The University of Vermont

Rubenstein School of Environment and Natural Resources

September 2022

Dear Rubenstein School Student:

Welcome to UVM and to the Rubenstein School of Environment and Natural Resources! We are excited that you are here and look forward to ensuring that you get off to a great start.

The Rubenstein School is a community of students, staff, and faculty who share a remarkable sense of camaraderie. We are committed to building a vibrant learning environment, while also creating a welcoming, inclusive, and respectful community. Just as we work to understand and conserve biodiversity, we welcome, nurture, and respect the diversity in our community. The Rubenstein School upholds these values, whether in the classroom, out in the field, or in our service and outreach to the community.

As you prepare for your first semester you will meet with an advisor to discuss a schedule of classes. You will be assigned a first-year advisor who will play a key role in helping you find your way around the University. I encourage you to seek guidance from your advisor, regularly, throughout the year. The academic work is rigorous, but you will find ample support to meet the challenge.

College is a special time of personal and professional growth. I hope that you will take charge of your learning, engage in the myriad opportunities inside and outside of the classroom, and enjoy these special years at UVM. We are here to ensure your academic success and help guide you on your pathway after graduation.

Please use this handbook to learn the basic information about the School and keep it as a key reference.
Best wishes for an exciting and engaging experience at UVM and in the Rubenstein School. We are thrilled to have you here and are eager to get to know you!

Sincerely,

Allan M. Strong, Ph.D.
Interim Dean and Professor

George D. Aiken Center, 81 Carrigan Drive, Burlington, VT 05405-0088
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Welcome to the Rubenstein School of Environment and Natural Resources!

OUR MISSION QUESTION

The Rubenstein School strategic vision was created around a mission question designed to leverage our distinctive strengths. We will relentlessly pursue answers to this question in order to turn ideas into action.

How can the Rubenstein School unleash empathy, passion, innovation, and creativity to heal and radically change human-environment systems in a just, equitable, and ecological direction?

Land Acknowledgement

UVM is located on the land which has long served as a site of meeting and exchange among indigenous peoples for thousands of years and is home of the Western Abenaki People. We honor, recognize, and respect these peoples, especially the Abenaki, as the traditional stewards of the lands and waters on which we gather today. In that spirit, today we will begin by acknowledging we are guests on this land, and we need to respect and help protect the lands within our use.

https://www.uvm.edu/rsenr/about_our_school

We have designed this handbook first and foremost to provide information you need to get started at UVM and the Rubenstein School. The handbook describes many aspects of the School, including information on the curriculum, academic advising, enrolling in courses, key University support services, and extracurricular activities.

You will use this handbook frequently throughout your UVM career. The section on academic policies and procedures details the specifics of how things work in the Rubenstein School. There is information on our extensive internship program, on summer jobs, and possible career directions. There is a directory of faculty and staff with office locations, phone numbers, and e-mail addresses. In addition, up-to-date information about the School is maintained on the School's website at *www.uvm.edu/rsenr*.

Some of the first people you will meet in the Rubenstein School are the professional advisors and your professors. The relationship between individual students and their advisors is of central importance to the supportive atmosphere of the School. Help is always available; we welcome all questions. The administrative staff in the Dean's Office and Program Directors are also eager to help. Please introduce yourself and let us get to know you.

OUR RUBENSTEIN SCHOOL COMMUNITY

The School is a thriving community of approximately 1046 undergraduates, 128 graduate students, 49 faculty, 15 postdoctoral fellows, and 51 research and administrative staff. At the undergraduate level, there are five academic programs: Environmental Sciences; Forestry; Natural Resources/Sustainability, Ecology and Policy; Parks, Recreation, and Tourism; and Wildlife and Fisheries Biology. The Rubenstein School Graduate Program offers a Ph.D. in Natural Resources, a Ph.D. in Transdisciplinary Leadership, Creativity, and Sustainability a Master of Science in Natural Resources, and Master of Professional Studies in Leadership for Sustainability. The Dean's Office, Student Services and most faculty offices are housed in the George D. Aiken Center.

■ COMMITMENT TO DIVERSITY, EQUITY AND INCLUSION

The Rubenstein School is committed to enhancing the understanding of the natural world in ourselves and our constituents through full inclusion of the unique and valuable perspectives reflected by diverse peoples. Diversity initiatives in the School began in 1988 with USDA grants to support high school outreach and multicultural scholarships. In 1996, faculty and staff formally endorsed the Rubenstein School Diversity Plan (PDF). In 2017, in collaboration with the UVM President's Commission on Inclusive Excellence, the School began work on an Inclusive Excellence Action Plan to address inclusivity within academics, community, environment, and operations in the School. Learn more about Rubenstein School Diversity, Equity, and Inclusion initiatives online or reach out to the Inclusion, Diversity, Equity, and Action (IDEA) Committee by contacting Marie Vea at marie.vea@uvm.edu.

■ BRIEF HISTORY OF THE SCHOOL

The University of Vermont long ago recognized the importance of providing educational opportunities in natural resource conservation and management. Efforts were initiated with forestry courses in 1888. From that beginning, natural resource curricula gradually evolved until, in 1973, the School of Natural Resources was established as one of eight degree-granting units within the University. In November 2003, after receiving a $15 million gift commitment from Stephen Rubenstein and his family, the name of the School changed to the Rubenstein School of Environment and Natural Resources, becoming the first endowed academic unit at the University.

High quality undergraduate instruction and advising in environmental and natural resources disciplines are our highest priorities. The emphasis on excellence in undergraduate natural resource programming is underscored by the School's administrative structure and a strong interdisciplinary core curriculum. Distinctions among disciplines are de-emphasized while the elements of a strong professional education are retained.

■ THE GEORGE D. AIKEN CENTER FOR NATURAL RESOURCES AND THE GREENING OF RUBENSTEIN PROJECT

The Aiken Center, which opened in 1982, was specifically designed to house the Rubenstein School of Environment and Natural Resources. The building's name honors Vermont's distinguished late senator and governor, George D. Aiken. In January 2012, the Aiken Center reopened as a completely renovated LEED Platinum Certified Green Building. The Rubenstein School community, along with William Maclay Architects and Planners, created a vision for a renovated Aiken Center that uses space more efficiently, reduces the School's ecological footprint, and houses occupants and greet visitors in a welcoming, healthy, and stimulating environment. One notable feature is the on-going evolution of an ecological design lab in which students design, build, and experiment with eco-technologies involving plants, soil, water, and waste processing. The building is also extensively monitored to document its energy efficiencies, air quality, and other characteristics.

■ RUBENSTEIN ECOSYSTEM SCIENCE LABORATORY

The Rubenstein Ecosystem Science Laboratory, which opened in fall 1999, is a lakefront extension of the Aiken Center. It houses state-of-the-art facilities, including research laboratories for the study of contaminants, water and sediment quality, and aquatic biota including fish, invertebrates and algae. The eight laboratories provide researchers with the tools necessary to investigate and understand the ecosystem processes that determine ecological health and influence the quality of life for the human community in the greater Lake Champlain Basin.

The facility also includes a large teaching laboratory equipped with modern analytical equipment and video microscopy.

Educational activities conducted in the Ecosystem Science Laboratory include lake studies, environmental sciences, and graduate student research activities. In addition, the building houses displays about current research activities in the laboratory, and hosts some of the public education programs run by the ECHO Lake Aquarium and Science Center.

■ FIELD WORK IS FUNDAMENTAL

The Rubenstein School of Environment and Natural Resources relies heavily on Vermont's natural landscapes --its mountains, lakes, fields, and forests -- to provide students hands-on experience studying ecology and ecosystem processes. Outdoor learning experiences provide students with firsthand observation and a better understanding of good resource management practices. Although natural resources course work centers around classrooms and laboratories, field trips are held often to nearby forests, lakes, streams, and other natural areas.

In October 2022 the Rubenstein School will welcome the arrival of a new 64-foot hybrid-electric vessel, which will serve as a floating classroom and laboratory on Lake Champlain. Extensive use is also made of several Research Forests -- hardwood and conifer forests located throughout the state, including the Jericho Research Forest. These are managed by the School and cooperating agencies. The University's natural areas include ten ecologically diverse sites -- the summit of Mt. Mansfield, Colchester Bog and various other wetlands, ponds and forest ecosystems.

In addition to local field opportunities, the Rubenstein School offers many extended field courses (one-or two-week) during winter break, spring break, or early summer that provide students special opportunities to study outside of Vermont. Past offerings have included study of the wildlife of Florida or south Texas, environmental research in the Chesapeake Bay region, and ecotourism and environmental interpretation in Costa Rica or the Netherlands.

