Accounts and Expense Directory for Small Hotels and Motels'. Prerequisite: Financial Accounting (ACC 101).

HOS 250: Convention Sales and Promotion

3 Credit Hours Fall/Summer Sems.
Topics covered include defining various group meetings, locating these groups, identifying their respective needs, and preparing for their sale and service. Promotional sales trips for putting theories into practice may also be undertaken.

HOS 265: Hotel Practicum

6 Credit Hours Fall/Summer Sems.
Students are assigned one semester at an internship site during the second year of their program. There are two options for student internship. The Adirondack Internship provides an opportunity for students to rotate through a number of positions, developing their a broader and deeper knowledge of the complete operation of a hotel or restaurant. Due to the nature of the position of manager, an understanding of the functions of a sales office absolutely critical. Students will participate in a series of lectures and practical work related to sales and promotion, affording them an opportunity to "learn by doing." Additional exposure to departments from housekeeping to buffet preparation and presentation is designed to complement classroom courses in topics related to the student's major.

HOS 295: Hotel Externship

6 Credit Hours Fall/Spring Sum Sems.
Students will complete a semester or more working in an on-the-job experience. Students will sign a contractual agreement with an externship site related to their major. A choice of one of the following options is available: 1) Competitive participation in one of the externships developed by the College; or 2) Independent externship in the industry secured by the student that meets the approval of the Program Coordinator. Verifiable full-time work experience of 400 hours in the hospitality

industry prior to enrollment at Paul Smith's College may be substituted for either option 1 or 2. (See Externship Verification Process section). Enrollment in either of the two options requires a GPA of 2.00 or better. Grading is pass/fail based on completion of the contractual agreement with the externship property and adherence to their rules and regulations of employment, as well as to Paul Smith's College rules of student conduct.

HOS 299: Special Topics in Hospitality
3 Credit Hours d.b.a

This course will provide students with an opportunity to study Hospitality topics which are not normally offered. These courses are selected for their potential to contribute both to the professional and intellectual development of students. In most cases, student demand or faculty expertise (or both) are factors which influence the selection and timing of these courses.

HOS 300: The Service Economy
3 Credit Hours Fall/Spring Sems.

A course designed to introduce the student to the significance of economic transitions from agriculture, through manufacturing, and on to one of the most significant economic paradigms of the last 50 years. Evaluation of economic philosophies, focusing on those proposed by Dr. W. Edward Deming, will set the tone of the course. The students will review historical examples of economic paradigm shifts and numerous case studies of successful companies who have implemented competitive service initiatives. The students will additionally be charged with identifying quality and value in modern society and how it affects human behavior. Prerequisite: Dining Room and Kitchen Operations (RES 132), or Principles of Management (MGT 300), or equivalent.

HOS 331: Hospitality Futures
3 Credit Hours Fall Sem.

This is a hospitality future-events course. Re-learning how to think creatively will open the door to this topic. Students will both present and participate in lectures and discussions concerning current and predicted future trends in the hospitality industry. Special attention will be paid to the current boom in international travel and tourism. The course is often team-taught by several faculty in the College, each sharing a particular area of expertise. Prerequisite: Dining Room and Kitchen Operations (RES 132), or Hotel, Resort and Tourism Industry Orientation (HOS 101), or equivalent.

HOS 400: Resort and Recreation Management
3 Credit Hours Fall Sem.

A course that applies new organizational management techniques to a dynamic, specific segment of the tourism market.

Students will discover the unique nature of resorts, the market segments attracted, the complexity of customer service options needed to sustain a market share, and the environmental characteristics that give each resort its differentiation. Heavy emphasis is placed on marketing principles as applied to these destinations. Prerequisite: Hotel, Resort and Tourism Industry Orientation (HOS 101).

HOS 499: Special Topics in Hospitality

This course will provide students with an opportunity to study advanced Hospitality topics which are not normally offered. These courses are selected for their potential to contribute both to the professional and intellectual development of students. In most cases, student demand or faculty expertise (or both) are factors which influence the selection and timing of these courses. Prerequisite: Junior standing or permission of the Dean.

RES 132: Dining Room and Kitchen Operations
3 Credit Hours Fall/Spring Sems.

In this course, students will learn about the day-to-day activities involved in the managing of a restaurant. Both front- and back-of-the-house operations will be explored. Through a discussion of the history, as well as the current state of the industry, this course gives students the necessary skills to ensure that guests receive excellent service.

RES 232: Catering Planning and Management
3 Credit Hours Fall Sem.

A course that focuses on the planning, organizing, logistics, management, execution and evaluation of on-premise and off-premise catered events. Students will learn the process used in developing a Banquet Event Order, including identification of customers' needs, networking with various internal departments and outsource providers, design of a menu to match an event's desired outcome, as well as the use of customer service measurement devices that will make each event a success and a learning function at the same time. Prerequisite: Dining Room and Kitchen Operations (RES 132).

RES 330: Facilities Planning and Environmental Management
3 Credit Hours Spring Sem.

In modern hotel and food-service operations, management of the physical plant can be equated to financial success or failure. The rising cost of energy and the concerns over depletion of the earth's natural resources have driven many hospitality firms to take a hard look at energy-efficient designs and having systems management built into physical plants. This is not an engineering course, but rather a course that focuses on designing systems for hotels and restaurants that consider flow charting, built-in efficiencies in the conservation of human and other energies, and the quick, economical, and ecological disposal and recycling of packaging and other materials. Prerequisite: Hotel, Resort and Tourism Industry Orientation (HOS 101), or Dining Room and Kitchen Operations (RES 132), or equivalent.

RES 431: Cultural Enology
3 Credit Hours Fall Sem.

This course will introduce the student to the history of wines and distilled beverages, and to the

influence that wine has had on the development of various cultures. The impact that viticulture has on agriculture and on the local and national economies will be explored. Finally, the course will explore the distinguishing characteristics of types of wine, the ways in which beverages complement foods, and how wine serves as a tool for communication in modern times. Prerequisite: Junior standing.

HUMANITIES

GEO 101: General Geography
3 Credit Hours Fall Sem.

This course provides students with an introduction to the physical landscapes of the earth as seen by the geographer. It views the physical landscape as consisting of landforms, climates, and biomes, and provides students with an opportunity to understand the interactions among them. All three features of the landscape are presented as evolving over time; consequently, students will be introduced to dynamic processes associated with geomorphology, meteorology and climatology, and ecology. (3 hours lecture).

GEO 105: Geography of World Destinations
3 Credit Hours Fall Sem.

This course is designed primarily for students who wish to pursue travel or hospitality careers. While it is a course that focuses on practical application rather than general education, Geography of World Destinations is far more comprehensive than a place-name geography course. This course helps students understand the relationships between physical and cultural environments found in a variety of world locations. Thus, travel destinations are set in a geographically-meaningful context for further analysis. While this one-semester course cannot possibly cover all travel destinations, the students will select several for detailed study and, in addition, be provided with a framework through which they, at any point in their career, can ascertain the appropriate geographical context for any travel destinations. (3 hours lecture).

GEO 200: Physical and Cultural Geography I
3 Credit Hours Fall Sem.

Geography is the social science discipline that focuses on the spatial dimensions of human organization and interaction. This course will provide students with an opportunity to study human landscapes found in different world regions. Students will examine the manner in which both physical and cultural environments (1) condition the values and world view of people in different world regions, (2) influence the social and economic systems which respond to these values, and (3) contribute to the manner in which socio-economic systems are set in regional space. The course uses world regions as a laboratory for learning the basic frameworks used by geographers. Students will select four or five regions for in-

depth study. Thus, students will be provided with the opportunity to better understand the human dimensions of global change and gain insight into culture conflicts, the re-emergence of cultural nationalism, hunger and refugees, the spatial diffusion of AIDS, and a host of other issues found in the world today. (3 hours lecture).

GEO 201: Physical and Cultural Geography II
3 Credit Hours **d.b.a.**

A study of physical and cultural geography of Europe, Africa, and the Middle East. Each country, depending upon its size and importance, is studied in relation to its topographic and native aspects. (3 hours lecture).

GEO 400: Geography of World Cultures
3 Credit Hours **Fall Sem.**

Culture is the most comprehensive organizational mechanism used by humans to meet their basic needs and make sense of their lives. All human behavior, therefore, is seen as taking place in a cultural context. This course provides students with an opportunity to explore the relationship between culture and human use of space. Using selected world regions, students will learn how the human landscape has evolved and how it has been altered over time by agents of global change. (3 hours lecture). Prerequisite: Social/Cultural Foundational Experience.

HNR: Honors Seminars
3 Credit Hour **d.b.a.**

Honors courses provide students with an opportunity to study diverse, interdisciplinary topics which are either not covered in other courses or are explored in more depth and with a greater interdisciplinary focus. These courses are selected for their potential to contribute intellectual and personal development of students. In most cases, student demand or faculty expertise (or both) are factors which influence the selection and timing of these courses. Prerequisites are determined on a course by course basis.

HST 201: History of the United States Through 1876
3 Credit Hours **Fall Sem.**

This course studies the history of the United States to Reconstruction. Origin and development of America and its institutions from the discovery of the New World to the close of the Reconstruction Period. (3 hours lecture).

HST 202: History of the United States 1877-Present
3 Credit Hours **Spring Sem.**

This course studies significant cultural, economic, political, and social forces from 1877 to the present. Among the topics covered are industrialization, social and

political reform movements, foreign policy, World Wars I and II, the Great Depression and the Cold War. (3 hours lecture).

HST 215: The Adirondacks
3 Credit Hours **Spring Sem.**

This course will examine the environmental, political, and cultural history of the Adirondack Mountain region and provide students with an analytical framework for interpreting the landscape and history of our regional environment, the natural world and mankind's relationship to it. (3 hours lecture).

HUM 100: The Art of Being Human
3 Credit Hours **d.b.a.**

This introductory course is designed to assist first-time college students in adjusting to Paul Smith's College and the tools needed for success in college and life. Separate sections of the course may develop a unique theme, and will be identified as such through the subtitle which explores elements of the Human Condition. This course is designed to foster connections throughout the College community and to integrate student and academic affairs professionals within the framework of an academic curriculum. The course is supported through the implementation of a peer facilitator in each class. (3 hours lecture).

HUM 105: Art of Film
3 Credit Hours **d.b.a.**

Students will be introduced to major aspects of the art of film. By viewing and discussing major motion pictures, students will study the artful manipulation of lighting, framing, movement, sound, and editing. Directing, acting, set design, story telling, and other aspects also will be discussed. Students will be encouraged to develop criteria for the critical appreciation of film. (3 hours lecture).

HUM 110: Music Performance
1 Credit Hour **d.b.a.**

This course allows students to develop their musical proficiency while rehearsing and performing as part of an ensemble. The students will be divided into appropriate performance groups, based on their stylistic preferences, instruments, and abilities. These groups will each give three on-campus performances during the semester. The students will rehearse both by themselves and with the instructor, and they will develop and publish a program for each concert. Taken three times, this course will fulfill only an Open Elective requirement; it will not substitute as a Social Science/Humanities Elective. Grading is Pass/Fail.

HUM 115: Western and World Music
3 Credit Hours **Fall/Spring Sems.**

The aim of this course is to increase student understanding and enjoyment of music. The semester will begin with the fundamentals in common musical concepts (basic notation, rhythm, dynamics, melody, harmony, texture, and form) and then survey the principal periods of Western Music (Medieval, Renaissance, Baroque, Classical, Romantic, and Modern). The course will also examine the way in which popular music incorporates the techniques and forms of the composers of the past. Non-Western music, or

'World' Music, will be explored and discussed in order to emphasize the universality of musical expression. Other styles, such as Post-modern Classical, the American Musical, Jazz, etc., will be explored as time permits. Previous musical training is not necessary. (3 hours lecture).

HUM 120: Western Culture: The Ascent of Man

3 Credit Hours **Fall/Spring Sems.**
This survey course will be an overview of the origins, evolution and achievements of what we loosely call Western Culture, and how it has shaped our lives today. It will cover technological, philosophical, and cultural advancements and their inter-relationships. The specific contributions of various great historical figures will be highlighted. (3 hours lecture).

HUM 200: Studio Art
3 Credit Hours **d.b.a.**

This introductory-level course will provide students with "hands-on experience" in the art studio. The concepts and processes necessary to produce art using various techniques such as drawing, painting, woodcarving, and collage will be addressed. Students will be encouraged to experiment with the different mediums. They will be introduced to the principles of composition, dimensionality, and color with an emphasis on individual expression. (3 hours lecture).