■ ENVIRONMENT AND NATURAL RESOURCES RESEARCH AND SCHOLARSHIP

Our research and discovery are rooted in forests and fields, in soils and waters, in the cities and towns of the Green Mountain State, and around the world. We strive to prepare citizens for the future and create leaders who will succeed in a rapidly changing world, all the while recognizing that all life on earth is interdependent.
The Rubenstein School targets high impact research opportunities to sustain the human/environment bond and promote thriving life worldwide. Faculty and students focus on complex challenges in such areas as:

Environmental Justice
Freshwater ecosystems
Renewable energy practice and policy
Ecosystem services
Sustainable forestry
Conservation of biodiversity
Global environmental resource equity
Parks management and policy
Community tourism development

There are ample research opportunities for students. The Rubenstein School houses several research affiliates and partners: the USDA Forest Service Northern Research Station, Vermont Cooperative Fish and Wildlife Research Unit, Spatial Analysis Laboratory, Rubenstein Ecosystem Science Laboratory, Forest Ecosystem Monitoring Cooperative, Vermont Water Resources and Lake Studies Center, Lake Champlain Sea Grant Institute, the Northeastern States Research Cooperative, the USDA McIntire-Stennis Cooperative Forestry Research Program, Perennial internships, and the Environmental Program Worley awards. As well as UVM Research Forests and Natural Areas. The School also partners with the Gund Institute for Environment and Northern Institute of Applied Climate Science. Almost all faculty have active research programs and welcome the participation of students in

their research projects. Some opportunities are paid through the Federal work-study program or project funds; other opportunities are for credit through independent study or internships.

GETTING STARTED

The Rubenstein School is your academic home at the University. During the first two years of college you will be selecting a wide array of classes, exploring new academic topics as well as developing your unique talents and interests Given this dynamic atmosphere it is very common for students in all academic units to change their major.

The academic programs in the Rubenstein School are designed to give you a clear sense early on about what our majors emphasize. At the same time, you will be exploring widely and developing a solid foundation in the liberal arts. Our academic programs and course scheduling are designed to accommodate transfer students and those undeclared about an undergraduate major. We encourage all students to be open to change based on clarifying perceptions about who they are and what specific majors -- and options within the majors -- have to offer.

- **"DO I NEED A COMPUTER?"**

YES. All UVM students are required to have a laptop that meets the minimum specifications outlined on the following website: www.uvm.edu/it/students. The TechStore at the UVM Bookstore offers discount prices and convenient on-campus service for Macs or PCs. Secure wireless access to the Internet is available to students in many locations across the campus. The School's PC computer lab is available when classes are not using it, and other facilities are located throughout the campus. During midterms and finals, access can be challenging, so plan ahead if you are utilizing the publicly available machines.

YOUR DEAN'S OFFICE

The Dean's Office coordinates all administrative functions for the Rubenstein School of Environment and Natural Resources. RSENR Student Services is located in the Dean' Office. If you have a question or concern and do not know where to turn, the Dean's Office is the place to go.

When in doubt, come to the Dean's Office, 220 Aiken Center
Visit the Student Services website:
www.uvm.edu/rsenr/student_services

Requests for leave of absence or course withdrawals are processed through Student Services. The Student Services team is knowledgeable about student support services and can help you identify appropriate resources both in the Rubenstein School and elsewhere on campus.

YOUR ADVISOR

■ ADVISING OVERVIEW

When we survey Rubenstein School students, they consistently tell us that what they want most from an advisor is advice about course selection, majors, and internship/research career opportunities. Friendship and mentoring were also high on the list. When asked to give feedback on the quality of advising they are receiving in the Rubenstein School, students were very positive. We want YOU to receive high quality academic advising too.

The relationship between individual students and their advisors is of central importance to the supportive atmosphere of the School. **It is your responsibility to communicate regularly with your advisor to obtain assistance in clarifying and meeting educational, professional and personal goals.**

Advisors work with individual students on a long-ranging list of topics that include course decisions, career exploration, part-time employment referrals, academic and personal concerns – all questions are welcome. This direct contact can establish a good basis for future professional references as well as a friendship lasting beyond the college years. The RSENR Advising model is comprised of two levels of advising: Professional Advisors for First-Year and Sophomore students, then a Faculty Advisor for Junior and Senior students.

PROFESSIONAL ADVISORS: You will meet with an advisor during Orientation to choose your Fall 2022 courses. Over the summer, you will be assigned a professional advisor. During the first two weeks of the Fall semester, you will meet with your assigned Professional Advisor. Students in the majors Environmental Sciences, Wildlife and Fisheries Biology, and Natural Resources/Sustainability, Ecology, and Policy will meet with their assigned professional advisor throughout the first two years. Professional advisors have a broad knowledge of all the majors in RSENR, the many services across UVM, and how to best support students transition from high school to college.

FACULTY ADVISORS: Rising Sophomores in Forestry and Parks, Recreation, and Tourism and all rising Juniors will be assigned a faculty advisor in their respective major. These faculty members enjoy sharing their knowledge of the professional job market and exploring options for graduate education.

TRANSFER ADVISORS: Students who enter the University with a year or more of academic credits are immediately assigned to an advisor in their major. You will confer with this faculty advisor on course selection for the first semester and get together for another of advising session early in your stay at UVM. Sorting through transfer credit evaluations and finalizing how credits will be allocated toward fulfilling UVM degree requirements can be complicated. Your faculty advisor will be an especially important ally in completing this process.

■ EXPECTATIONS OF ADVISEES

Successful advising requires a substantial level of effort and commitment from the advisor and from the advisee. The Rubenstein School has articulated specific expectations for students.

RESPONSIBILITIES OF FIRST-YEAR STUDENT ADVISEES

- To become familiar with information in the Rubenstein School Handbook, especially the sections on "Academic Policies and Procedures", "University Support Services", and "Academic Programs and Degree Requirements".
- To meet with your advisor early in the first semester to plan your next four years.
- To be responsive to requests for advising meetings and to come prepared, especially for course scheduling.
- To initiate contact with your advisor when you have questions or concerns.

- To honor all appointments and other commitments or contact your advisor if unable to do so.

RESPONSIBILITIES OF UPPER-LEVEL STUDENT ADVISEES

- To be aware of specific academic requirements for your major.
- To meet with your new advisor during the first two weeks of the fall semester sophomore year in order to review educational goals, personal accomplishments, and academic record to date.
- To schedule and attend a meeting with your advisor prior to each semester's enrollment period.
- Annually, to meet with your advisor to discuss and review your four-year plan.
- To meet with your advisor, as desired, to receive assistance in requesting course substitutions or waivers, to change majors, or to seek advice on other matters, especially related to academic and professional goals.
- To complete -- with your advisor's assistance – an Intent to Graduate form during the second semester of your junior year.
- To honor all appointments and other commitments or contact your advisor if unable to do so.

■ **HOW TO ARRANGE MEETINGS WITH YOUR ADVISOR**
The best way to meet with your advisor is to email via Navigate or Outlook, call or drop by during office hours. Faculty are frequently away from their offices teaching, doing research, and participating in a wide array of service obligations. If this is the case, leave a message with your contact information and availability.

■ **HOW TO CHANGE ADVISORS** Changing advisors is a simple process; contact the Student Services team RSENRStudentServices@uvm.edu to make your request.

KEEPING IN TOUCH

WHO IS MY ADVISOR? Go to the UVM website and click on "MyUVM" in the top right corner. Log on with your user ID and password (same as your email log in). You will see your advisor's name on the "Advising" tab under "Academic Profile". (NOTE: If your record states, "No advisor assigned," contact the Student Services team RSENRStudentServices@uvm.edu immediately.) Example:

Student Type:	New First Year
Class:	First Year
Primary Advisor:	Marie C. Vea

CHECK YOUR UVM EMAIL REGULARLY! All official Rubenstein School and UVM communications will arrive via email. If you are used to receiving email on a non-UVM email account, please make arrangements to forward that mail to your UVM address or forward your UVM account to your preferred account.

FACULTY AND STAFF DIRECTORY A full listing of faculty, staff, and graduate students in the Rubenstein School can be found on our website via the Menu: *Our Faculty, Staff, Students, Alumni, Board of Advisors.* This is a great resource to look up the office location or contact information for your professor and Student Services team. It also contains information about the research and expertise areas of people in our community.

EVENTS IN THE RUBENSTEIN SCHOOL Events are posted throughout the Aiken Center and announcements are distributed electronically to all Rubenstein School students, faculty, and staff. The calendar is also posted on the School's website under *Events.*

UPDATING ADDRESS, PHONE NUMBERS, NAME AND PRONOUN PLEASE remember to notify the University whenever you change your address or phone number. To do this, log into "MyUVM," go to the "Registrar" tab, and select the appropriate option on the "Personal Information" menu. Please be sure to keep your Emergency Broadcast Numbers updated so you can be reached in the event of an emergency. Under "Personal Information" you can also choose the name and pronoun you would like your professors and others at the University to use when addressing you.

THE RUBENSTEIN SCHOOL NEWSLETTER The Rubenstein School Newsletter is published quarterly during the school year and is posted on the Rubenstein School's website under *News*. The link to the newsletter is sent to everyone in the Rubenstein School community when a new issue is posted. Coming events, School news and announcements, student activities, and student and faculty research are covered. Read this to find out what is going on in the Rubenstein School, and consider contributing articles about your experiences in internships, research and other activities.

SOCIAL MEDIA Follow the Rubenstein School on social media!

- Instagram
- Facebook
- Twitter
- LinkedIn

ACADEMIC POLICIES AND PROCEDURES

■ ACADEMIC INTEGRITY

The principle objective of The University of Vermont policy on academic integrity is to promote an intellectual climate and support the academic integrity of the University. Academic honesty is an essential part of learning at UVM. Faculty, staff and students expect that students will conduct themselves in an ethical way while at the University and abide by the behavior written in Our Common Ground.

Academic dishonesty compromises the integrity of the entire academic community of the University. Any suspected violations of the Code of Academic Integrity will not be tolerated, and all allegations will be forwarded to the Center for Student Conduct. The Dean of the Rubenstein School of Environment and Natural Resources wholeheartedly supports this policy.

To read the Code of Academic Integrity and to learn more about the Center for Student Conduct, please go to *www.uvm.edu/sconduct/*.

■ PROFESSIONAL EXPECTATIONS

Use your classroom time and interactions with teachers and advisors at UVM to practice the skills you will need for your professional development. Arrive on time for your classes and be prepared to engage fully. During classes or meetings, your cell phone should be turned off. The Rubenstein School is a friendly place, and some professors and advisors may invite you to address them by their first name although it is customary to address them as "Professor". Remember to be respectful in all communications with your teachers and advisors, including email.

Experiential learning including internships, service-learning courses, field work in the community and study abroad will be a significant part of your time at UVM. We expect the same high level of professionalism in the community and the classroom. You will be working alongside community partners and professionals in your field who can serve as references and networking contacts in the future.

■ ENROLLING IN COURSES

WHEN DO YOU REGISTER? You will sign up for classes during the following timeframes: Registration in June.

- Register in NOVEMBER for WINTER and SPRING classes
- Register in MARCH for SUMMER classes
- Register in APRIL for FALL classes

PREPARING TO REGISTER: You may work with advisor regarding course selection and class schedules. The Schedule of Courses is available online each semester at the Registrar's home page, *www.uvm.edu/registrar*. When you have a tentative schedule planned out, register for courses by logging into MyUVM, and clicking on the "Registrar" tab.

NET ID PASSWORD: Forgot your password to log into MyUVM or email? Click on MyUVM and the appropriate link under "Need Help Logging In?" to reset your password.

- **DEGREE AUDIT TRACKING SYSTEM (Degree Works)**

The Degree Audit Tracking System (Degree Works) produces an automated report that identifies specific requirements for your declared major, courses already taken, and in-progress courses. The degree audit also indicates which requirements still need to be completed and provides a list of courses that can be taken to satisfy them. This is not an official document, but a tool to help you track your progress towards your degree. Many programs in the Rubenstein School require concentrations or plans of study that can only be fulfilled by courses that have been approved by an advisor. Please see your advisor to address any additions or corrections to your degree audit. To view your degree audit, log into MyUVM.

COURSE ENROLLMENT AND GRADING

DEADLINES exist for adding new classes to your schedule, dropping classes, and withdrawing from classes**.** **These deadlines are real and must be met.** It is very important to discuss any proposed enrollment changes with your advisor. The official dates can be found each semester on the Registrar's website -- *www.uvm.edu/registrar* -- by clicking on "Important Dates" found via the Menu button.

Billing and Financial Aid Awards can be affected by enrollment changes. For example, if you withdraw from one class and add another, both classes continue to be counted for billing purposes; this can bump your Total Credit Hours for the semester over 19 and result in additional tuition charges. For details regarding your financial aid package and billing, please contact the Student Financial Services Office.

- ★ **ADDING AND DROPPING COURSES:** The add/drop period extends through the first 2 weeks of classes. During this time, you can change your schedule simply by accessing your MyUVM portal. If you decide to add a class, it is put onto your schedule and your transcript. Similarly, if you decide to drop a class during the add/drop period, it is removed from your transcript. During the second week of the add/drop period instructor permission is required to add a course, but classes can still be dropped without permission.

- ★ **WITHDRAWALS:** If you want to stop taking a course after the add/drop period, you may do so up until the withdrawal deadline. When you withdraw from a class, the course remains on your transcript with a grade of *W*. To initiate a withdrawal, log into MyUVM, click on the *Registrar* tab, and choose the option to withdraw under the *My Classes* menu. You do not need anyone's *permission* to withdraw from a class within the first nine weeks of a semester, but the instructor and your advisor will be notified.

- ★ **LATE WITHDRAWALS:** Late withdrawals are seldom permitted. You may withdraw late only for extenuating circumstances which are documented in writing **and** are typically supported by a recommendation from the Student Health Center, Counseling and Psychiatry Services (CAPS), or the Student Accessibility Services Office (SAS). These offices provide a recommendation for action, but they cannot approve a withdrawal; responsibility for approving all late withdrawals rests with the School. To initiate a conversation about Late Withdrawals, email RSENRStudentServices@uvm.edu or visit the Student Services Team in the Dean's Office.

If an emergency gets in the way of your ability to complete coursework, discuss the situation with your instructor, faculty advisor, or Student Services Team in the Dean's Office immediately!

- ★ **INCOMPLETES:** A grade of *Incomplete* may be granted for a course in which work is not completed due to extenuating circumstances beyond the student's control. To receive an *Incomplete*, you need to provide written documentation of the circumstances. Contact the Student Services team for assistance.

  - ➢ Both the Student Services team and instructor must agree to grant an Incomplete.
  - ➢ It is the STUDENT's responsibility to check with the Student Services team to see if the Incomplete has been approved.
  - ➢ It is the STUDENT's responsibility to meet with the instructor and determine the nature of the outstanding requirements and set a deadline for completing these requirements. The deadline must be before the beginning of the corresponding semester of the next academic year.
  - ➢ It is the INSTRUCTOR's responsibility to verify with the Student Services team that the reason has been documented and to submit the request for the grade of Incomplete online.

- ★ **SP/UP GRADES:** SP (Satisfactory Progress) and UP (Unsatisfactory Progress) are grades used for courses with a linkage in credit or coursework over multiple semesters (e.g., internship, practicum, or thesis credits). A grade of SP earns credit and can later be changed to a letter grade; a grade of UP does not earn credit and may only be changed to a letter grade of F. Rubenstein School students may not graduate with a grade of SP for any course that is fulfilling a Rubenstein School major requirement, a Rubenstein School General Education or Core requirement, or is counting towards the total required credits for graduation.

■ TRANSFERRING CREDIT FOR COURSES TAKEN AT ANOTHER INSTITUTION

The Office of Transfer Affairs (360 Waterman; transfer@uvm.edu) coordinates transfer credit evaluation, but ultimately each academic program or department determines if a transfer course is equivalent to one in its department.

If you transfer to UVM from another college or university, the Office of Transfer Affairs will coordinate which courses transfer. If you have questions about their decisions, discuss them with your advisor. It is sometimes possible to get changes made if you provide additional information.

If you plan to take courses at another institution after you have entered UVM (e.g. summer courses), get approval for these courses before you take them. Getting prior approval will eliminate many problems which might occur about the transfer of credit. Talk to your advisor if you are interested in pursuing transfer credit.

■ CHANGING MAJORS

Many students change majors at UVM. Refer to the UVM Catalogue to view entrance requirements for transfer to another major at UVM. If your grades are low, however, you may have difficulty. Most academic units, including the Rubenstein School, will not admit a student to a new major if that student is on academic probation.

Within the Rubenstein School: Talk to your professional advisor or faculty advisor about the major you are interested in; you may also want to meet with the Program Director for the major you want to enter. To change your major officially, visit the Registrar's page, www.uvm.edu/registrar/ and click on "Change your Major" under the Popular Pages.

To switch to a major in another academic unit: Contact the college or school's Dean's Office responsible for the major you want to enter. Each college and school have its own way of handling the administrative details.

■ REQUESTING SUBSTITUTIONS OR WAIVERS

The faculty must approve any substitution or waiver of course requirements for your academic program. Your advisor can help you write a petition. Rubenstein School faculty committees review and act on requests from individual students for waivers or substitutions of **General Education** or **Core Curriculum** requirements. To initiate a request, pick up the required form from the Dean's Office or download a copy at the *Undergraduate Resources* section at www.uvm.edu/rsenr/student_services. For requests relating to all other **requirements in your major**, contact your advisor.

■ ENSURING GRADUATION REQUIREMENTS ARE MET

Ultimately, it is your responsibility to assure that all requirements are met. Review your degree audit carefully and confer regularly with your faculty advisor. If you have questions about requirements, you should promptly consult your faculty advisor.

Intent to Graduate Form: At the end of your junior year (when you are in your sixth semester or when you have earned more than 80 total credits), you will need to complete the Intent to Graduate Form. You will need to schedule a time to meet with your faculty advisor to review the form. On the Intent to Graduate Form you will indicate the courses remaining to be completed for your degree and when you intend to graduate. It is extremely important that you and your advisor carefully complete this form as it is used by the Student Services team to certify that all your requirements have been completed and you are eligible to graduate.

SCHOLARSHIP -- Celebrating Excellence

■ DEAN'S LIST

Students who complete 12 or more credit hours in courses in which grades of A, B, C, D or F have been given, who obtain a semester grade point average of at least 3.0, and who stand in the top 20 percent of their class in the Rubenstein School are placed on the Dean's List for that semester. These students receive a letter from the Dean indicating their attainment of this honor.

■ LATIN HONORS

The Bachelor's degree may be conferred with special recognition of high academic standing, by vote of the UVM Faculty Senate. Within the graduating class, the top 1% receives summa cum laude; the following 3% receive magna cum laude; the next 6% receive cum laude. Honors are calculated on all grades received at UVM. The total number of awards may not exceed 10% of the graduating class in each school or college.