HUM 205: Introduction to Nature and Culture
3 Credit Hours **d.b.a.**

This course introduces students to major aspects of the interaction between human beings and the environment in preparation for their pursuit of a concentration in Nature and Culture. The focus of the course will be on the historical and cultural connections between people and the environment. This course covers the vital roles religion, philosophy, art, literature, and history play, along with science, in addressing environmental matters. Among diverse topics are urban and rural ecologies; community and sense of place; gender, ethnicity, and class; the arts and artists; indigenous cultures; ethics, the law, and the educational system; the impact of media and popular culture; and agriculture, business and tourism. (3 hours lecture).

HUM 210: Issues in Philosophy
3 Credit Hours **Spring Sem.**

In this basic course, the student is introduced to some of the major questions of philosophy and some of the answers proposed by philosophers from ancient Greece to the present day. This is accomplished by studying such areas of philosophy as ethics, religion, politics, aesthetics, epistemology, and metaphysics. Students will read both original and summary analyses of the philosophical texts; and they will be asked to draw on their own experiences to understand and evaluate the arguments under consideration. (3 hours lecture).

HUM 270: Ethics**3 Credit Hours** Fall/Spring Sems.

This course focuses both on the nature of morality itself and on the major ethical theories that have been central in western philosophy, including utilitarianism, deontological ethics, virtue ethics, and communitarian ethics. It places these theories in their historical context, provides for critical discussion of their strengths and weaknesses, and connects them with contemporary situations to emphasize their practical application in daily life. Philosophers considered will include Aristotle, David Hume, Immanuel Kant, and John Stuart Mill, among others. (3 hours lecture).

HUM 299: Special Topics in Humanities
3 Credit Hours d.b.a.

This course will provide students with an opportunity to study selected topics, appropriate to the humanities, which are not normally offered. These topics are chosen for their potential to contribute to the intellectual development of the students. Student demand and/or faculty expertise are the two factors which most influence the selection and timing of this course. Course topics might include literary genres, literary themes, visual arts, and ethics, among others. (3 hours lecture).

HUM 300: Philosophy of Nature**3 Credit Hours** d.b.a.

This course explores the wide range of ideas about nature that philosophers and other thinkers have developed from ancient times to the present, and examines how such ideas inform (though often invisibly) contemporary debates concerning our relationship to the land, resource use, and other issues. General topic areas include Nature as Empirical Reality, Nature as Synonymous with Reason, Nature as Antithetical to Man, Nature as Moral Lawgiver, Nature as Aesthetic Norm, and Ecological Ideas. Discussion will draw on thinkers ranging from Aristotle, Tertullian, and Descartes to Thoreau, Aldo Leopold, and Frederick Turner. This philosophical component is complemented by readings and discussions of materials from the current press and recent publications. (3 hours lecture). Prerequisite: Human Condition Foundational Experience.

HUM 395: Liberal Studies Practicum**3 Credit Hours** d.b.a.

Depending upon their interests and career ambitions, students will learn by working with local individuals and/or institutions. The resources and talents of artists, musicians, theaters, museums, environmental organizations, and others can provide students with an opportunity to use their experience as part of their preparation for their Capstone Planning course. (3 hours lecture). Prerequisite: Junior standing.

HUM 400: Nature and Art**3 Credit Hours** Fall Sem.

Students will explore the influence of various theories of nature on visual artists throughout history. In turn, the influence of art on human perception of nature, especially as reflected in the conservationist movement, will be studied. Representative works in painting, sculpture, architecture, photography, film, and video from earliest times to the contemporary period will be discussed. Human expression in landscape design and other manipulations of nature will also form part of the course. Many cultures, particularly Japanese and Native American, will be examined for their contributions to human appreciation of the natural world. (3 hours lecture). Prerequisite: Junior standing.

HUM 499: Special Topics in Humanities**3 Credit Hours** d.b.a.

Students will study topics chosen from the traditional humanities courses, such as literature, art, architecture, ethics, linguistics, language, history, archaeology, and anthropology. This course is more advanced than Special Topics in Humanities (HUM 299) and assumes a deeper and broader background in the enrolled student. It is intended to augment and supplement those designated humanities courses described in this catalog. (3 hours lecture). Prerequisite: Junior standing.

LANGUAGE & COMMUNICATION**COM 101: Speech****3 Credit Hours** Fall/Spring Sems.

The purpose of the course is to give students training and practice in effective oral communication. English usage of good formal quality is stressed. The attainment of clear and interesting speech, augmented by appropriate public speaking techniques and skills, is emphasized. (3 hours lecture).

COM 105: Business Communications**3 Credit Hours** Fall Sem.

Although the emphasis is on written communication, the course will also deal with the broader issues of successful communication in modern business, such as the role of technology, the importance of intercultural awareness, and the considerations of ethical and legal behavior. In addition to preparing different types of letters, memos, and short reports, students might work collaboratively on a report to be presented at the end of the semester. (3 hours lecture). Prerequisites: Communication Foundational Experience.

COM 210: Technical Communications**3 Credit Hours** Spring Sem.

This course enables students to communicate technical information through a problem-solving format. The whole process of gathering and reporting technical information is discussed. Practice in a variety of technical formats culminates in a longer report that incorporates sources, visuals, and research. Students will communicate

technically in writing, through visuals, and with oral reports. (3 hours lecture).

Prerequisite: Communication Foundational Experience.

COM 215: Mass Media**3 Credit Hours** Spring Sem.

This course is an introduction to the functions of the mass media, its history and use by various groups and institutions. The First Amendment will form the central place in discussion of the evolution of mass communication in the United States. The major media, particularly newspapers, magazines, broadcasting, film, advertising, and public relations will be studied. Emphasis will be on the forms, practices, habits, biases, and problems unique to American mass media. Discussion of the future of mass media, especially in the development of computers, the Internet, and cyberspace, will complete the course. Throughout the course, students will be encouraged to see the media's impact on their areas of study. (3 hours lecture).

COM 300: Dispute Management**3 Credit Hours** Fall/Spring Sems.

This course will instruct students in recognizing and analyzing conflict and will present techniques which can help individuals manage problems with people more effectively and cooperatively. Students will learn to more effectively define the context of problems, to negotiate, mediate, and arbitrate. They will also learn how interpersonal communication can be improved by effective problem-solving and decision making. (3 hours lecture). Prerequisite: Junior standing or externship experience.

ENG 101: English Composition I**3 Credit Hours** Fall/Spring Sems.

This course consists chiefly of expository writing with emphasis on rhetoric, grammar, and mechanics, which may be studied as ends themselves. Effective revision strategies will be taught. Instruction in the use of the library and the writing of a library research paper are included, and attention is given to literature (essays, poems, short stories, etc.) as time permits. (3 hours lecture).

ENG 102: English Composition II**3 Credit Hours** Fall/Spring Sems.

This writing-intensive course complements English Composition I (ENG 101). The main purpose is to develop critical thinking and expository writing skills through the study of and written reaction to various professional texts, literary, persuasive, or some combination thereof. The work will consist chiefly of written essays, with emphasis on audience awareness, ownership, clarity, organizational methods, and logic. The course will also include a research component. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 115: Wilderness in American Literature

3 Credit Hours Fall Sem.

This course will provide students with an analytical framework for interpreting nature writing or wilderness literature, i.e., writings in which the common theme is the natural world and humankind's relationship to it. Particular emphasis will be placed on the American experience in wilderness, and culture's response as seen in its literature. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 200: Advanced Composition

3 Credit Hours Fall/Spring Sems.

In this course the student learns by writing and by analyzing essays, both professional models and student themes. Students will analyze contemporary writers as an aid to the study of style and technique. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 210: American Literature I

3 Credit Hours Fall Sem.

From the Exploration and Colonial Periods to the Civil War, this course surveys the writings of explorers and Americans of diverse backgrounds in an attempt to understand the character of the American experience. In addition to studying such classic authors as Franklin, Thoreau, Poe, and Whitman, students will read the journals of explorers, diaries of colonial settlers, slave narratives and Native American poetry and prose. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 211: American Literature II

3 Credit Hours Spring Sem.

This course forms the second half of a survey of the rich literary life of the United States. From Reconstruction, Westward Expansion, and the era of industrial and urban development to more recent times, the writings of our many peoples will be examined as they comment on the nature of the American story. Selections from Native American, Hispanic, Afro-American, Jewish, and other traditions will be read along with the work of such traditional figures as Twain, James, Hemingway, Frost, and Faulkner. (3 hours lecture). Prerequisite: Communication Foundational Experience. American Lit I (ENG 210)

ENG 220: Creative Writing

3 Credit Hours Spring Sem.

Workshop in the writing of poetry, fiction and drama; the emphasis may vary. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 240: Women in Literature

3 Credit Hours d.b.a.

This course will focus on American and English women writers and critics studied in relation to literary developments defining

and affecting women's roles in society and the arts. Primary texts are studied, along with critical theory of writing by women. (3 hours lecture).

ENG 340: Contemporary Environmental Writers

3 Credit Hours Fall Sem.

This upper-division literature course will survey contemporary non-fiction and literary journalism that focuses on issues in nature, natural history, the environment, and related topics. Students will examine literature that reveals and interprets the environment and its social, philosophical, economic, and cultural contexts and implications. Readings may include works by noted contemporary writers such as E. O. Wilson, Barry Lopez, Edward Abbey, Terry Tempest Williams, Bill McKibben, Wendell Berry, Sue Hubbell, Farley Mowat, Gary Paul Nabhan, Rick Bass, Annie Dillard, Peter Matthiessen, Stephen Jay Gould, and David Quammen. (3 hours lecture). Prerequisites: Human Condition Foundational and Structural Experiences.

ENG 350: World Literature

3 Credit Hours Spring Sem.

This course is a study of the interconnections among literatures from a wide variety of cultures, eras, and genres. An upper-division survey course, World Literature examines the roles literature plays within cultures. (3 hours lecture). Prerequisite: Communication Foundational Experience.

ENG 400: Writing on Nature and the Environment

3 Credit Hours d.b.a.

This course is designed as an upper-division writing workshop and students will learn to use the range of writing and editing skills necessary to interpret the environment and its social, philosophical, economic, and cultural contexts and implications. This course will also expose the advanced writing student to techniques in non-fiction and literary journalism employed by contemporary writers on issues in nature, natural history, the environment, and related topics. A student's final project will include a publishable work - review, feature, essay, study, or memoir - to be presented to the College community, as well as submitted for possible publication in a regional or national periodical. (3 hours lecture). Prerequisites: Human Condition and Communication Foundational Experiences.

LAN 101: Elementary Spanish I

3 Credit Hours Fall/Spring Sems.

Elementary Spanish I is designed to give students with little or no background a basic introduction to Spanish phonology, grammar, and syntax, as well as a basic vocabulary. Students are also introduced to some of the varied Spanish culture and history of Spain and Latin America. Students with 3 years of high school Spanish should select the "intermediate" level language course. (3 hours lecture).

LAN 102: Elementary Spanish II

3 Credit Hours Spring Sem.

Building on a basic understanding of Spanish phonology, grammar, and syntax, Elementary Spanish II extends the student's knowledge of Spanish to include an understanding of the differing

uses of the preterit and the imperfect; direct and indirect object pronouns; gustar and hacer expressions; uses of por and para; the present subjunctive; basic vocabulary used in such situations as traveling, eating in a restaurant, dealing with daily chores, visiting a hospital, etc., and a further understanding of Spanish cultures in and outside of the United States. An increasing emphasis is placed on oral proficiency and students will be expected to carry on extended conversations in Spanish. (3 hours lecture). Prerequisite: Elementary Spanish I (LAN 101), or permission of the instructor.

LAN 103: Elementary French I

3 Credit Hours Fall/Spring Sems.

Elementary French I is a beginning French course intended for students with no previous background in French. The course introduces the basics of the French language, including everyday vocabulary, basic sentence structure, pronunciation and commonly used expressions. Students will practice listening, speaking, writing and reading both in and outside of class. Exercises and activities will be contextual in nature so that students learn to communicate in meaningful, life-like situations (greetings, ordering food, talking about family, likes and dislikes, etc.). In addition, French culture and customs (including the francophone world outside of France) will be presented and discussed through the use of authentic French materials such as music, poems, advertisements, film, and others. Students will spend much of the class hour doing oral exercises with the instructor and in groups. Students with 3 years of high school French should select the "intermediate" level language course. (3 hours lecture).