■ ACADEMIC ACHIEVEMENT AWARDS

Each spring the Rubenstein School of Environment and Natural Resources holds an honors celebration in early May to recognize those students whose academic achievement has been particularly noteworthy. Some of the awards presented are:

Alpha Zeta *National society recognizing outstanding students in agriculture and environment*
Mortar Board *National society recognizing outstanding scholarship, leadership and service*
The Holcomb Natural Resource Prize
The Lola Aiken Award in Natural Resources
C. Suzanne Whitmore Writing Award
Dale Bergdahl Scholarship (Forestry)
William R. Adams Forestry Award
Luther E. Zai Memorial Award (Forestry)
Lewis Ralph Jones Award (Forestry)
Margaret Crosby Scholarship (Vermont residents)
Society of American Foresters, Green Mountain Division,
Outstanding Forestry Student

New England Outdoor Writers Association Scholarship
Environmental Sciences Outstanding Achievement Award
Environmental Sciences for Outstanding Service
Alan W. McIntosh Scholarship (Environmental Sciences)
Natural Resources Academic Achievement Award
Environmental Studies Achievement Award
Parks, Recreation, and Tourism Academic Achievement Award
Parks, Recreation, and Tourism Student Achievement Award
Wildlife Bio-Ecology Award
Wildlife Society Achievement Award
Frederick Chu Memorial Prize (Wildlife and Fisheries Biology)
Dean's Book Awards (outstanding juniors)
Kate Svitek Memorial Award
Crowley Family Internship Award

■ HONORS COLLEGE

The Honors College offers an intensely focused, academically challenging environment for some of the university's most outstanding undergraduate students. Fall 2004 was the inaugural year of the Honors College. First-year students admitted into the Honors College are selected based on their high school academic achievement. The Honors College also welcomes applications for admission from sophomores who have achieved minimum grade-point averages of 3.4 at the end of their first year at the University. Sophomore admission requires an application form, a letter of recommendation from a UVM faculty member, a transcript from first-year classes, and a brief essay. Up to 100 sophomores will be admitted to the Honors College annually. (For degree requirements, see page 39)

CONSEQUENCES FOR LOW ACADEMIC PERFORMANCE

The Rubenstein School of Environment and Natural Resources emphasizes academic excellence and the development of professional responsibility. Professors, faculty advisors, and administrative staff are committed to working with each student to maximize prospects for success. If a student is failing, that reality needs to be confronted so that appropriate support can be attained.

At the conclusion of each semester, the Rubenstein School Honors and Studies Committee meets to evaluate the academic performance of students and recommends appropriate action to the Dean. Policies conform to the General Information section of the UVM Catalogue.

■ ON TRIAL

On Trial is an intermediate status between good standing and dismissal. Circumstances under which a student is placed on trial are:

1. Student has failed half or more of the credit hours for which the student was enrolled during the semester.
2. Student's semester grade point average is below 2.00 or
3. Student has been readmitted to the University after having been dismissed for low academic performance.

A letter will be sent to each student placed on trial detailing the conditions of that student's situation. This letter will also include the conditions that will result in dismissal as well as advisement on improving academic performance. A student is removed from on trial status when the stipulated conditions are attained.

■ DISMISSAL

A student may be dismissed for low academic performance if the stipulated on-trial conditions are not met. A student may also be dismissed for low academic performance for failing half or more of the hours for which the student was enrolled in a given semester, or for earning below a 1.00 semester grade point average. The letter of dismissal will include the requirements for readmission, and instructions for appeal of the decision.

THE STUDENT SERVICES TEAM *is here to help.*

UVM offers extensive support services designed to enhance your college experience. These services are funded with your University tuition; use them. We want to highlight a few offices that Rubenstein School students have found to be especially valuable.

THE RUBENSTEIN STUDENT SERVICES TEAM is here to help students navigate the many processes and opportunities in Rubenstein and across UVM. If you have questions about your major, are looking for a form or an internship, need help or encouragement of any kind, or simply want to visit, we are here to help. Our Student Services Team is housed in the Aiken Center. Visit the website for information about our many services.

Location: 220 Aiken Ctr., Ph: (802) 656-2911 *www.uvm.edu/rsenr/student_services*

TUTORING CENTER provides a wide array of academic support services offered free of charge. **Study Skills** tutors can help individual students create a study system, including time management, note taking, test taking, and more. **Supplemental Instruction**, a form of group study, is available for large enrollment courses such as Biology 1 and Chemistry 31. **Subject area tutoring** is available for most introductory level courses and is **FREE** for all UVM students.

Location: 244 Living/Learning Commons Ph: (802) 656-4075
www.uvm.edu/academicsuccess/tutoring_center

THE WRITING CENTER provides one-on-one support to students at any stage of the writing process.

Location: Howe Library *www.uvm.edu/uwi/writingcenter/*

STUDENT ACCESSIBILITY SERVICES (SAS) provides services and accommodations to all UVM students who have current documentation of a disability that substantially limits one or more major life activities. Before any accommodations can be made available, however, the student must communicate their need to SAS. It is important to realize that the University is not responsible for making accommodations for students who have not declared their disabilities. **Information provided to the Admissions Office during the application process is confidential and does not go to SAS unless the student initiates the transferal.** Complete the "Getting Started Form". If you have a history of learning difficulties -- or if you are encountering difficulties for the **first** time -- SAS is here to help. Review the FAQ's for additional information.

Location: A 170 Living/Learning Ph: (802) 656-7753
www.uvm.edu/academicsuccess/student_accessibility_services

THE CAREER CENTER supports students and graduates in identifying and attaining their career and life-long learning goals by offering comprehensive career development services. Located on the 2nd floor of the Davis Center, the Career Center is open daily for appointments (schedule through Handshake) and drop-in hours. To provide additional support to Rubenstein students, Career Coaches/Professional Advisors Emily LeForce and Cathy Shiga-Gattullo meet with students in Aiken to discuss career exploration, job & internship searching, resume & cover letter writing and interview preparation. Please see the ***Office of Experiential Learning*** section below for more information.

Location: Davis Center, Room 204, Ph: (802) 656-3450 www.uvm.edu/career

COUNSELING AND PSYCHIATRY SERVICES (CAPS) serves the personal and mental health needs of UVM students. The Center staff provides individual and group counseling. The most frequently considered issues are relationships, depression/anxiety, academic concerns, family problems, sexuality, alcohol and drug use, confidence building, and future planning. Strict confidentiality is maintained, and all services are free. Counseling staff are on call 24 hours each day of the year for consultation about mental health emergencies.

Location: Jacob's House, 146 South Williams Street
Redstone Campus (inside Wright Hall) 436 South Prospect Street

Ph: (802) 656-3340
www.uvm.edu/health/CAPS

CENTER FOR STUDENT CONDUCT seeks to foster student accountability and skill development in the areas of conflict resolution, dialogue, identity development and restorative practices. In doing so, they help students develop self-awareness, and ultimately become more responsible, respectful, and engaged community members.
Location: Nicholson House, Ph: (802) 656-4360 *www.uvm.edu/sconduct/*

LIVING WELL is dedicated to a holistic approach in supporting the needs of students in their pursuit of creating and maintaining healthy, well-balanced lifestyles. Free to all students, their programs focus on stress relief through positive messages, mindfulness, creativity and an always-expanding array of wellness related events.
Location: 1st Floor Davis Ctr. Ph: (802) 656-0441 www.uvm.edu/health/livingwell

MOSAIC CENTER FOR STUDENTS OF COLOR (MCSC) provides resources and support to support the academic, cultural, social, and emotional development of African, Latinx, Asian, Native American, Multiracial, and New American students. The Center also offers information and programs to promote a just, multiracial campus climate. Several student groups meet at the Center -- Alianza Latina, the Asian American Student Union, the Black Student Union, African Student Association, and the Multiracial Student Group, to name a few.
Location: Living/Learning E 140, Ph: (802) 656-7882 *www.uvm.edu/mcsc/*

PRISM CENTER provides a space to join with others at UVM to inspire personal growth and empowerment; nurture community; educate for social justice; and advocate for liberation—the freedom to live openly in an affirming community—for all people who are lesbian, gay, bisexual, transgender, or questioning, and everyone who aspires to be their advocates.
Location: Allen House, Ph: (802) 656-8637 www.uvm.edu/prism

WOMEN & GENDER EQUITY CENTER is a place to build community, make new friends, access resources and services, and learn more about the work in service of building an inclusive and safe campus. If you're looking to get involved or are struggling with a personal issue, the Women & Gender Equity Center is here to help you out. The UVM Women & Gender Equity Center supports all facets of your life at UVM: the social, professional, spiritual, physical, intellectual, & emotional.
Location: 34 South Williams St. Ph: (802) 656-7892 www.uvm.edu/wagecenter

OFFICE OF INTERNATIONAL EDUCATION is responsible for two overarching functions: assisting students engaged in study abroad programs (including UVM faculty-led programs, or "Travel Study) and assisting international students, scholars, faculty, and staff studying and working on our campus. For students wishing to study abroad, the office facilitates placements around the world, including through UVM-run programs and exchange programs with partner university abroad. The support offered to the international community includes immigration advising, orientation, and ongoing general support. This also includes advising over a dozen student and community groups and organizations that work to build community among individuals identifying with particular places and regions of the world which are open to any UVM community member. Internal to the Rubenstein School, Professional Advisor Jessica Cole is the study abroad point person.
Location: Living/Learning B 101, Ph: (802) 656-4296 www.uvm.edu/oie

OFFICE OF STUDENT AND COMMUNITY RELATIONS (OSCR) provides resources and support to University of Vermont students as they transition to living off campus. It aims to facilitate communication and build relationships among students and non-students so that they can create healthy, safe, and socially just neighborhoods. The OSCR believes that creating an environment for developing and sustaining positive relationships between students and their neighbors through dialogue and action will contribute to the successful transition of our students to off-campus living and lead to healthier neighborhoods. As an office, it is committed to:
Location: 12 Colchester Ave, First Floor, Ph: 802-656-9405 https://www.uvm.edu/oscr/contact_us

EXTRACURRICULAR ACTIVITIES

The University Student Government Association officially recognizes over 200 student clubs. For a complete list of student clubs and contact information go to www.uvm.edu/sga. There is something for everyone!

■ RUBENSTEIN SCHOOL STUDENT ACTIVITIES -- GET INVOLVED!

Rubenstein School students are encouraged to participate in organizations within the School and to attend Rubenstein School-sponsored seminars and programs. Events are advertised through the Rubenstein School's student listservs and in notices posted throughout the building. The student lounge has club bulletin boards and a blackboard where meeting announcements are also posted.

The **Student Advisory Board** (**SAB**) is the undergraduate leadership organization that aims to maintain connection and build community between the students, staff, faculty, and administration of the Rubenstein School. The organization gives students a venue to build strong leadership and other professional skills. Through events, service and activities, the SAB strives to build a stronger Rubenstein community by welcoming all students, supporting undergrads throughout their years in the Rubenstein School, and helping students prepare to graduate. They also provide insight on issues including core curriculum, teaching, and academic advising. The SAB works with the Dean's Office, community organizations, and with prospective students; supports the student community via peer advising, community building events, and sustainable initiatives; and helps to prepare undergrads for graduation through internship promotion, resume building, and more. Rubenstein School Student Advisory Board members are selected through a competitive interview process every November and is comprised of 15-20 members.

The Rubenstein School has a chapter of **SEEDS (Strategies for Ecology Education, Diversity and Sustainability)**, a student group affiliated with the Ecological Society of America (ESA) that "promotes an ecology profession with wide representation to ensure environmental understanding and a sustainable future for all." Members of SEEDS participate in service and other activities and have opportunities to attend the national ESA conference and apply for exciting field experiences and internships.

The Rubenstein School's **Inclusion, Diversity, Equity, and Action (IDEA) Committee (formerly known as the Diversity Task Force)** was created in 1991. This group of faculty, staff, and students is committed to issues of diversity and was instrumental in the creation of the School's Diversity Plan. Through regular meetings and community activities scheduled during the academic year, IDEA generates and contributes to the development of diversity initiatives in curricular and other programming and events in the Rubenstein School.

The **Rubenstein School Seminar Series** features prominent environmental and natural resources professionals from across the country. Students, faculty, and research staff for presentations followed by lively question and answer sessions.

Members of the student chapter of **The Wildlife & Fisheries Society** carry conservation education beyond the campus through public displays and presentations to school and community groups. They take active stands on environmental issues and supply useful input to state and national legislators. Selected students may participate in intercollegiate wildlife conclaves designed to test their knowledge of the environment and wildlife biology.
The **Rubenstein School Graduate Association** (RGSA) promotes the interests and welfare of RSENR graduate students; to serve as a commons for all RSENR graduate students to provide input on RSENR policy, curriculum, and operation; to serve as a conduit of information relevant to graduate education in RSENR and UVM; to promote an intellectual and social community of graduate education; and to sponsor opportunities for academic and professional development among its members.

The UVM Student Chapter of the **Society of American Foresters** **(SAF) which is part of the Forestry Club** seeks to "advance the science, technology, education, and practice of professional forestry in America and use the knowledge and skills of the profession to benefit society". The chapter sponsors guest speakers, educational trips,

and recreational activities which are open to all students.

The **Femmes in Forestry** creates an inclusive space for femme and non-binary students in natural resources majors at UVM. Our goal is to provide mentorship and affinity space with an ultimate purpose of retaining femme-identifying people at all educational and professional levels in natural resource fields such as forestry, wildlife biology, and environmental science. We fulfill our mission through community gathering, skill-building opportunities, mentorship, and networking events.

The People of Color Outdoors (POCO), formerly known as ALANA GEAR (Asian, Latino, African, Native American: Gaining Experience in Adventure Recreation), seeks to provide students and those with little to no experience or accessibility to outdoor activities with the skills they need to get involved in the outdoors. They are a sister club to the Outing Club and are partnered with the ALANA Coalition and Mosaic Center for Students of Color (MCSC). They seek to break down the racial and economic factors that have historically stood as hurdles in outdoor recreational activities as we provide affordable trips and instruction for students of diverse backgrounds and abilities. They hope to create a community of adventurers who are excited to challenge themselves in the outdoors, gain new experiences, and HAVE FUN! Their trips include but are not limited to skiing, hiking, kayaking, rock climbing, biking, etc. If you have a particular interest, please feel free to give them any suggestions.

The **Black, Indigenous, People of Color Environmental Collective (BIPoCEC)** exists to support people of color in the environmental field. These individuals can be undergraduate students, graduate students, faculty, staff, alumni or community members. This organization exists to challenge the oppressive systems that are at the root of the environmental field. It exists to be a system built by and for people of color. The BIPoCEC will be led collectively and advised by faculty/staff members across UVM. The BIPoCEC will support people in many different ways from a weekly PoC Tea Time where folks can get together and build relationships and community over tea, hikes, and community potlucks. This organization brings speakers to campus, host movie screenings, travel to conferences, and provide a space for PoCs to process what it means to be PoCs in multiple environments. We will challenge norms and participate in radical healing.

The **Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)** – is an inclusive organization dedicated to fostering the success of students and professionals from underrepresented backgrounds in attaining advanced degrees, careers, and positions of leadership in science. Through our chapter, we aim to foster an inclusive and diverse scientific community at UVM and beyond. **We are an organization that benefits individuals from all backgrounds, and anyone is welcome to join. You can also join and be an ally!** Members do not have to be UVM students; we also welcome postdocs, faculty, and staff from other local colleges!

Rubenstein School students hold memberships in other national professional societies such as: The **Water Resources Research Association**, **Soil Conservation Society of America**, **National Recreation and Park Association**, and **American Fisheries Society**. Student participation is also welcomed in local environmental groups. These include the Lake Champlain Committee, Vermont Institute of Natural Sciences, Vermont Natural Resources Council and Vermont chapters of the Audubon Society, Sierra Club and Appalachian Mountain Club.

EXPERIENTIAL LEARNING

www.uvm.edu/rsenr/experiential_learning_rubenstein_school

The Experiential Learning team works with students, faculty, and community partners to facilitate and support high impact engagement through internships, service-learning courses, study abroad, and applied research. These experiences prepare Rubenstein School students to become effective environmental leaders and engaged citizens

by developing problem-solving, critical thinking, communication, and professional skills. Our programs also foster skills in cultural competency so that our graduates may work inclusively across diverse communities and perspectives.

Meghan Young, Experiential Learning and Community-Based Learning Coordinator, Aiken 219, Contact either via **Navigate** or email at Meghan.Young@uvm.edu.

Emily LeForce, Senior Professional Advisor of Experiential Learning, Aiken 220 B-C, Contact either via **Navigate** or email at Emily.LeForce@uvm.edu.

Here is a brief list of experiential learning opportunities here in the Rubenstein School:

Service-learning classes are phenomenal opportunities to combine academic and community work. Approximately 30 service-learning classes are taught in the Rubenstein School and through these classes, students combine service in the community with classroom instruction and a focus on personal reflection and the development of civic and personal responsibility. All service-learning courses are noted with a "SL" or "CL" in front of the course name on the Registrar's Page.

Internships are important experiences that can help you gain skills and explore careers of interest to you. On average, approximately 80% of undergraduates in the Rubenstein School participate in at least one formal internship experience. Students may conduct an internship as early as summer after the first year and likely engage in many other experiential opportunities before they graduate. Internships may be paid or unpaid, for credit or not for credit. Historically, more than half of internships conducted by Rubenstein students are paid. Students interested in earning credit for an internship need to complete an Experiential Learning Plan prior to the start of the internship. Discussion of how the internship credit may count toward a major or concentration needs to be had with a students' faculty advisor or the academic program director. Set up a time to meet with Meghan or Emily to talk about internship opportunities – it's never too early!

Research and fieldwork opportunities are great opportunities to learn about a project/area of work in great detail and gain valuable research skills. Faculty and graduate students often look to undergraduate students to assist them with their research. Students can earn credit for research opportunities, and similar to internships, credit needs to be arranged prior to the start of the research by completing an Experiential Learning Plan. For more information about research opportunities please contact Meghan Young at Meghan.Young@uvm.edu.