LAN 104: Elementary French II

3 Credit Hours Spring Sem.

Basic grammar and vocabulary continue to be introduced and practiced through listening, speaking, writing and reading activities. Students will learn to talk about such topics as food shopping, studies, health, overseas travel and looking for an apartment. Plenty of class time will be devoted to speaking activities. Aspects of French and francophone culture will continue to be presented in a variety of ways as stated in the course description of Elementary French I (LAN 103). Upon successful completion of this course, students should be able to communicate in French at a novice level, and should be well prepared to expand their level of competence in the Intermediate French courses. (3 hours lecture). Prerequisite: Elementary French I (LAN 103), or permission of the instructor.

LAN 201: Intermediate Spanish I

3 Credit Hours d.b.a.

Intermediate Spanish I will consist of reading and translation of Spanish prose of intermediate difficulty, a review of Spanish grammar, and Spanish conversation. Students will have the opportunity to read and write essays about Spanish culture in this

hemisphere and some attention will be devoted to informal or street Spanish. To the extent possible, class will be conducted in Spanish. (3 hours lecture). Prerequisites: Elementary Spanish I & II (LAN 101, LAN 102), or permission of the instructor.

LAN 202: Intermediate Spanish II
3 Credit Hours **d.b.a.**

Intermediate Spanish II will increasingly emphasize oral comprehension and expression with classes conducted almost entirely in Spanish. Class discussion and reading will be centered on a selection of short literary readings from a variety of well-known Spanish authors. Selected review of key grammatical differences between Spanish and English will occur in the context of the study of Spanish literature. Also, the class will study lexical options in context (i.e., denotational vs. connotational, colloquial and dialectical, the dangers of false cognates, etc.). (3 hours lecture). Prerequisite: Intermediate Spanish I (LAN 201), or permission of the instructor.

LAN 203: Intermediate French I
3 Credit Hours **d.b.a.**

This course will provide a thorough review of basic grammar while introducing more complex structures and greatly expanding vocabulary. The four skills of listening, speaking, reading and writing will be developed at a more sophisticated level. In-class discussions will be conducted in French with few exceptions, giving students abundant practice in oral communication. To refine writing skills, there will be frequent written compositions based on a variety of subjects. Reading activities will encompass various literary genres such as poetry, comic strips, songs, short stories, newspaper articles, etc. Students will learn proper usage of a bilingual dictionary. Course materials and activities will greatly enrich students' understanding and appreciation of the vast French-speaking world. (3 hours lecture). Prerequisites: Elementary French I & II (LAN 103, LAN 104), or permission of the instructor.

LAN 204: Intermediate French II
3 Credit Hours **d.b.a.**

This course completes the Intermediate French sequence. Basic grammar will continue to be reviewed while new, more complex structures are introduced. Vocabulary will be further expanded. French texts from various genres will be used for reading activities and as a springboard for class discussions and written compositions. Class discussions will be conducted in French, giving students the opportunity to greatly advance their oral proficiency. Proper use of the bilingual dictionary will continue to be addressed. Students will continue to learn about and discuss numerous aspects of French and francophone culture, which will be

presented through various sources, such as music, literature, newspaper articles, film and other media. Upon successful completion of this course, students should be able to function successfully in a French-speaking environment and should have a solid foundation for attaining fluency. (3 hours lecture). Prerequisite: Intermediate French I (LAN 203), or permission of the instructor.

MATHEMATICS

MAT 98: Fundamentals of Mathematics I Pre-Algebra

0 Credit Hours **Fall/Spring/Summer Sems.**
This course takes a problem-solving approach that emphasizes the importance of mathematical reasoning and modeling in solving real-world problems drawn from a variety of disciplines. Topics include arithmetic, elementary algebra (solving first-degree equations, rules of exponents, plotting ordered pairs) and fundamental concepts of geometry as well as numeracy (estimation, dimensional analysis), data analysis (gathering, using and interpreting data tables), and interpreting graphs. The course is intended for students with little or no algebra background and may be offered in a guided, self-paced format. (3 hours lecture).

MAT 99: Fundamentals of Mathematics II Elementary Algebra

0 Credit Hours **Fall/Spring/Sum Sems.**
This course introduces students to the concept of a function via numerical, graphical and algebraic representations. Operations with polynomials, rational expressions and radicals are explored within the context of functions. Linear equations and inequalities and quadratic equations are also studied. Students are introduced to data collecting and elementary formulations of models for data. An emphasis will be placed on problem-solving skills. (3 hours lecture, 1 hour supplemental computer lab). Prerequisite: Fundamentals of Mathematics I (MAT 98), or Accuplacer placement.

MAT 110: Modeling for Decision Making

3 Credit Hours **Fall/Spring Sems.**
This is an introductory course in using mathematics as a basis for making logical decisions. The course will include the algebra of linear equations and inequalities and the solution of linear equations needed to solve linear programming geometrically. Other topics include set theory, matrices, basic statistics and the analysis of graphs. (3 hours lecture). Prerequisite: Fundamentals of Mathematics II (MAT 99), or Accuplacer placement, or permission of the Dean of the Division.

MAT 125: College Algebra

3 Credit Hours **Fall/Spring Sems.**
This course will start with a review of basic algebra (factoring, solving linear equations and inequalities, etc.) and will introduce various functions to include polynomial, rational, exponential, logarithmic and radical functions. Techniques of graphing these functions will also be explored. Additionally, students will study systems of equations and sequences and series. (3 hours lecture). Prerequisite: Fundamentals of Mathematics II

(MAT 99), or Accuplacer placement, or permission of the Dean of the Division.

MAT 135: Mathematics for Financial Decision Making

3 Credit Hours **Fall/Spring Sems.**
This course will examine the use of mathematics to solve contemporary problems, in particular real financial transactions. The concepts of algebraic manipulations of equations, exponential equations, logarithms and mathematical modeling will be emphasized. Students will analyze trends and current problems using graphs, spreadsheets, Internet resources, and financial equations. Course topics will include time value of money, present value and future value, simple and compound interest, ordinary annuities, sinking funds, amortization, stocks and investments. (3 hours lecture). Prerequisite: College Algebra (MAT 125), or Modeling for Decision Making (MAT 110), or Accuplacer placement, or permission of the Dean of the Division.

MAT 145: Trigonometry

3 Credit Hours **Fall/Spring/Sum Sems.**
This course is devoted to a study of plane trigonometry. Formal topics include solution of right and oblique triangles, trigonometric identities and equations, graphing trigonometric functions, inverse trigonometric functions, and applied problems. (3 hours lecture). Prerequisite: College Algebra (MAT 125), or permission of the Dean of the Division.

MAT 180: Pre-Calculus

3 Credit Hours **Fall/Spring Sems.**
This course will cover topics that prepare a student to study in many different technical venues. Topics covered will prepare the student for further work in more advanced math courses, particularly the Calculus sequence. Topics that will be covered are a very brief review of algebra concepts, with a more in-depth treatment of linear equations and inequalities, quadratic equations and inequalities, graphing and modeling basic functions to include polynomial, rational, exponential, logarithmic and trigonometric. Additionally, students will study systems of equations, conic sections, analytic geometry, sequences, series, binomial expansion and an introduction to limits. (3 hours lecture). Prerequisite: Fundamentals of Mathematics II (MAT 99) or Accuplacer placement, or permission of the Dean of the Division.

MAT 210: Statistics

4 Credit Hours **Fall/Spring Sems.**
This is an introductory course in statistics, designed to familiarize the student with data distributions (numerical and graphical), exploratory data analysis, correlation and linear regression, the normal and binomial probability distributions, confidence intervals and some hypothesis testing. Statistical software is utilized. (3 hours lecture, 1 hour

lab). Prerequisite: College Algebra (MAT 125) or permission of the Dean of the Division.

MAT 241: Calculus I
4 Credit Hours **Fall/Spring Sems.**

In this introductory calculus course, students will use practical problems to develop the concepts of calculus. Students will gain an appreciation of the usefulness of calculus to a broad range of applications. The concept of a function, including polynomial, rational, exponential, logarithmic and trigonometric functions, the derivative, applications of differentiation, and the definite integral will all be approached from graphical, numerical, and analytical points of view. (4 hours lecture). Prerequisite: Pre-Calculus (MAT 180), or permission of the Dean of the Division.

MAT 242: Calculus II
4 Credit Hours **Fall/Spring Sems.**

This course is a continuation of Calculus I (MAT 241). Students will use practical problems to develop the concepts of integral calculus and to introduce differential equations. By focusing on the ideas behind solving the problems, the student will be able to solve a broad range of problems. Definite and indefinite integrals and first-order separable differential equations and their applications will all be approached from the graphical, numerical and analytical points of view. (4 hours lecture). Prerequisite: Calculus I (MAT 241), or permission of the Dean of the Division.

MAT 243: Calculus III
4 Credit Hours **Fall/Spring Sems.**

This course is a continuation of Calculus II (MAT 242). Students will use practical problems to develop the concepts of multivariable calculus. Students will gain an appreciation of the possibilities for problem solving when freed from the constraints of modeling with one independent variable. Approximating functions with Taylor and Fourier series, vectors, partial derivatives, directional derivatives, gradients, the differential, methods of calculating multiple integrals, parametric curves and surfaces, vector fields, and their applications will all be approached from the graphical, numerical and analytical points of view. If time permits, line integrals, flux integrals, divergence and curl will be discussed. (4 hours lecture). Prerequisite: Calculus II (MAT 242), or permission of the Dean of the Division.

MAT 290: Guided Research in Mathematics I
3 Credit Hours **d.b.a.**

This course provides students with the opportunity to conduct advanced study and research in a mathematical subject that is of particular interest to them, to be selected,

designed, and conducted by the student under the guidance of a faculty member.

MAT 331: Differential Equations
3 Credit Hours **Spring Sem.**

This course is to provide an introduction to the fundamental concepts of ordinary differential equations. The course should prepare students for advanced study in engineering or the physical, mathematical, biological, or social sciences. This course deals with first- and second-order differential equations and their applications. (3 hours lecture). Prerequisite: Calculus III (MAT 243), or permission of the Dean of the Division.

MAT 390: Guided Research in Mathematics II
3 Credit Hours **d.b.a.**

This course provides students with the opportunity to conduct advanced study in a subject area within the fields of Natural Resources, Science and Liberal Arts that is of particular interest to them. The study will be selected, designed, and conducted by the student under the guidance of a faculty member.

NATURAL RESOURCES

NRS 320: Environmental Resource Analysis
3 Credit Hours **Fall Sem.**

This course is a study of the principles and techniques of environmental resource analysis, landscape and scenery classification, and procedures for environmental quality and impact analysis. The course will present basic information on land classification, landscape patterns, function and evaluation. It will define the difference between foreground, middle ground, and background and stress their importance in enhancing or detracting from the visitor experience. (3 hours lecture). Prerequisite: Design and Administration of Recreational Facilities (REC 275).

NRS 331: Land Use Planning
3 Credit Hours **Fall Sem.**

This course will expose the students to the practices and concepts of land-use and site planning as used to guide and direct development. The course will give the students an appreciation of how the bio-physical environment and human social systems can be made to work together through the planning process. Skills that will be developed include ecological analysis, cartography, and social science research methods. The course will examine case studies where different approaches to land use planning were used. It will look at the similarities and differences among the case studies, within the context of the goals, politics, economics and cultural differences. (3 hours lecture). Prerequisite: General Ecology (BIO 210) or equivalent.

NRS 335: Wilderness Management
3 Credit Hours **Fall Sem.**

This course provides an introduction to the basic concepts of wilderness designation and management. Students will study wilderness management in the United States with an emphasis on the Adirondacks. Course material also includes the study of the leisure concept, its impact on

wilderness use and how regulatory agencies deal with it. Students have a first-hand opportunity to meet and talk with regional wilderness managers. (2 hours lecture, 4 hours lab). Prerequisite: Introduction to Recreation (REC 101) or permission of the instructor.

NRS 340: Watershed Management
4 Credit Hours **Fall Sem.**

In this course students will learn the principles of watershed management as related to land form, water quantity and quality, land use practices, and social organizations. The course will teach students the value of the watershed as a unit of study for environmental analysis. Students will understand how land management within the watershed affects water quality. The students will also learn why and how these factors relate to human settlement patterns and the socio-economic conditions in the watershed. The course will emphasize the effect of vegetation on watershed management. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

NRS 432: Landscape Ecology
3 Credit Hours **d.b.a.**

Landscape ecology is the youngest of the ecological sciences and is growing largely because of recent concern for maintaining and restoring environmental quality and habitat integrity. In fact, an understanding of the ecology of landscapes (and regions) is central to effective decision making in conservation planning, management and policy development. In this course, ecological structure, function, and change over both time and space will be addressed in the context of both landscapes and regions. We will look beyond typical land use and political boundaries to consider the broader spatial context of human activities and their impacts. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102) and General Ecology (BIO 210) or permission of the instructor.