Federal Work-Study positions are available on campus and in the local community. These federally funded positions are an excellent way to gain work experience in a professional environment. Students must apply for Federal Work-Study funding through the financial aid process at the University. Students who are eligible for Federal Work-Study typically receive their award amounts in late-Spring to Summer. Contact UVM Student Financial Services for details on the program.

Students in all majors are strongly encouraged to undertake professionally related internship, research and/or work experience in order to test career objectives, acquire hands-on skills and develop self-confidence. These experiences also enable students to establish networks of professional contacts who can assist in securing permanent employment after graduation. It is never too early to start and remember, **credit needs to be arranged prior to the start of an internship or research experience**. Stop by Rubenstein Student Services to make an appointment to meet with Meghan Young or use Navigate to make an appointment. **Students in Forestry; and Parks, Recreation and Tourism are required to complete an internship and detailed are discussed under each major's degree requirements.**

HOW TO FIND A JOB or INTERNSHIP -- Resources for your search

THE CAREER CENTER Be sure to take advantage of the full array of career related services and resources available through UVM's Career Center. The best way to explore career options and find supports is to connect with a Career Interest Group. Interest Groups are networks of students, alums, employers, faculty & staff organized around shared interests. Interest Groups connect students to opportunities to gain experience and learn about careers in informal and accessible ways. As well, Career Center staff provide assistance in determining career objectives, resume writing, interview preparation, and identifying employment opportunities.

Interest Groups that might be of special interest to Rubenstein School students include:

- Food, Environment & Sustainability
- STEM
- Arts, Media & Communication
- Business & Entrepreneurship
- Health Professions
- Exploring

- Handshake is an online job & internships resource available to all UVM students. Log in at https://uvm.joinhandshake.com
- In addition to Interest Group programs, the Career Center hosts a handful of signature events (e.g., Job & Internship Fair) every semester - dates and locations can be found on the Career Center web page: *www.uvm.edu/career*

THE EXPERIENTIAL LEARNING WEB PAGE There are several tools on the Experiential Learning web page to assist with your search for an internship, summer job, or full-time employment:

- Check it out: *www.uvm.edu/rsenr/experiential_learning_rubenstein_school*

CAREER COACHES FOR THE RUBENSTEIN SCHOOL Emily LeForce and Cathy Shiga-Gattullo coordinate internships and works with Rubenstein School juniors and seniors to formulate job search strategies for employment in the environmental and natural resources fields. Look for them in the Dean's Office Suite, 220 B-C, Aiken Center or contact them via Navigate or email them at Emily.LeForce@uvm.edu and Cathrine.Shiga-Gattullo@uvm.edu.

ADVISORS in all programs are excellent resources for job information. Let your advisor know what you are interested in doing.

UVM CONNECT is a new platform powering the UVM alumni network!
Join today and connect with this global network of alums who stand ready to support the career aspirations of the UVM community. With UVM Connect, you can:
- Network: Leverage personal and professional connections to network with UVM's worldwide community.
- Advance: Explore career opportunities and job postings open to members of UVM Connect.
It's free, fast, and easy. Create your UVM Connect account using your existing LinkedIn account. Join here: www.UVMConnect.org.

ACADEMIC PLANNING AND ADVISING RESOURCES

On the Rubenstein School website you will find many tools to help you get the most out of your time here, including:

- Eight Semester Sample Major Plans
- 4 Year Path to Career Success
- Four Year Advising Checklist – ***Sample Follows***
- Links to UVM Support Services websites
- Answers to many of your questions!!

THE FOLLOWING DOCUMENTS ARE AVAILABLE IN PDF WITH LINKS ON THE RUBENSTEIN STUDENT SERVICES WEBSITE UNDER "UNDERGRADUATE RESOURCES"

Rubenstein Four Year Advising Checklist

Student Name:
Advisor:
Expected Graduation Date:

FIRST YEAR

Academic Advising and Administrative Tasks:

☐ Confirm major choice (typically by the middle of spring semester)

- Utilize the Change of Major/Minor/Concentration form to declare or change majors, minors, or concentrations—On the Registrar's Page click on "Change your Major" under Popular Pages to access this form.
- Students who want to switch *out* of Rubenstein should meet with someone in the School/College they wish to transfer into

Student Support and Mentoring:

☐ Discussion of academic support services

- Tutoring Center (Tutoring, Study Skills Program, Supplemental Instruction)
- Writing Center
- Math Help Sessions

☐ Discussion of other support resources

- Rubenstein School Dean's Office
- Counseling and Psychiatric Services
- Center for Health and Wellbeing
- Student Accessibility Services
- Women & Gender Equity Center
- Prism Center
- Mosaic Center for Students of Color
- Office of Student and Community Relations

Community Engagement:

 4 Year Path for Career Success—discuss the **First Year Plan (Learn About Yourself)** and identify items to pursue:

-
-
-
-

 Volunteer on campus or in the local community. Join a student club or organization.

 Start thinking about study abroad—talk to Jessica Cole, visit OIE website

 Explore Office of Experiential Learning website. Start thinking about summer plans (volunteer, internships, research jobs)—make an appointment with Meghan Young or Emily LeForce

 Consider applying to be an Student Advisory Board member

 Consider applying to the Honors College. (Spring semester)

ACADEMIC PROGRAM

DEGREE REQUIREMENTS
2022-2023 UVM CATALOGUE

Academic programs in the Rubenstein School include four kinds of requirements: **UNIVERSITY**, **GENERAL EDUCATION**, **CORE CURRICULUM**, and **MAJOR**.

■ UNIVERSITY REQUIREMENTS

There are University requirements which must be fulfilled by all UVM degree candidates, regardless of school or college affiliation:

1. Diversity Course Requirement
2. Foundational Writing and Information Literacy Requirement
3. Sustainability Requirement
4. Quantitative Reasoning Requirement
5. Minimum cumulative grade point average of 2.00
6. 30 of the last 45 hours of academic credit applied toward the degree must be earned at UVM
7. Minimum of 120 credit hours required to graduate, regardless of school or college affiliation

■ GENERAL EDUCATION REQUIREMENTS

The Rubenstein School general education requirements are designed to enhance a student's ability to assimilate and analyze information, think and communicate clearly, and respect multiple perspectives.

These requirements are flexible in order to encourage creativity in meeting educational goals. This is work that can be spread throughout the four-year sequence, though there are distinct advantages to taking certain classes early on. Also, some majors have specific requirements that should be considered as you make selections; you often can simultaneously fulfill a general education and a major requirement with a single course.

All students must complete each of the following general education requirements[1]. **PLEASE REVIEW THE DETAILED REQUIREMENTS FOR YOUR MAJOR, AS THEY SEVERAL PROGRAMS COVER THESE GENERAL EDUCATION REQUIREMENTS WITHIN THE MAJOR REQUIREMENTS.**

1. **WRITING**[2]
   ENGS 1 (ENGS 2 if you are a sophomore, junior, or senior) or HCOL 85 (3 cr.)

2. **SPEAKING**
   NR 21 (2 cr.) or S PCH 11 (3 cr.) or CALS 183 (3 cr.)

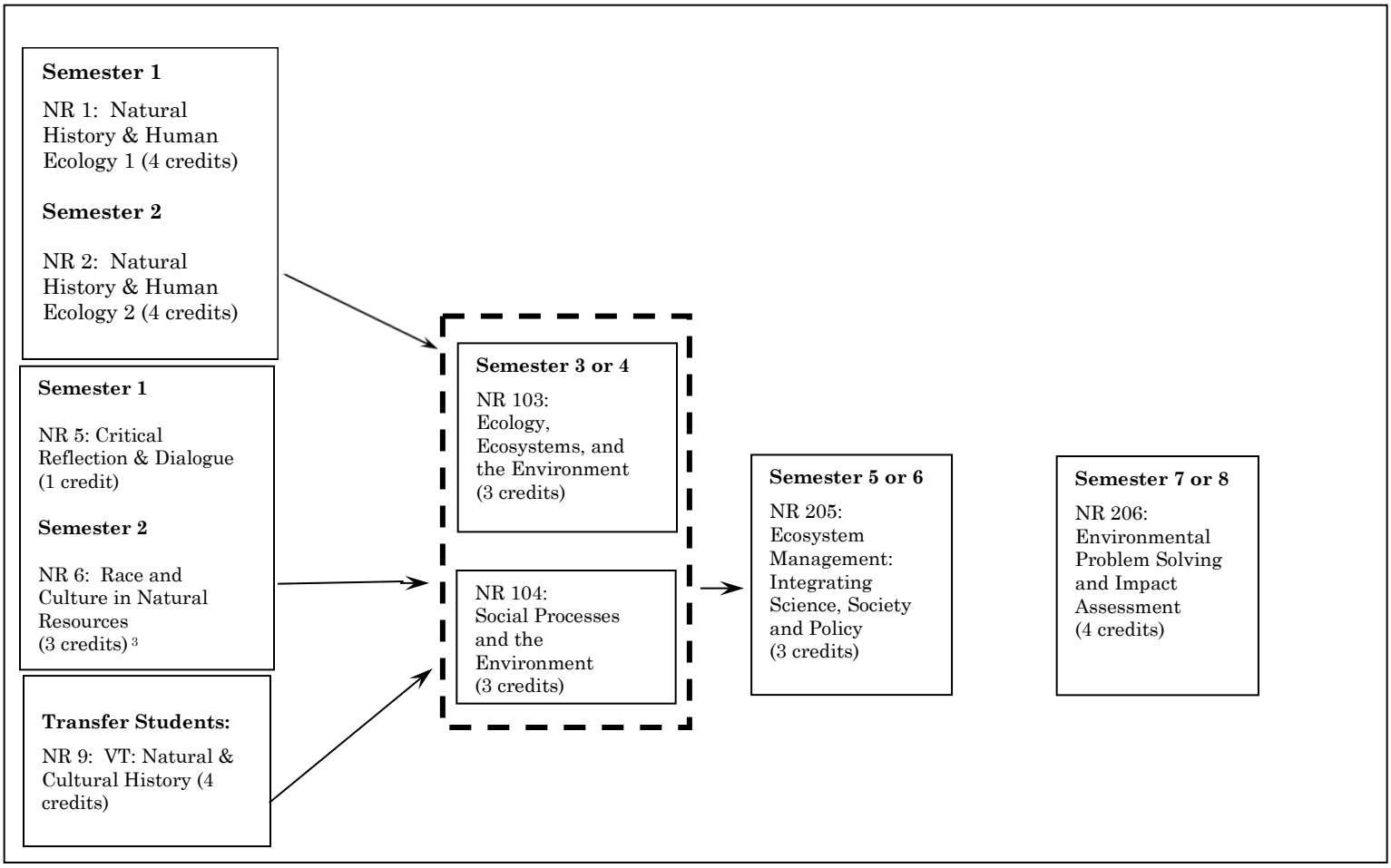
3. **DIVERSITY**[3]
   NR 6 (3 credits), and 3 credits from the approved list of D1 or D2 diversity courses (6 cr.)