NRS 499: Special Topics in Natural Resources
3 Credit Hours **d.b.a.**

This will be a topical course in natural resources management. In this course students will examine issues of present-day importance to the management of natural resources. The topic of study will change from year to year, as different issues gain prominence. Although the topics will change, the purpose of the course will remain the same. That purpose will be to provide a forum to engage the students in the national, state, or local debate on the management of natural resources. (3 hours lecture). Prerequisite: Watershed Management (NRS 340), Land Use Planning (NRS 331) and Conservation Biology (ENV 330).

RECREATION

REC 101: Introduction to Recreation **3 Credit Hours** **Fall Sem.**

This course introduces the student to the public and private fields of recreation. Students become familiar with basic terms and concepts, public park systems and operations, private recreation enterprises, landscape esthetics, park planning and design principles, carrying capacity and the general management of park visitors, recreation activities, and recreation areas. (2 hours lecture, 4 hours lab).

REC 110, REC 111: Adventure Skills Development I and II

3 Credit Hours **Fall/Spring Sems.**
Students will learn the safe, comfortable and environmentally -friendly practice of select outdoor adventure activities. They will use labs and weekend days to practice and hone activity skills. There are two 10-person sections per semester as offered. Outdoor adventure activities will rotate and vary according to instructor availability and activities will be different in each section so that students may repeat a sequence in order to acquire additional skills. 1. Supplemental fees may be charged for some activities. 2. Adventure Skills Development I is the sequential course to Adventure Skills Development II; students acquire increased levels of competency in skills and knowledge introduced in the preceding course. (8 hours lecture, 16 hours lab per 4-week block).

REC 120: Outdoor Recreation Leadership

3 Credit Hours **Spring Sem.**
This course provides an introduction to recreation and outdoor leadership in commercial/private recreation. Students will practice and apply outdoor leadership concepts. Components of outdoor recreation leadership will include group skills (group development, processing, judgment, decision making, teaching, etc.) and basic camping skills (minimum impact, water treatment, navigation, trail techniques, environmental ethics, etc.). Outdoor recreation concepts such as Recreation Opportunity Spectrum (ROS), Limits of Acceptable Change (LAC), and carrying capacity will also be addressed, explored and applied to issues in the Adirondack Park, as well as leadership in general. (2 hours lecture, 4 hours lab). Prerequisite: Introduction to Recreation (REC 101).

REC 132: Interpreting the Environment **3 Credit Hours** **Spring Sem.**

This course focuses on the field of interpretation, the interpretive process, techniques of interpretation (trails, exhibits, slide presentations, visitor centers, camp fire programs, the role of photography and

video, etc.), writing and speaking in interpretive programs, and environmental education programs in parks and schools. (2 hours lecture, 3 hours lab).

REC 201: Forest Recreation **2 Credit Hours** **Fall Sem.**

This seven-week course is intended primarily to give Forest Technician majors an introduction to the important concepts of forest -based recreation. Included in the course is information on the importance and value of forest -based recreation on both public and private lands. Key principles for planning, developing and managing forest recreation facilities and programs are also introduced. Relationships (both positive and negative) between recreation and other uses of forests are also discussed. (3 hours lecture).

REC 210: Risk Management and Liability **3 Credit Hours** **Fall Sem.**

This course introduces the student to safety systems management and the principles of establishing and administering a risk management plan for a recreation agency or business. Students will apply their knowledge of legal responsibilities as practitioners to selected case studies involving legal issues in the recreation, adventure travel and ecotourism fields. Students will design a risk management and safety operations manual for a selected business or recreation agency. (3 hours lecture). Prerequisite: Adventure Travel and Ecotourism (REC 320).

REC 215: Forest Recreation and Environmental Problems

4 Credit Hours **Fall Sem.**
The course is divided primarily into two segments of study: resource-based environmental concerns and user-based concerns. Each is examined in depth and simultaneously as occurring in the field. In the study of resource-oriented concerns, the student will learn about water's relationship to recreation, the physical properties of soil, and the concerns of proper sanitation. The study of user concerns deals with people who use the land for recreation. The student will become familiar with how recreational users affect the forest resource and impact other users of the forest, both recreational and non-recreational. A sense of how forest technicians and other resource managers relate to recreationists will be developed. The course is designed to allow students to apply creativity and problem-solving potential to issues facing the recreation industry. (Five 28-hour weeks) Prerequisite: Recreation Leadership and Maintenance (REC 250), or permission of the instructor.

REC 232: Earth-Trek Basecamp **3 Credit Hours** **Spring Sem.**

The first course in a two-course sequence concluded by the Earth-Trek Practicum (REC 233) itself, Earth-Trek Basecamp introduces students to the principles of planning a multi-day, nature-based trek that focuses on environmental education and service while emphasizing safety and outdoor leadership excellence. Students will plan the Earth-Trek, which will be a 14-21 day outdoor recreation expedition to a location that offers high public contact, appropriate recreational opportunities, and pressing environmental stewardship concerns. The stated

mission of the Earth-Trek is to promote environmental awareness and grassroots activism and to allow the Paul Smith's College community to contribute in these areas. Lecture sessions will address the natural and cultural background of the area to be visited, while lab sessions will focus on trip planning. Student groups will work with the instructor to plan the trip vision and objectives, leadership approach, logistics, itinerary, transportation, lodging, food, finances, promotion, educational programming, service projects, etc. (2 hours lecture, 3 hours lab).

REC 233: Earth-Trek Practicum I **3 Credit Hours** **d.b.a.**

This course is the second of a two-course sequence started with Earth-Trek Basecamp (REC 232). The course requires student participation in a multi-day trek (canoe down a river or bike trek along an historic pathway which offers substantial contact with rural and/or urban communities). Students are expected to present basic information about various topics to audiences from K-12 and adults. Students must hold a 2.00 GPA, be in a physical condition that allows active participation on the trek, hold current certification in First Aid, CPR, and Canoeing, along with Basic Water Safety (when applicable). Includes 14-21 day trek.

REC 240: Recreation Program Planning **3 Credit Hours** **Fall Sem.**

This course is designed to provide students with a variety of program planning methodologies and skills. Emphasis will be placed on the planning, organization, implementation and evaluation of recreation programs that may be sponsored through various service providers. Working in teams, the students will plan, implement and evaluate a recreation program of their own design for a specific target population. Students will produce programs which will include a mission statement, goals and objectives, strategic planning tools, site and facility selection, promotion, registration processes, procurement of equipment and supplies, activity leadership and supervision, a safety/risk management plan, a budget and an evaluation instrument. (2 hours lecture, 2½ hours lab). Prerequisite: Introduction to Recreation (REC 101) or permission of the instructor.

REC 250: Recreation Leadership and Maintenance

4 Credit Hours **Summer Sess.**
This is a field-based course which emphasizes 'hands-on' experience in recreation leadership and construction/maintenance. Development in these skills includes minimum-impact camping, group leadership skills, and trail maintenance and construction of forest recreation facilities. Basic forest recreational management concepts will be studied and applied. (Four 40-hour weeks). Prerequisite: Interpreting the Environment (REC 132).

REC 263: Outdoor Recreation Practicum

6 Credit Hours Summer Sess.
This course will provide hands-on learning opportunities for the application of recreation concepts, outdoor leadership skills and techniques that were introduced in Outdoor Recreation Leadership (REC 120). The Outdoor Recreation Practicum offers both mental and physical challenges; students typically carry 50-75 pound backpacks and canoes, climb 4,000-foot peaks, complete rigorous off-trail navigation exercises, and are required to spend extended stays (7-12 days, 21 days total) in remote wilderness locations. Small groups will travel by canoe and foot in the back-country, away from immediate medical assistance. Class meetings on campus will involve skills assessment, planning, preparation, instruction and evaluation. Components of this course will include the development and refinement of camping skills (minimum impact techniques, sanitation, personal hygiene, cooking and baking, navigation, trail techniques, environmental ethics), travel skills (travel techniques and navigation, canoeing skills), and outdoor leadership skills (judgment and decision making, teaching techniques, group development and group dynamics, facilitation and debriefing techniques, etc.). The course uses the Wilderness Education Association curriculum and offers an optional WEA certificate of participation. (5 weeks, including mandatory weekends). Prerequisite: Outdoor Recreation Leadership (REC 120) or permission of the instructor.

REC 270: Recreation Resource Management

3 Credit Hours Spring Sem.
This course will provide an insight into the impact of recreational use on the natural resources of soil, water, wildlife, and vegetation. Topics covered will include the recreational opportunity spectrum, limits of acceptable change, human carrying capacity of recreation environments and experiences, monitoring recreation impacts, and visitor and site management. (3 hours lecture).

REC 275: Design and Administration of Recreational Facilities

3 Credit Hours Spring Sem.
This course is designed to further broaden the student's knowledge in recreation management, policy procedures, and in land-use planning. It will expand the student's knowledge of resource planning and design process of recreational facilities. (2 hours lecture, 3 hours lab). Prerequisites: Introduction to Recreation (REC 101) and Interpreting the Environment (REC 132), or permission of the instructor.

REC 280: Winter Recreation

3 Credit Hours Spring Sem.
This course provides an introduction to various aspects of winter recreation, including history, marketing trends, job prospects, techniques, teaching and leadership, required equipment and product design, risk management, user impact and resource requirements of select winter activities (e.g., snowshoeing, alpine and Nordic skiing, snowboarding, snowmobiling, and winter camping). Management issues and outdoor education concepts as well as topics specific to winter, including cold injury, ice safety, winter weather patterns and snow formation will also be covered. (2 hours lecture, 4 hours lab). Prerequisite: Outdoor Recreation Leadership (REC 120) and Outdoor Recreation Practicum (REC 263) or permission of the instructor.

REC 290: Outdoor Recreation Externship

3 Credit Hours Summer Sess.
This is a required course of supervised off-campus work experience in an appropriate aspect of the park and/or recreation field, relating to the student's recreation education. The course requires a minimum of 240 hours of work experience. Enrollment in this course requires a cumulative GPA of 2.00 or better. Grading is pass/fail.

REC 295: Forest Recreation Externship

6 Credit Hours d.b.a.
This is an optional course requiring a minimum of 400 hours of a supervised off-campus work experience in an appropriate aspect of the park and/or recreation field related to the student's recreation education. The course is offered during July and August, but time periods other than the summer session may be arranged at the discretion of the instructor. Enrollment in this course requires a GPA of 2.00 or better. Grading is pass/fail.

REC 299: Special Topics in Recreation

3 Credit Hours d.b.a.
This is a topical course in recreation, in which the subject matter will vary from year to year. In a given year, the subject may be an issue of current importance to the field of recreation. Alternatively, the focus may be on developing particular outdoor recreation skills, such as backcountry skiing or rock climbing. The overall purpose of the course is to allow students to engage in a particular subject in greater depth and/or in a more timely manner than is possible in other recreation courses. (3 hours lecture).

REC 300: Adirondack Nature-Based Tourism

3 Credit Hours d.b.a.
This course is a 10-day intensive, field-based examination and analysis of examples of adventure travel and ecotourism that depend directly on the integrity of the Adirondack ecosystem. The course will examine private and public nature-based tourism agencies, providing students opportunities to learn about the environmental, social, political and economic implications of a range of recreational programs and products. Emphasis will be on diverse interpretations of "nature," "wilderness," and "recreation," as they apply to nature-based tourism offerings. The course will also

place the Adirondack model of nature-based tourism within a national and international context, providing insights about best recreational practices both in the Adirondacks and beyond. Students will spend most of the 10 days in the field, and will spend several nights in primitive wilderness locations. (Ten 8-hour days). Prerequisite: Adventure Travel and Ecotourism (REC 320) or may be co-enrolled or permission of instructor.

REC 320: Adventure Travel and Ecotourism

3 Credit Hours Fall Sem.
This course explores and provides a perspective on nature-based tourism practices and their inter-relationships with human culture and ecosystem health. Detailed exploration of international case studies will afford insights into the various forms of nature-based tourism and local ecosystems and the legal and moral obligations of nature-based tourism providers to society and the global environment. This course is required for Recreation, Adventure Travel and Ecotourism students and clarifies the promises and pitfalls of the various forms of "green" recreation and tourism. This course is offered in an on-line, distance education format using computers and the Internet. Prerequisite: Introduction to Recreation (REC 101).