4. **MATHEMATICS**[4]
   MATH 9 or higher but **NOT** MATH 17 (ENVS, NR Planning, PRT), MATH 18 (FOR), MATH 19 (NR Ecology, WFB), MATH 19 & 20 (ENSC)

5. **STATISTICS**[5]
   NR 140 (4 cr.), STAT 111 (3 cr.), STAT 141 (3 cr.) or STAT 211 (3 cr.)

■ CORE CURRICULUM REQUIREMENTS

The core curriculum of the Rubenstein School represents a body of knowledge, skills, and values that the faculty believe is central to the study of natural resources and the environment. The core curriculum's required courses (**25 total credits**) cut across all academic programs within the School, integrating the natural and social sciences in an effort to approach full understanding and resolution of natural resource and environmental issues. The sequence of the core curriculum is shown schematically in the diagram on the next page.



IMPORTANT NOTES:

[1] No single course may be used to satisfy more than one of the above requirements.

[2] This requirement also fulfills the University Writing and Information Literacy Requirement. In addition to ENGS 1, ENGS 2 and HCOL 85, students may use any other course approved to count for the University Requirement.

[3] Internal and external transfer students to Rubenstein may take any 3-credit Category D1 course from the University Approved Diversity courses to substitute for NR 6 (3 credits, and any 3-credit Category D1 or D2 course to complete the University Diversity Requirement.

[4] Requirement varies depending on major choice.

[5] NR 140 is required for WFB, FOR, and NR Ecology majors.

CORE CURRICULUM COURSE DESCRIPTIONS

The Core Curriculum of the Rubenstein School is carefully designed to cultivate the skills and knowledge that our faculty believe are central to the study of natural resources and the environment. The Core Curriculum's eight required courses (25 total credits) are taken sequentially and cut across all academic programs within the School, integrating the natural and social sciences in an effort to foster a deeper understanding of complex environmental issues and prepare students to tackle complex environmental problems.

CORE LEARNING OUTCOMES (Competencies & Knowledge Areas)

- Communication: Students will be able to employ effective speaking, writing, listening, and digital communication techniques.
- Teamwork: Students will be able to contribute to collaborative efforts, facilitate contributions of others, and address conflict directly and constructively.
- Working Across Difference: Students will be able to critically examine dimensions of difference and apply a nuanced understanding of power and privilege through effective communication.
- Problem Solving: Students will be able to design, evaluate, and employ appropriate frameworks in order to effect change and generate collaborative solutions to complex problems.
- Inquiry & Analysis: Students will be able to apply critical thinking skills and employ qualitative and quantitative methodologies in order to formulate questions and evaluate core knowledge areas.
- Integrative Learning: Students will be able to synthesize and transfer learning to complex situations across disciplinary boundaries through the application of critical reflection skills.
- Ecological Processes & Systems: Students will be able to identify and describe basic ecological processes and systems.
- Social Processes & Systems: Students will be able to identify, interpret, and analyze cultural, economic, historical, and political dynamics of environmental issues.
- Planning & Management: Students will be able to describe effective strategies in ecological planning, management, stewardship, and conservation of natural resources.
- Sustainability: Students will be able to discuss social, economic, and ecological principles of sustainability.

NR 1 and 2
Natural History & Human Ecology
A two-semester course with introduction to dynamics of the natural world and basic concepts of biological, chemical, physical, and ecological sciences and application and interpretation of quantitative measurements. Emphasis on social/cultural perspectives and environmental history, values, and ethics with application to natural resources and environmental policy. Introduction to the dynamics of the natural world. Basic concepts of biological, chemical, physical, and ecological sciences and the application and interpretation of the quantitative measurements are presented within a natural history context. (4 credits + 4 credits)

NR 5
Critical Reflection & Dialogue
Students practice reflection and dialogue skills while building a strong social network with advisors and peers. (1 credit)

NR 6
Race and Culture in Natural Resources
Introduces the first-year student to issues of race and culture and their relevance to society, natural resources, and the environment. It provides students with the opportunity to understand aspects of power, privilege, and injustice and its implications for the natural resource and environmental fields (3 credits)

NR 9
Vermont: Natural and Cultural History
Introduces students transferring into the Rubenstein School to natural resources and the environment from biological, ecological, and social/cultural perspectives. (4 credits)

NR 103
Ecology, Ecosystems, and Environment
Major ecological concepts and their application. Analysis of form, structure and function of organisms, populations, communities, ecosystems and landscapes. (3 credits)

NR 104
Social Processes and the Environment

Social science theories and their application to environmental issues. Analysis of issues using theories of government, economics, and social movements. Emphasis on integrating frameworks to analyze environmental issues. (3 credits)

NR 205
Ecosystem Management: Integrating Science, Society, and Policy
Integration of natural and social science into ecosystem management and policy. Consideration of ecosystem integrity, ecosystem degradation, human needs and values and the application of management principles within a holistic context. (3 credits)

NR 206
Environmental Problem Solving and Impact Assessment
Group dynamics, impact assessment, risk assessment and decision making. Emphasis on the process of solving complex environmental problems, interdisciplinary teamwork, and the National Environmental Policy Act. (4 credits)

■ MAJOR REQUIREMENTS

Major requirements are the additional courses that you must take in order to graduate in a specific discipline. The Rubenstein School of Environment and Natural Resources awards degrees in six majors; several of these include distinct options, each of which has somewhat different requirements. The choices are:

Environmental Sciences
- *Agriculture and the Environment*
- *Conservation Biology and Biodiversity*
- *Ecological Design*
- *Environmental Analysis and Assessment*
- *Environmental Biology*
- *Environmental Geology*
- *Environmental Health*
- *Global Environment and Climate Change*
- *Water Resources*
- *Self- Designed concentration*

Forestry

Natural Resources / Sustainability, Ecology, and Policy
- *Integrated Natural Resources*
- *Applied Ecology*
- *Environmental Planning, Policy and Law*

Parks, Recreation, and Tourism

Wildlife and Fisheries Biology
- *Fisheries Biology*
- *Wildlife Biology*

MINORS
A minor is a secondary concentration of course work, outside the area of the major. Some UVM academic programs require students to have a minor, but the Rubenstein School of Environment and Natural Resources does not. We do, however, offer minors in:

Forestry
Geospatial Technologies
Parks, Recreation, and Tourism
Sports Management
Wildlife Biology

These minors are available to students from any academic unit on campus. Rubenstein School students are also welcome to complete minors in academic departments outside the School.

ENVIRONMENTAL SCIENCES

The demand for environmental scientists has increased dramatically in recent years. State and federal regulations addressing water pollution, solid waste management, air quality, global climate change, and environmental impact assessment have created a substantial demand for personnel with strong basic and applied scientific backgrounds. Large

companies are hiring environmental scientists to help them respond to environmental regulations. Consulting firms are growing rapidly, and they are employing scientists with specific skills to work on multi-disciplinary teams. The need for environmental scientists trained to tackle environmental problems will continue to increase.

The interdisciplinary Environmental Sciences major combines a natural science-based core curriculum with hands-on experience needed to identify, analyze, and solve environmental problems. Blending hands-on field and laboratory instruction with real-world environmental internship, research, and study abroad opportunities, students acquire the skill set needed to tackle complex environmental problems. With the School's emphasis on such cutting-edge areas as ecological design, restoration of damaged ecosystems, and environmental assessment, Environmental Sciences graduates are equipped with the knowledge and professional skills required to successfully protect the health and integrity of our terrestrial, aquatic, and urban ecosystems.