REC 332: Earth-Trek Planning

3 Credit Hours d.b.a.
This upper-level course offers the opportunity for highly-motivated and skilled students to assist in planning, administering and leading the Earth-Trek Practicum (REC 233) and facilitating student teams. Students enrolled in Earth-Trek Planning will work closely with the Earth-Trek Basecamp (REC 232) instructor to manage the complex and multifaceted Earth-Trek program. Earth-Trek Planning students will specialize in their area of interest and/or expertise within the overall Earth-Trek planning process and will work intensively in labs with small student teams. (See description of Earth-Trek Basecamp [REC 232]). (2 hours lecture, 4 hours lab).

REC 333: Earth-Trek Practicum II

3 Credit Hours d.b.a.
This upper-level course offers the opportunity for Highly-motivated and skilled students to assist in leading Earth-Trek Practicum I (REC 233) by facilitating student teamwork. Students enrolled in Earth-Trek Practicum II will work closely with the Earth-Trek Basecamp (REC 232) and Earth-Trek Practicum II instructors to coordinate the complex and multi-faceted Earth-Trek trip. Earth-Trek Practicum II students will specialize in their area of interest and/or expertise within the overall Earth-Trek experience as per their learning contract in Earth-Trek Planning (REC 332). The student will work intensively within that area with a small student team. Includes 14-21 day trek.

REC 340: Facilities Management
3 Credit Hours Spring Sem.

Park and recreation maintenance management is a multi-disciplinary field that has developed as facilities have increased tremendously in both number and variety. This course will bring together a variety of information, knowledge, and techniques for managing facilities. The course will deal with principles of facility management applicable to a variety of types of areas and facilities. (2 hours lecture, 4 hours lab). Prerequisite: Design and Administration of Recreational Facilities (REC 275).

REC 350: Park Management
3 Credit Hours Fall Sem.

This course provides in-depth coverage of the field of park operations. It seeks to develop a sense of history and philosophy, while providing key knowledge and skills in areas such as resource management and records maintenance. The emphasis of the course is on natural resource management, rather than recreational programming. Disciplines drawn upon in this course include ecology, forestry, wildlife and fisheries management, arboriculture, landscape architecture, planning, interpretation, law enforcement, communications, engineering, personnel management, accounting and budgeting. (2 hours lecture, 3 hours lab).

REC 355: Visitor Management Services
3 Credit Hours Spring Sem.

The basic purpose of parks is to serve people. Several basic questions that must be answered are: Who are the visitors? Where do they come from? In what activities do they participate? How long do they stay? This course first seeks to answer these types of questions by looking at user-group characteristics and participant profiles. The latter part of the course is then devoted to visitor management techniques. (3 hours lecture). Prerequisite: Introduction to Recreation (REC 101).

REC 361: Expedition Planning
3 Credit Hours Fall Sem.

The first in a two-course sequence concluded by the Eco-Adventure Practicum (REC 362), this course introduces students to the principles of planning a multi-day, nature-based outing in a remote location. Working in crews, students will use as a case study and semester project the planning of their own Eco-Adventure Practicum. Students are obliged to apply principles of "green" or sustainable nature-based tourism to the greatest extent possible. Student groups will plan the trip vision and objectives, leadership approach, logistics, itinerary, transportation, lodging, food, finances, promotion, etc. This multi-disciplinary course will include instructional modules addressing issues from the Natural Resources,

Hospitality/Tourism, Business and Recreation perspectives. (2 hours lecture, 3 hours lab). Prerequisite: Adventure Travel and Ecotourism (REC 320) or may be taken concurrently.

REC 362: Eco-Adventure Practicum
3 Credit Hours Spring Sem.

The second in a two-course sequence started in Expedition Planning (REC 361), this course entails student participation in a multi-day, nature-based expedition/tour in a remote location. Students will execute, test and evaluate the detailed plans drafted in the Expedition Planning course. Students are obliged to practice principles of "green" or sustainable nature-based tourism. This course will be conducted entirely off campus and will entail additional fees above tuition. (2-3 weeks travel and expedition). Prerequisite: Expedition Planning (REC 361).

REC 395: Recreation, Adventure Travel and Ecotourism Externship

6 Credit Hours Fall/Spring/Sum Sems.
This course requires a minimum of 400 hours of a supervised off-campus work experience in an appropriate aspect of the Recreation, Adventure and Ecotourism field, related to the student's education. It is offered throughout the year to facilitate the coordination of the student's area of interest, the peak use times within the area chosen and the availability of the supervisor. Grading is pass/fail. (400 hours). Prerequisite: Introduction to Recreation (REC 101), Adventure Travel and Ecotourism (REC 320) or permission of the instructor.

REC 480: Issues in Recreation, Adventure Travel, and Ecotourism

3 Credit Hours Fall Sem.
An investigative course for the detailed study of current issues in Recreation, Adventure Travel, and Ecotourism with emphasis on unique and imaginative solutions to the challenges facing the Recreation, Adventure Travel, and Ecotourism professional. Issues discussed will be selected from the Recreation, Natural Resources and Hospitality/Tourism content areas. (3 hours/week). Prerequisite: Senior standing or permission of the instructor.

SCIENCES

BIO 100: Microbes and Society
3 Credit Hours d.b.a.

This course is designed to help students learn about microorganisms and understand their place in ecology and the environment, their uses in biotechnology, their role in food production and other industrial applications. The course will also address ways in which microorganisms may more directly influence the quality of our lives, including infectious diseases, problems with antibiotic resistance, and issues of bioterrorism. Much of the future may be influenced by the function of microorganisms in our world, and a scientifically-based awareness of their potential is important for everyone. (3 hours lecture).

BIO 101: Biology I
4 Credit Hours Fall/Spring Sems.

This introductory course serves as a foundation for other life science courses. Students will review the process of science and the properties of life. The diversity of organisms across all domains and kingdoms will be studied using an evolutionary perspective. Students will learn about the structure and function of major organ and tissue systems in animals and plants. Ecosystem structure and evolutionary processes will also be covered. (3 hours lecture, 3 hours lab).

BIO 102: Biology II
4 Credit Hours Fall/Spring Sems.

This course provides students with a broad overview of the foundations and scope of molecular, cellular, and ecosystem-scale biological science. Most of the material covers dates from the last 100 years. Students will develop the ability to view the natural world from a wide range of size perspectives, and to understand how submicroscopic, microscopic, and macroscopic aspects of the natural world interact. (3 hours lecture, 3 hours lab).

BIO 204: Plant Biology
3 Credit Hours Spring Sem.

Students will learn basic biological concepts as they relate to plants. Course content will address plant cell structures and processes at the cellular, tissue, and organ levels of organization. Other topics will include life cycles and reproduction of major plant groups, plant diversity, and ecological interactions. (2 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 205: Animal Biology
3 Credit Hours Spring Sem.

This lecture course deals with animal biology using a taxonomic approach. Each major animal phylum will be studied in detail with respect to its morphology, physiology and evolutionary relationship to other animal phyla. Emphasis will be placed on understanding how the evolutionary changes seen across animal groups relate to specialization and success in a wide variety of environments. Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 210: General Ecology
3 Credit Hours Fall/Spring Sems.

This is a general ecology course that stresses niche parameters, population dynamics and regulation, species interactions, and community organizations and change. The course concludes with a coverage of the basics of ecosystem ecology. In the lab component, field work and work with computer models reinforce concepts covered in class. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 220: Evolution
3 Credit Hours d.b.a.

This course will address the development and current state of evolutionary theory. Students

will learn about sources of genetic variation, natural selection and other processes involved in molecular evolution. The course will also address population genetics, the formation of new species and macro-evolutionary processes. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 240: Microbiology
4 Credit Hours Spring Sem.

This course begins with the presentation of the basic characteristics and functions of the major groups of microorganisms, and while eukaryotic microorganisms, archaea and viruses will be introduced, the emphasis of the course is on the bacteria. Topics to be covered include cell morphology and structures, growth requirements, metabolic processes, means of reproduction and means of genetic variation. Additional topics address the influence of pathogenic microorganisms on other organisms, the mechanisms for defense and methods of control against such pathogens, and the role of microorganisms in the environment. During laboratory sessions, students will learn the standard procedures necessary for the study of microorganisms, and explore the features and functions of representative microorganisms. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102), Chemistry I and II (CHE 141, CHE 142).

BIO 325: Genetics
3 Credit Hours d.b.a.

This course is a survey of the study of inheritance. It begins with a review of the fundamental concepts of Mendelian inheritance and basic cellular and molecular mechanisms. It also covers linkage, gene expression and regulation, mutation, quantitative analysis, gene maps, sequencing studies, and biotechnology. The course will conclude with a discussion of human genetics and population genetics. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 335: Plant Ecology and Systematics
331

3 Credit Hours d.b.a.
This course focuses on two complementary aspects of plant biology: terrestrial plant ecology and plant systematics. For the plant ecology portion, this course will address the underpinnings of the field including a brief history, the species or plant population as an ecological unit, the plant community as an ecological unit, and the influence of environmental factors on individual plants, plant populations, and plant communities. Succession and disturbance will be investigated in the context of the ecosystem concept. In addition, the sampling and classification of plant communities will be addressed. For the plant systematics portion of this course,

students will learn how major groups of vascular plants are classified, named, and identified. Special attention will be given to the identification of the native regional flora. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102) and General Ecology (BIO 210), or permission of the instructor.

BIO 340: Cell Biology
4 Credit Hours d.b.a.

This course will present the cell theory which is concerned with the principles that are relevant to all of the biological sciences, and one of the unifying concepts in modern biological science. The knowledge of fundamentals of cell structure and function will provide a foundation in cell biology that will support further learning in fields related to biology. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102), Chemistry I and II (CHE 141, CHE 142), Organic Chemistry (CHE 241), Genetics (BIO 325).

BIO 350: Anatomy & Physiology I
4 Credit Hours d.b.a.

The first semester of a two-semester sequence dealing with the anatomy & physiology of the human body. In this first semester, the students will begin with an introduction to the biochemistry and cell biology of the tissues that make up the organ systems of the body. Then the subject matter will deal specifically with the individual organ systems. The first group of organ systems covered will be those involved with the protection, support and movement of the body. The remainder of the semester will be spent investigating the role of the nervous system in regulation and integration of the body. Each week there will be a laboratory devoted to exploring basic physiological mechanisms, such as muscle mechanics, or identification of anatomical structures by dissection of animal models. (3 hours lecture, 2 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 351: Anatomy & Physiology II
4 Credit Hours d.b.a.

The second semester of a two-semester sequence dealing with the anatomy & physiology of the human body. In this semester, the students will continue their studies on the structure and function of the human organ systems. The semester will be devoted to studies of the organ systems involved in maintenance of the body, reproduction and embryonic development. Each week there will be a laboratory devoted to exploring basic physiological mechanisms, such as mechanics of the heart cycle, lung mechanics and kidney function or identification of anatomical structures by dissection of animal models. (3 hours lecture, 2 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102). A&P I (BIO 350)

BIO 355: Plant Physiology
3 Credit Hours Spring Sem.

This course presents the study of the structure and function of plant and plant parts. The metabolic processes of plants will be studied, including reproduction, photosynthesis, growth, and development. The responses of plants to environmental and seasonal influences will also be covered. Laboratory sessions will allow students to

explore topics and gain a greater understanding through the process of discovery. (2 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102) and Chemistry I or II (CHE 141, CHE 142).

BIO 361: Entomology
4 Credit Hours Fall Sem.

Students will learn about the biology and classification of insects. Topics covered include insect diversity, morphology, physiology, and behavior. For the lab portion of the course, students will collect, observe, and classify insects based on morphological characteristics. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102) or permission of the instructor.

BIO 362: Ichthyology
3 Credit Hours Spring Sem.

Ichthyology is the scientific study of fishes. This includes morphology, physiology, and ecology of freshwater and marine fishes. Structure, function, evolution, and behavior of fish are discussed as adaptations to the environment. Laboratory exercises are designed to provide the student with the opportunity to explore the internal and external morphology of fishes, to observe common behavior, and to practice taxonomic identification of fishes using dichotomous keys. (5 contact hours). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 363: Mammalogy
4 Credit Hours Spring Sem.

This course deals with the biology of mammals. Topics will include origins and evolution, classification, zoogeography, physiology, reproduction, ecology, behavior, and the relations between mammals and humans. Students will also learn to identify the mammals of the Adirondacks. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 364: Ornithology
4 Credit Hours Spring Sem.

Ornithology is the study of birds. Lecture topics in the course will address the physiology, behavior, ecology and evolution of birds. The laboratory portion of the course will address bird morphology, behavior and vocalizations as it relates to bird identification and will include several field trips to local birding areas. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 371: Microbial Ecology
3 Credit Hours d.b.a.

Many of today's environmental problems, as well as their solutions, are interwoven with the microbial component of the global ecosystem. Building on the foundations established in Biology I (BIO 101) and General Ecology (BIO 210), this course is designed to explore the significance and role of microorganisms with relation to the earth's resources and the maintenance of environmental conditions necessary to sustain life. Students will study

microbial communities and ecosystems in depth, and learn how these systems are assessed. Based on the knowledge of microbial processes, students will study the importance of microbial diversity, the influence of microbial processes on global change, and the contributions of microorganisms toward sustainable ecological systems. (3 hours lecture). Prerequisites: Two semesters of biology and an ecology course. Biology I (BIO 101) and General Ecology (BIO 210)

BIO 430: Biometrics

3 Credit Hours Spring Sem.
This course will present a computer-based approach to statistics as applied to biological systems. Students will be exposed to real experimental data to study the methods used to analyze that data. The course will give students an appreciation of the widespread use of statistics and its importance in decision making. The methods that will be emphasized in this course are experimental design, sampling techniques, regression analysis, analysis of variance, and non-parametric tests. (4 hours lecture). Prerequisite: Statistics (MAT 210).

BIO 455: Biotechnology

4 Credit Hours d.b.a.
This course provides an introduction to Biotechnology and an overview of current applications in a variety of professional fields. Uses of genetic and molecular techniques in environmental science, agriculture, industry, food processing, medicine, forensics, and plant and animal population studies will be addressed. The basic concepts of DNA technologies will be introduced and described, including DNA cloning, genetic engineering, fingerprinting, and polymerase chain reaction (PCR). Additional topics will include the ethical issues and global impacts of biotechnology, antibody production, and transgenic technology. (3 hours lecture, 3 hours lab). Prerequisites: Biology I (BIO 101), Genetics (BIO 325), plus at least Junior-level standing or permission of the instructor.

BIO 457: Aquatic Invertebrates

3 Credit Hours d.b.a.
This course explores the ecology of invertebrates in freshwater ecosystems. Special attention will be given to taxonomy and diversity, the role of invertebrates in aquatic food webs, and the implications non-indigenous invertebrates have on aquatic systems. The laboratory component is designed to provide students with skills in invertebrate sampling, identification, and culturing. (2 hours lecture, 3 hours laboratory). Prerequisites: Biology I and II (BIO 101, BIO 102), General Ecology (BIO 210), or permission of the instructor.

BIO 472: Paleocology

4 Credit Hours Spring Sem.
This course provides an introduction to paleocology, the study and documentation of past ecosystems and development of long-term perspectives on ecological processes, environmental management practices, and environmental changes of both human and non-human origins. Lab activities include coring techniques, sediment and microfossil analyses, sample dating methods, field trips within and/or outside the Adirondacks, oral presentations, scientific writing, and computer applications. (3 hours lecture, 3 hours lab). Prerequisites: Biology I and II (BIO 101, BIO 102) and Chemistry I (CHE 141).

BIO 474: Physiological Ecology

3 Credit Hours d.b.a.
This course deals with the physiological mechanisms by which organisms adapt to their physical environment. Among the aspects of the physical environment considered are water, flow, drought, heat, cold, salinity, pH, pollutants, and resource availability. In addition to metabolic responses, the course also considers scaling and behavioral responses. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102).

BIO 476: Winter Ecology

3 Credit Hours Spring Sem.
In this course, students will apply the basic principles of chemistry, physics, and biology to understand ecosystem processes in cold environments. The course will include the ways in which winter and cold regions influence community composition and structure, species distribution, population survivorship, and hydrological routing. Students will also discover the psychological and physical boundaries that cold-weather environments present to humans. The course will integrate lecture and field exercises to facilitate student-directed studies. (3 hours lecture). Prerequisites: General Ecology (BIO 210) or equivalent, Statistics (MAT 210), and Junior standing or permission of the instructor.

BIO 490: Biology Externship

1 to 6 Credit Hours Fall/Spring Sems.
Students spend from 80 to 400 or more hours working with an organization such as a government agency, a non-profit conservation/environmental group, a research institute, an industry, a business, etc. that carries out biologically-related activities. The student must identify a sponsoring supervisor at the chosen organization and have the supervisor provide a written description of the proposed student work plan. It is the responsibility of the student to secure the externship and to obtain approval from the Dean of Sciences, Liberal Arts, and Business. Grading is on a pass/fail basis. Prerequisite: One full year of course work in major.

BIO 499: Special Topics in Biology

3 Credit Hours d.b.a.
In this course students will engage in more in-depth study within a major subdiscipline of biology, such as cellular biology, physiology, organismal biology or ecology. In most cases, student demand and/or faculty expertise are factors that influence the selection and timing of this course. Students

enrolling in the course will be expected to have foundational biological knowledge. This course is intended to supplement those designated biology courses described in the PSC catalog. Prerequisite: Junior standing.

CHM 141: Chemistry I

4 Credit Hours Fall Sem.
This beginning science course focuses on the fundamental principles and laws underlying chemical action, their integration with the theories of atomic structure and chemical bonding, and correlation with the position on the periodic chart. Students will study atomic structure, periodicity, chemical bonding, and states of matter and chemical measurements (stoichiometry). The course has a required three-hour laboratory that focuses on general laboratory techniques pertinent to the lecture material. (3 hours lecture, 3 hours lab).

CHM 142: Chemistry II

4 Credit Hours Spring Sem.
This course is a continuation of Chemistry I (CHM 141) and continues the focus on the fundamental principles and laws underlying chemical action. Students will study oxidation/reduction, solutions, ionization and electrolysis, acids, bases and salts, chemical and ionic equilibrium, coordination compounds, kinetics, and a short introduction to organic chemistry. The course has a required three-hour laboratory that focuses on qualitative analysis. (3 hours lecture, 3 hours lab). Prerequisite: Chemistry I (CHM 141).

CHM 241: Organic Chemistry I

4 Credit Hours Fall Sem.
The course is designed to cover the wide range of topics concerning the chemistry of carbon. Students will study chemical bonding, nomenclature and reactivity of hydrocarbons, alcohols, ethers, and alkyl halides, configuration of alkanes, and cycloalkanes, and stereochemistry. Additionally, students will learn various reactions mechanisms, with an emphasis on nucleophilic substitution reactions. The laboratory will focus on fundamental techniques in organic chemistry, e.g., distillation, purification, synthesis, chromatography and spectroscopy. (3 hours lecture, 3 hours lab). Prerequisites: Chemistry I and II (CHM 141, CHM 142).

CHM 242: Organic Chemistry II

4 Credit Hours d.b.a.
This course is designed to be a continuation of Organic Chemistry I (CHM 241) in the study of carbon compounds. Students will study reactions of aromatic compounds, aldehydes, ketones, carboxylic acids, amines, esters, carbohydrates, and lipids. Additionally, students will study the theory of various spectroscopic methods of structure determination. The laboratory will concentrate on the synthesis and analysis of organic compounds. This course, along with Organic Chemistry I (CHM 241), is designed to satisfy the requirements for those students transferring to four-year institutions in pursuit of a

baccalaureate degree. (3 hours lecture, 3 hours lab). Prerequisite: Organic Chemistry I (CHM 241)

CHM 310: Environmental Chemistry
4 Credit Hours Spring Sem.

This course emphasizes environmental laboratory techniques, precision, and safety. The course is a study of the sources, reactions, transport, effects, and fates of chemical species in the study of water, soil, and air environments, as well as the influence of human activity upon these processes. (3 hours lecture, 3 hours lab). Prerequisite: Chemistry I (CHM 141) or equivalent.

CHM 330: Biochemistry

3 Credit Hours d.b.a.
This course provides students with a broad overview of the structure, function, and metabolism of carbohydrates, lipids, proteins, and nucleic acids which make up living organisms. Students will become familiar with the value and applications of recombinant DNA technology, enzymes and their activity, eukaryotic gene expression and key biochemical pathways and cycles. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102), Chemistry I and II (CHM 141, CHM 142).

CHM 430: Instrumentation

3 Credit Hours d.b.a.
This course introduces the students to the science of measurements and to a variety of analytical laboratory and field instruments, including pH and specific ion meters, temperature sensors, D.O. meters, flow meters, pressure sensors, spectrophotometers, and weather stations. Students will become familiar with the operating principle, proper application, and limitations of each instrument. They will also gain experience with setting up remote sensing equipment which makes use of data loggers and telecommunications. In addition, students will learn basic troubleshooting techniques. (2 hours lecture, 3 hours lab). Prerequisites: Chemistry I and II (CHM 141, CHM 142) and Physics I (PHY 241).

ENV 100: Introductory Environmental Science

3 Credit Hours Spring Sem.
This course is designed to introduce non-environmental major students to key concepts and principles that govern how nature works. Students will gain an understanding of and appreciate the need to deal with environmental issues such as sustainability, the inter-connection of the economy and the ecosystem, and the balancing of problems and solutions in an integrated manner on a personal, local, regional, national and global basis. Introductory Environmental Science and Environment, Resources & Society I (SOC 105) cannot both be taken to satisfy

graduation requirements. This course will not satisfy graduation requirements for the Environmental Studies Programs. (3 hours lecture).

ENV 110: The Adirondack Environment
3 Credit Hours Fall Sem.

In this course, students will be introduced to the Adirondack Park. The class integrates lectures with visits to various field sites and institutions/businesses throughout the region. Topics will span disciplines from management to science and include the history of the Adirondack Park, land use, natural resources, the physical environment, ecosystems and regional environmental issues. In addition, students will be acquainted with current research or environmental activities in the Adirondacks. (3 hours lecture).

ENV 120: Geology

3 Credit Hours d.b.a.
This course provides students with a broad overview of the foundations and scope of Earth Sciences. Students will gain an understanding of the physical and chemical processes that shape the Earth's continents and ocean basins, gain familiarity with long-term environmental perspectives based on the geologic time scale, will learn to identify and classify common rocks, minerals, and soils, and will develop a basic awareness of the interactions of global and regional geography, climatic processes, and biota from a geological perspective. (3 hours lecture).

ENV 222: Natural Habitat Interpretation
3 Credit Hours Fall Sem.

In this field-based course, various natural habitats found throughout the Adirondack Park are explored and studied. Students will travel to and investigate the structure and composition of various habitats, as well as learn about the ecological relationships occurring there. Field trips will include lowland and montane forest communities, alpine tundra, swamps, bogs, marshes, and farmland in the Champlain Valley. Students are expected to participate in at least three Saturday field trips and should plan their schedules accordingly. (3 hours lecture, 3 hours lab). Prerequisite: Biology I (BIO 101).

ENV 290: Environmental Studies Practicum
3 Credit Hours Fall/Spring Sems.

Ideally, the student will participate in a practicum in his/her third or fourth semester. The practicum can take several forms. The student can participate in one of the practicums developed by the College, e.g., the PSC Recycling Coordinator, or a part-time intern at the Adirondack Park Agency, Department of Environmental Conservation, or the Adirondack Park Visitor Interpretive Center. Or, an appropriate independent study relationship can be arranged by the student with the approval of the Dean of the Division or Program Coordinator. Enrollment in either option requires a GPA of 2.00 or better at the end of the last full semester. This course is open to any student, regardless of course of study.

ENV 315: Environmental Law and Regulatory Process

3 Credit Hours Spring Sem.
In this course, the students will learn the legal basis for environmental protection in the U.S.A. They will begin by studying the legal system and procedures. Students will then study specific legislation governing air and water pollution, forest and wildlife management, pesticide use, and the disposal of toxic wastes. The National Environmental Policy Act, and how this landmark piece of legislation has changed the way decisions are made in the United States will be covered. The course will conclude with a study of international conventions governing the global environment. (3 hours lecture). Prerequisite: Ethics (HUM 270).

ENV 330: Conservation Biology
3 Credit Hours Spring Sem.

The major topic of this course is biological diversity. Students will explore the various meanings of diversity, the role of diversity in natural systems and its importance in human welfare. Students will also study present and past biogeographic patterns, and factors affecting those patterns, with special emphasis on human impacts. Finally, students will focus on the methods used to ameliorate negative impacts on diversity within the framework of the social, economic, political and ecological problems involved in this endeavor. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102), and General Ecology (BIO 210) or Forest Ecology (FOR 310).

ENV 361: Limnology

3 Credit Hours Fall Sem.
The purpose of this course is to cover the concepts and natural laws which apply to lake ecosystems. Lakes in the Adirondack Park are looked at to study the factors that affect lake biology and chemistry. Emphasis is placed on the basic study of limnology, lake productivity, and the presence of cultural eutrophication. (Lectures and labs). Prerequisite: Biology I (BIO 101).

ENV 420: Environmental Impact Assessment

3 Credit Hours Fall Sem.
The purpose of this course is to help the student recognize the profound impact of human activity on the inter-relations of all components of the natural environment, particularly the influences of population growth, high-density urbanization, industrial expansion, resource exploitation and new and expanding technological advances. It will explore the critical importance of restoring and maintaining environmental quality to the overall welfare and development of mankind. Finally, it will cover the policies and procedures used by federal, state, and local governments to create and maintain conditions under which people and nature can exist in harmony. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102), and one Ecology course.

ENV 431: Environmental Simulation Modeling

3 Credit Hours **Fall Sem.**

This course begins with a discussion of types of models and their uses in environmental management and research. Although the students will create simple models, the major emphasis is on familiarization with existing models currently used in environmental management and sources of the input data. A balance of resource management and resource science perspectives will be presented. (3 hours lecture). Prerequisites: General Ecology (BIO 210) or equivalent, and Calculus I (MAT 241).

ENV 450: Advanced Conservation Science

3 Credit Hours **d.b.a**

This course will address current issues in the field of conservation science. Topics will include, but may not be limited to: old-growth forest ecology and conservation, riparian ecology and conservation, role of top carnivores in regulating terrestrial ecosystems, the focal species approach, problems relating to spatial scale, ecological classification for conservation, endangered ecosystems, ecological community representation, ecosystem integrity, gap analysis, designing protected areas and wildlife corridors, habitat-based conservation planning, regional and continental restoration, and development of eco-regional conservation plans. Case studies will be examined. (3 hours lecture). Prerequisites: General Ecology (BIO 210), Conservation Biology (ENV 330) plus at least Junior-level standing or permission of the instructor.

ENV 455: Sustainable Development

3 Credit Hours **Spring Sem.**

This course provides an historic look at the demographic pressure on renewable and non-renewable resources and demonstrates the need for management strategies. Management of both resource supply and demand is considered. Sustainable resource management methods are applied to specific resources including soil, water, minerals, forests, energy, and food. The inter-relationship and sustainability between natural and cultural resources are studied. (3 hours lecture). Prerequisite: Junior standing, or permission of the instructor.

ENV 471: Stream Ecology and Management

3 Credit Hours **d.b.a.**

Structure and function of river and stream ecosystems will be studied. Variables at several spatial and temporal scales will be hierarchically linked to the physical, chemical and biological attributes of stream environments. Conceptual models will be used to describe constraints that large-scale geomorphic patterns and processes place

upon small-scale patterns and processes as related to primary production, invertebrates and vertebrates.

The rationale behind watershed-based approaches and methodologies to assessment and monitoring of stream ecosystems will be explored. Students will learn how to design a watershed assessment and monitoring project which links land uses with monitoring data. (2 hours lecture, 3 hours laboratory). Prerequisites: Biology I and II (BIO 101, BIO 102), General Ecology (BIO 210) and a physics course.

ENV 473: Wetlands Ecosystems and Management

3 Credit Hours **Fall Sem.**

Students will explore the complexities of wetlands on both the ecosystem and management levels. Students will gain an understanding of the critical role wetlands play in an intact landscape by studying the diverse ways in which they develop and function. Students will also gain appreciation for present-day management techniques, including wetland delineation, value assessment, creation and restoration. Students will be asked to participate in three all-day field trips on scheduled Saturdays during the first half of the semester and should plan accordingly. (3 hours lecture). Prerequisites: Biology I and II (BIO 101, BIO 102), one semester of chemistry, and an ecology course.

ENV 499: Special Topics in Environmental Science

3 Credit Hours **d.b.a.**

This will be a topical course in natural resources management. In this course, students will examine issues of present-day importance to the management of natural resources. The topic of study will change from year to year, as different issues gain prominence. Although the topics will change, the purpose of the course will remain the same. That purpose will be to provide a forum to engage the students in the national, state, or local debate on the management of natural resources. (3 hours lecture). Prerequisite: Permission of the instructor.

PHY 140: Technical Physics

4 Credit Hours **Fall/Spring Sems.**

A non-calculus based approach to physics introducing the student to the fundamental principles of physics. Topics include dynamics, statics, strength of materials, mechanical work and energy, heat, and electricity. Laboratory work is designed to illustrate the principles discussed in lecture. (3 hours lecture, 3 hours lab). Prerequisite: College Algebra (MAT 125).

PHY 241: Physics I

4 Credit Hours **Fall Sem.**

This course will introduce students to the branch of physics known as classical mechanics, through a variety of classroom activities. Students will learn about the parameters that describe motion and the inter-relationships between motion and force that are embodied in Newton's laws. They will specifically study straight line motion, plane motion, rotation, equilibrium, and gravitation. Through this study, students will become familiar with the basic concepts that form the foundation of natural science. (3 hours lecture, 3 hours lab).

PHY 242: Physics II

4 Credit Hours **d.b.a.**

Students continue the study of physics that they began in Physics I (PHY 241). They will continue their study of mechanics with an introduction to fluid mechanics, harmonic wave motion, and sound. In addition, they will study thermodynamics with an emphasis on heat engines and kinetic theory. Finally, they will study electromagnetism. Through this study, students will become familiar with the basic concepts that form the foundation of natural science. (3 hours lecture, 3 hours lab). Prerequisite: Physics I (PHY 241).

SCI 299: Guided Research in Science I

3 Credit Hours **d.b.a**

This course provides students with the opportunity to conduct advanced study and research in a subject area within the fields of Natural Resources, Science and Liberal Arts that is of particular interest to them. The study will be selected, designed and conducted by the student under the guidance of a faculty member. (3 hours lecture). Prerequisite: Sophomore standing and permission of the instructor.

SCI 398: Guided Research in Science II

3 Credit Hours **d.b.a**

This course provides students with the opportunity to conduct advanced study and research in a subject area within the fields of Natural Resources, Sciences and Liberal Arts that is of particular interest to them. The study will be selected, designed and conducted by the student under the guidance of a faculty member. Prerequisite: Junior standing or higher standing and permission of the instructor/advisor.

SCI 399: Guided Research in Science III

3 Credit Hours **d.b.a**

This course provides students with the opportunity to conduct advanced study and research in a subject area within the fields of Natural Resources, Science and Liberal Arts that is of particular interest to them. The study will be selected, designed and conducted by the student under the guidance of a faculty member. (3 hours lecture). Prerequisite: Junior standing and permission of the instructor.

SCI 499: Guided Research in Science IV

3 Credit Hours **d.b.a**

This course provides students with the opportunity to conduct advanced study and research in a subject area within the fields of Natural Resources, Science and Liberal Arts that is of particular interest to them. The study will be selected, designed and conducted by the student under the guidance of a faculty member. (3 hours lecture). Prerequisite: Senior standing and permission of the instructor.

SOCIAL SCIENCES

POL 200: Origins of American Government and Politics

3 Credit Hours **d.b.a.**

This course is devoted to a study of the origins and nature of American political thought. A survey of major ideas from Greece, Europe, and Colonial America serves as the basis for an examination of the basic political philosophy in the Declaration of Independence, the Articles of Confederation, and the Constitution of 1787. (3 hours lecture).

POL 201: American Government and Politics Today

3 Credit Hours **d.b.a.**

A continuation of Origins of American Government and Politics (POL 200), this course is an examination of the structure, organization, and operation of American government at the national level, with emphasis on the relationship between the ideal inherent in American democracy as studied in Origins of American Government and Politics and the actual operation of the government. (3 hours lecture). Prerequisite: Origins of American Government and Politics (POL 200).

POL 202: Politics of the Environment

3 Credit Hours **Yearly**

This course explores the political process and the conflicting perspective and values involved in environmental policy making. The Adirondack Park and the Champlain Adirondack Biosphere Reserve serve as a regional focus and case study for this capstone experience. (3 hours lecture). Prerequisite: Sophomore standing.

POL 300: Contemporary Political Systems

3 Credit Hours **Spring Sem.**

This course explores the political systems which operate within our dynamic global village. Special attention will be given to specific articulations of political systems (i.e., transitional democracy, authoritarianism, and liberal-commercial republic), and how they compare to one another with reference to ethical criteria for cultural, economic, and environmental responsibility. In addition, the course will place special emphasis on the temporal-spatial congruence of political systems vis-à-vis socio-economic systems. (3 hours lecture). Prerequisite: Social/Cultural Foundational Experience.

PSY 101: Psychology

3 Credit Hours **Fall/Spring Sems.**

This course introduces students to the field of psychology. It sets modern psychology in a meaningful context, examining how the discipline has developed from its early traditions through present-day schools of thought. Students will explore the

fundamental question of nature versus nurture in the development of the human mind. They will examine human perception, how it can differ from one culture to another, and the manner in which learning occurs. The course ties what we know about cognition, thought, language, and intelligence to the everyday lives of students. Thus, the classroom is viewed as a laboratory. (3 hours lecture).

PSY 102: Psychology of Personality

3 Credit Hours **d.b.a.**

This course is a continuation of Psychology (PSY 101). The concepts of personality development, learning, intelligence, feelings, emotions, mental illness, and the treatment of mental illness are studied. (3 hours lecture). Prerequisite: Psychology (PSY 101).

PSY 110: Organizational Behavior

3 Credit Hours **Spring Sem.**

Organizations, like organisms, go through a constant process of change and unless modified will experience a life cycle of varying length. The symptoms of failure are not always evident. Often, these symptoms are systemic in nature and indicative of the manner in which the organization is designed and led. This course will focus on identifying these systemic issues while the student becomes aware of the relationships of culture to performance, the evolution of business structure, and the inevitability of change brought on by transformation of national and global economic environments. (3 hours lecture).

PSY 200: Ecopsychology

3 Credit Hours **d.b.a.**

This is a study of the developmental, therapeutic, and related benefits of exposure to the natural world, from built-up environments like gardens to the wilderness. Developmental benefits focus on self-actualization, skill development, and self concept. Study of nature's healing benefits-physical and psychological-will form a major part of the course. Among other topics covered are: biophilia, the ecological unconscious, synergistic interplay of planetary and personal well-being, and environmental therapies. A major research paper is required. (3 hours lecture). Prerequisites: Two Social Science/Humanities courses or permission of the instructor.

SOC 101: Sociology I

3 Credit Hours **Fall/Spring Sems.**

Sociology I provides students with an introduction to the field of sociology, the social science discipline that places emphasis on human interaction. The course offers a systematic study of the relationships between people in groups and between groups and society. The importance of culture to human socialization is emphasized, thus allowing students to investigate the nature of relationships with people from different backgrounds. (3 hours lecture).

SOC 102: Sociology II

3 Credit Hours **d.b.a.**

This is a continuation of Sociology I (SOC 101). Attention is given to contemporary social issues, their causes and solutions. Sociological principles learned in Sociology I are applied, and there is

opportunity for more independent study. Social trends and social theories are covered. (3 hours lecture). Prerequisite: Sociology I (SOC 101).

SOC 105: Environment, Resources & Society I

3 Credit Hours **Fall Sem.**

The introductory course in environmental studies explores the biogeophysical aspects of environmental problems within an historical perspective. The emphasis in this course is on two questions: Who are environmentalists? And, why are they concerned? (3 hours lecture).

SOC 106: Environment, Resources & Society II

3 Credit Hours **Spring Sem.**

A continuation of Environment, Resources & Society I (SOC 105), stressing the inter-relationship between the natural and social sciences and the important contributions made by the arts and humanities in the interdisciplinary approach to environmental solutions. The emphasis in this course is on two questions: What do environmentalists want? And, how can it be achieved? (3 hours lecture). Prerequisite: Environment, Resources & Society I (SOC 105).

SOC 110: Non-Western Cultures

3 Credit Hours **Spring Sem.**

Humans organize at various levels in order to assure themselves of life's necessities, and to maintain a sense of order in their lives. In addition, culture is considered to be the overarching organizational framework which provides humans with the ability to live successfully in a variety of physical environments. This course provides students with an opportunity to gain insight into the cultures of non-western societies. It will focus on the technology, ideology, and sociology associated with cultures found in China, Tropical Africa, and Caribbean America. (3 hours lecture).

SOC 115: Adirondack Expedition

3 Credit Hours **Fall Sem.**

Using the local Adirondack landscape as text and laboratory, this course will introduce first-year Environmental Studies students to the local social, environmental, economic, and cultural issues found in their field of study. Through team-building and adventure exercises, each student will learn skills and methods basic to an academic investigation of the Adirondack landscape. Activities will include canoeing, hiking, and trip planning, to name a few. Field trips may include visits to the St. Regis Canoe Area, the High Peaks Wilderness Area, Historic Saranac Lake, Lake Placid's Olympic venues and Tourist Information Center, the Adirondack Visitor Interpretative Center, and the Adirondack Museum. (3 hours lecture/lab).

SOC 199: Special Topics in Social Sciences

3 Credit Hours **d.b.a.**
This course will provide students with the opportunity to study social science topics that are not part of the traditional course offerings. The topics are selected for their potential to contribute to the intellectual development of students. In most cases, student demand or faculty expertise (or both) are factors that influence the selection of the topics. (3 hours lecture).

SOC 200: Social Issues

3 Credit Hours **Spring Sem.**
This course provides students with an opportunity to examine contemporary social issues in the United States, and the manner in which similar issues confront societies elsewhere. Emphasis is placed on macro-societal issues, such as structural inequalities associated with race, gender, age, educational access, and work opportunities. In addition, students will explore the social dimensions of population growth vis-à-vis environmental degradation, the politics of underdevelopment, and the concentration of economic and political power. (3 hours lecture).

SOC 210: The SIXTIES!

3 Credit Hours **d.b.a.**
This course will cover the political and social origins of The Sixties (as a phenomenon), as well as the major political and social changes during that period. It will start with the Eisenhower administration and will end with the U.S. withdrawal from Vietnam. Highlighted will be the influence of Eisenhower, JFK, Black Power, the role of the media, and so on. (3 hours lecture).

SOC 299: Special Topics in Social Sciences

3 Credit Hours **d.b.a.**
This course will provide students with an opportunity to study social science topics that are not normally offered. These topics are selected for their potential to contribute to the intellectual development of students. In most cases, student demand or faculty expertise (or both) are factors that influence the selection and timing of these courses. Special topics courses might include marriage and the family, Canadian history, introduction to anthropology, Caribbean America, among others. (3 hours lecture).

SOC 300: Cultural Anthropology

3 Credit Hours **Fall Sem.**
Anthropology involves the systematic study of humankind and the unique and diverse ways in which humans have successfully adapted to vastly different environmental settings throughout the world. Cultural Anthropology provides students with an opportunity to explore and understand the diversity of human thought and behavior

that characterize different cultures. Through the application of theoretical frameworks developed by anthropologists and the use of case studies from five continents, students will learn how we, in the Western world, can understand and appreciate the diversity of cultures and cultural expression found throughout the world today. (3 hours lecture). Prerequisite: Social/Cultural Foundational Experience.

SOC 305: Gerontology

3 Credit Hours **d.b.a.**
Gerontology is the study of aging. This course will be an introduction to the social aspects of aging. Among the topics of interest are family relationships, health, economics, retirement, widowhood, public policy, social work, and planning for changing demographics and care of the elderly. This course will enable students to better communicate with the aging population and, therefore, anticipate their needs. Students whose career goals include working with people of various ages will benefit from this course which focuses on this growing segment of the population. (3 hours lecture).

SOC 310: Mobility in Modern Society

3 Credit Hours **Fall Sem.**
Movement in society stems from a need for fulfillment. People move for a variety of reasons, yet as Abraham Maslow pointed out in his Hierarchy of Needs, individuals seek out environments that provide survival (the basic mobility motivator), security (in modern times movement is sometimes associated with finding an environment that is friendly and conducive to growth), belongingness (being part of a group, event, or community), self-esteem (seeking out a destination that offers an opportunity to realize self-worth), and self-actualization (an opportunity to reach or exceed one's personal expectations). The global service economy that molds modern society has created a new breed of mobile residents who travel for reasons that stretch from pleasure to business, from planned activity to spontaneous decisions, from escapism to exploration. Each of these travelers becomes part of a mini-society within which the appropriate, specialized, human interactions are facilitated. This course will focus on historical travel and how politics, technology, business, and social issues have been and will continue to be an influence on the mobility patterns of a modern society. (3 hours lecture). Prerequisite: Sociology I (SOC 101).

SOC 400: The American Labor Movement

3 Credit Hours **Spring Sem.**
An historical perspective of the labor movement in America from the early days of manufacturing, through the formation of unions, to empowered business environments of the nineties, and projected labor issues in the near future. The course will focus on how organized labor instills a sense of pride and community and how it affects the positive interactions within a society. Opposing issues of management and labor will be discussed as well as the process of collective bargaining as a vehicle for compromise. (3 hours lecture).

SOC 460: Capstone Research Methods Seminar

3 Credit Hours **Fall Sem.**
This course covers the basic research methods used to investigate a research question. Research question formulation, study and survey design, data collection, data analysis and discussion of results will be covered. The seminar will focus on the development of a formal literature review and preliminary research design with special application to business research. (3 hours lecture). Prerequisite: Senior standing in BMES program only.

SOC 461: Capstone Project Planning Seminar

1 Credit Hour **Spring Sem.**
This course is designed to provide students who plan to complete a Capstone Independent Project (SOC 462) with the foundation for their work on their Project. Students are expected to broaden their understanding and application of skills gained in courses leading up to the Capstone, such as literature review, research methods, study design, and effective communication of information. The result of this effort will be a completed, approved proposal, prepared according to the guidelines established for Capstone Projects. Each student will select a mentor who will serve as the student's supervisor for the Project. (1 hour lecture).

SOC 462: Capstone Project

3 Credit Hours **Fall/Spring Sems.**
The Capstone Independent Project is designed to be a culminating endeavor based upon student's coursework, reading, interests and experience. Through the application of principles, theories and methods learned, students analyze, synthesize and evaluate information. The Project provides a representative sample of a student's work that may be used to assess student learning. Individually, students will work independently on their projects developed during the Capstone Project Planning Seminar (SOC 461), under the supervision of a mentor. Students are responsible for satisfying the established standards for successful completion of the Capstone Project, which include a substantial written report and an oral presentation. The course is offered fall and spring semesters and may be designated an honors course. (1 hour lecture and independent time). Prerequisites: Capstone Project Planning Seminar (SOC 461) and senior standing.

SOC 463: Capstone Group Project Planning Seminar

1 Credit Hour **Fall Sem.**
This course is designed to provide students who plan to complete a Capstone Group Project (SOC 464) with the foundation for their work on their Project. Students are expected to broaden their understanding and application of skills gained in courses leading up to the Capstone, such as literature review, research

methods, study design, and effective communication of information. Students will work with their course professor to select the focus of their Capstone Project, design the study and schedule activities that may be required in advance of the semester they complete their Projects. The result of this effort will be a completed plan, prepared according to the guidelines established for Capstone Group Projects.

SOC 464: Capstone Group Project
3 Credit Hours **Fall/Spring Sems.**
The Capstone Group Project is designed to be a culminating endeavor based upon students' course work, reading, interests and experience. Through the application of principles, theories and methods learned, students analyze, synthesize and evaluate information. The Project provides a representative sample of students' work that may be used to assess student learning. The Capstone Group Project enables the class of students to investigate a topic of interest in their program area, which will be determined during the Capstone Group Project Planning Seminar (SOC 463). Students will work in small groups, and individually within their group, toward the completion of the overall class goal. Students are required to prepare a substantial written report demonstrating the students' project focus, as well as the integration of their work, and an oral presentation for their group. Capstone Group Project is offered in the fall and spring semesters. (1 hour lecture, and group meeting time). Prerequisites: Capstone Group Project Planning Seminar (SOC 463) and senior standing.

SOC 499: Special Topics in Social Sciences
3 Credit Hours **d.b.a.**
Students will study topics chosen because of their present-day importance to the traditional social sciences. This course is more advanced than Special Topics in Social Sciences (SOC 199) and assumes a deeper and broader background in the enrolled student. It is intended to augment and supplement the designated social science courses described in this catalog. (3 hours lecture). Prerequisite: Junior standing.

SURVEYING

SRV 101: Introductory Surveying
3 Credit Hours **Spring Sem.**
An introductory course which includes taping, differential leveling, closed transit traverse, inverting, and note-keeping. Field work and lecture are correlated to present the basic methods and theory of surveying. (2 hours lecture, 3 hours lab). Prerequisite: Trigonometry (MAT 145), or taken concurrently.

SRV 110: Graphic Communications
2 Credit Hours **Fall/Spring Sems.**
A technical drawing course introducing basic skills necessary for the communication of ideas and designs as applied to the fields of surveying, forestry, and architecture. Types of drawings include plans, maps, introduction to CADD, and architectural drawings. (2 hours lab).

SRV 201: Surveying I
2 Credit Hours **Summer Sess.**
An introductory course that includes taping, leveling, and transit work. This course is a prerequisite for Surveying II (SRV 240) as well as for Forest Mensuration II (FOR 241). (Two 40-hour weeks). Prerequisite: Trigonometry (MAT 145), or taken concurrently.

SRV 220: Computer Aided Design and Drafting
3 Credit Hours **Spring Sem.**
This course introduces the students to all aspects of CADD, including software, hardware and applications pertaining to the surveying and drafting fields. (1 hour lecture, 3 hours lab). Prerequisite: one 4-hour surveying course, or permission of the instructor.

SRV 230: Construction Surveying
5 Credit Hours **Summer Sess.**
The primary focus of this surveying course is the setting of stakes for construction of roads, buildings, and grade lines. The students will learn to apply a variety of traverse and leveling techniques for construction and boundary problems. Additionally, the students will learn to determine true north from observations of the sun and the north star, areas and earth work volumes, and simple contouring. (Five 40-hour weeks). Prerequisite: Introductory Surveying (SRV 101) or permission of the instructor.

SRV 240: Surveying II
4 Credit Hours **Fall Sem.**
This advanced course focuses on practical techniques for a variety of surveying problems, including elements of route, construction, boundary, planimetric and topographic surveys. Field and lecture problems include contour mapping, grade lines, horizontal and vertical highway curves, horizontal and vertical control, boundary survey, building location and batter boards, area and volume determination, and a detailed topographic map. (Five 28-hour weeks). Prerequisite: Surveying I (SRV 201).

SRV 245: Principles of Surveying
4 Credit Hours **Fall Sem.**
This course covers the basic elements of plane surveying. Lecture and laboratory topics include taping, differential levels, grade problems, cut and fill determination, open and closed traverses, horizontal and vertical control networks, area determination, stadia, horizontal and vertical curves, topographic mapping, and EDM use and application. Fieldwork incorporates all lecture topics with emphasis on a detailed topographic map. (3 hours lecture, 4 hours lab). Prerequisite: Trigonometry (MAT 145), or taken concurrently.

SRV 250: Topographic Surveying
4 Credit Hours **Fall Sem.**
Emphasis is on field work simulating actual job descriptions. Projects include excellent leveling, traversing using the campus control net, topographic mapping and stakeout of a five-lot subdivision. (Five 28-hour weeks). Prerequisites: Introductory Surveying (SRV 101) and Construction Surveying (SRV 230).

SRV 260: Route Surveying
4 Credit Hours **Fall Sem.**
This advanced surveying course focuses on route surveying and design. The student will study a variety of techniques to design and lay out roads from preliminary to final surveys. The student will also learn the importance of environmental, ecological, and aesthetic considerations of roads. The final project is a complete plan and profile with basic road specifications for a two-lane road. (Five 28-hour weeks). Prerequisite: Topographic Surveying (SRV 250).

SRV 270: Law and Land Surveying
3 Credit Hours **Spring Sem.**
The purpose of this course is to present judgments, legal considerations and mathematics necessary for the aspiring surveyor in the areas of planning and conducting original and resurveys, finding and evaluating evidence, writing descriptions, and designing and planning land subdivisions. Sectionalized land policies and procedures involving Colonial and U.S. Public Land Survey Systems are covered. Emphasis is on the legal considerations of boundary location of original surveys and resurveys. (3 hours lecture). Prerequisite: Topographic Surveying (SRV 250); Co-requisite: Special Problems in Surveying (SRV 299).

SRV 295: Surveying Externship
2 Credit Hours **Summer Sess.**
A minimum of 160 hours of practical industry experience related to the student's surveying education. An independent externship in the surveying industry that meets the approval of the Program Coordinator is secured by the student. Enrollment requires a GPA of 2.00 or better at the end of the last full semester. Grading is pass/fail and the student must be in good physical condition. Prerequisites: Introductory Surveying (SRV 101) and Construction Surveying (SRV 230), or permission of the Program Coordinator.

SRV 299: Special Problems in Surveying
3 Credit Hours **Spring Sem.**
A practicum of typical problems encountered in the profession of land surveying are solved by sophomore students in a laboratory-lecture situation. Some of the subjects covered are boundary surveys, geodetic surveys, subdivision design, land planning, surveying mathematics, electronic distance measurement instruments, and state plane coordinates. An oral presentation of the student's technical report is required. (2 hours lecture, 4 hours lab). Co-requisite: Law and Land Surveying.