Prior to the junior year, students select a concentration designed to provide greater depth of knowledge in a particular aspect of the field. Concentrations are offered in **Agriculture and the Environment, Conservation Biology and Biodiversity, Ecological Design, Environmental Analysis and Assessment, Environmental Biology, Environmental Geology, Environmental Health, Global Environment and Climate Change and Water Resources.** Students are also able to design a concentration that fits their personal interests.

Internships: Experiential learning is strongly recommended. Students are encouraged to do a professionally oriented internship under joint supervision of faculty and business, regulatory, or community representatives.

Successful Environmental Sciences graduates will demonstrate the following competencies:

- Apply a range of scientific methodologies and disciplinary perspectives through scientific inquiry, modeling and real-world experience in addressing pressing environmental issues.
- Employ a systems approach to analyze how human and ecological systems interact to influence processes in air, on land, and in water, including the transport and fate of nutrients and contaminants through the environment.
- Assess and articulate the scientific evidence surrounding key environmental issues and evaluate ongoing efforts to mitigate environmental problems.
- Design solutions to real world problems in collaboration with community partners.
- Deepen their understanding of the concepts, processes, problems and solutions of their chosen concentration.

Program Director*:* Professor Jennifer Pontius Room# 220L Aiken, Ph: (802) 656-3091. jennifer.pontius@uvm.edu

DEGREE REQUIREMENTS

All students who enroll in the Environmental Sciences major in the Rubenstein School must fulfill the following requirements for graduation:

1. Complete the Rubenstein School's core curriculum (25 cr.).

2. Complete the general education requirements (6 cr.).

3. Complete a minimum of 120 credit hours of courses.

4. Complete the Environmental Sciences minimal basic science/quantitative coursework:

   BCOR 11 and 12, Exploring Biology (8 cr.) preferred
   - or - BIOL 1 and 2, Principles of Biology (8 cr.)
   CHEM 31 and 32, General Chemistry 1 and 2 (8 cr.)
   CHEM 42, Introduction to Organic Chemistry* (4 cr.)
   - or - CHEM 141 Organic Chemistry I (4 cr.)
   GEOL 55, Environmental Geology

- or - PSS 161, Introduction to Soil Science (4 cr.)
MATH 19 and 20, Fundamentals of Calculus I and Calculus II** (6 cr.)
- or - MATH 21 and 22 Calculus I and Calculus II (8 cr.)
NR 140, Applied Environmental Statistics (4 cr.)
- or - STAT 141, Basic Statistical Methods** (3 cr.)

*Students interested in areas such as environmental analysis and assessment should consider taking more advanced courses such as CHEM 141/142.
** Also fulfills a Rubenstein School general education requirement.

5. Complete the Environmental Sciences foundation courses:

ENSC 1, Introduction to Environmental Sciences (3 cr.)
ENSC 9, Orientation to Environmental Sciences* (1 cr.)
ENSC 130, Global Environmental Assessment (3 cr.)
ENSC 160, Pollutant Movement through Air, Land, and Water (4 cr.)
ENSC 201, Recovery and Restoration of Altered Ecosystems (4 cr.)
ENSC 202, Applied Environmental Analysis and Assessment (4 cr.)
*Internal and External Transfer students to ENSC are exempt from ENSC 9

6. Complete concentration requirements (14 credits) in **Agriculture and the Environment, Conservation Biology and Biodiversity, Ecological Design, Environmental Analysis and Assessment, Environmental Biology, Environmental Geology, Environmental Health, Global Environment and Climate Change and Water Resources.** A list of courses approved for each track is available from the Program Director or from the ENSC website https://www.uvm.edu/environmentalsciences. Students may also elect a self-designed track in a particular area of interest.

FORESTRY

The Forestry Major trains students to meet the needs of the 21st century, which include managing forests for resilience, adaptation, and climate mitigation. Students learn how to tackle the ever-increasing demands and pressures placed on the world's forests while sustaining the many services forest ecosystems provide. The program attracts students who want a career working outdoors, excel at science and quantitative analysis, learn by doing, and can embrace both the fundamentals of traditional forestry and emerging perspectives in the field. The Forestry major provides students with an education in ecologically responsible forestry, emphasizing the complex landscapes of the northeastern United States, while also stressing global context and change. Students develop the ability to coordinate and manage all aspects of sustainable forestry through an education that combines a strong foundation in natural and social sciences with hands-on field classes, internships, research experience, and forest management projects.

A student-proposed, faculty-approved, **area of concentration** provides curricular flexibility and addresses the individual interests of the Forestry major. This concentration may be an ***individually designed area of emphasis*** such as forest ecosystem health, forest ecology, consulting forestry, or urban forestry; or ***a professionally appropriate University minor*** such as wildlife biology, botany, or international development; or ***a study abroad experience*** that has a clear environmental and natural resources emphasis.

We emphasize experiential learning through extensive field instruction on University-owned forestland near the campus, the Green Mountain National Forest, and other public as well as private forests throughout Vermont and surrounding states. We strongly encourage students to gain valuable career-oriented experience while earning academic credit by assisting with ongoing forestry field or laboratory research, or through internship opportunities with public agencies and private organizations.

Graduates may be employed as resource professionals on public forests, consultants to private forest landowners, or managers of industrial forest lands; or they may choose related employment with organizations such as the Peace

Corps, or land conservation groups; or they may pursue certification for secondary school education in biological and natural sciences; or they may decide to continue their education at the master's or doctoral level. To enhance their professional employability, students are strongly encouraged to pursue, and are assisted in finding, forestry internship and summer employment opportunities.

Forestry Program Learning Outcomes

Our courses are outcome based, focused on achieving demonstrated student comprehension and proficiencies. The program expects that upon completion of the SAF-accredited BS degree in forestry, students will be able to:

- **Apply** essential skills of measurement, spatial orientation, sampling, and data analysis.
- **Incorporate** the foundational natural and social sciences into decision making.
- **Articulate** historical context and contemporary trajectory of the profession.
- **Evaluate** human dimensions of sustainable forest management, including the diverse universe of forest stakeholders, perspectives, and policies.
- **Develop** and implement well-justified forest management strategies that address a diversity of objectives at spatial scales ranging from stands to the entire planet.

Program Director: Professor Anthony D'Amato, 204E Aiken, Awdamato@uvm.edu

DEGREE REQUIREMENTS

All students who enroll in the Forestry curriculum must fulfill the following requirements for graduation:

1. Complete the Rubenstein School's core curriculum.

2. Complete the Rubenstein School's general education requirements.

3. Complete a minimum of 123 credit hours of courses.

4. Complete the required Forestry courses:

   PBIO 4, Introduction to Botany (4 cr.)
   - or - BIOL 1 and 2, Principles of Biology (8 cr.)
   CHEM 23, General Chemistry (4 cr.)
   MATH 18, Basic Mathematics* (3 cr.)
   NR 140, Applied Environmental Statistics* (4 cr.)
   FOR 95 Introduction to Forestry and Wildlife Biology (1 cr.)
   FOR 111, Natural Resource Ecology and Assessment 1 (4 cr.)
   FOR 112, Natural Resource Ecology and Assessment 2 (4 cr.)
   PSS 161, Introduction to Soil Science (4 cr.)
   A course in Economics or Ecological Economics (3 cr.)
   NR 143, Introduction to Geographic Information Systems (3 cr.)
   FOR 21, Dendrology (4 cr.)
   FOR 122, Forest Ecosystem Analysis** (4 cr.)
   FOR 223, Multi-Resource Silviculture (4 cr.)
   FOR 235, Forest Ecosystem Health (4 cr.)
   FOR 190, Forestry Internship (3 cr.)
   FOR 233, Management of Forest Woodlots (3 cr.)
   FOR 272, Sustainable Management of Forest Ecosystems (4 cr.)

   * Also fulfills general education requirement.
   ** Field intensive course **OFFERED ONLY DURING THE SUMMER SESSION—*ADDITIONAL TUITION & FEES CHARGED.***

5. Complete a Forestry area of concentration:
   Nine additional credit hours of student-proposed, faculty-approved[1] course work addressing individual interests of the student. The concentration may be ***self-designed***[2] such as forest ecosystem health, forest ecology, consulting forestry, public forestry administration, or international development; an appropriate University ***minor***; or a natural resource-oriented ***study abroad*** experience.

   [1] Must be endorsed by the student's advisor and approved by the Forestry faculty prior to the last 3 semesters of study.
   [2] The self-designed sequence of this coursework for the student's concentration should be at least six credits at the 100-level or higher.

6. Complete Forestry Major Required Internship: Forestry students are required to complete an internship. Eligibility requirements vary, but in most cases, applicants should be juniors. The internship may occur during either the fall or spring semester or during the summer and generally lasts the length of the semester or summer period. Students are required to earn 3 credits for the internship experience. ***Your internship must be approved in advance and required documentation must be complete.***

FORESTRY MINOR REQUIREMENTS
A minimum of 16 credit hours is required, with at least 9 at the 100-level or higher. Applications for the minor must be filed no later than June 1 of the year preceding graduation. Students must earn at least a 2.0 cumulative GPA in their Forestry minor courses to earn a minor in Forestry. Required courses:

FOR 21, Dendrology (4 cr.)
FOR 111, Natural Resource Ecology and Assessment 1 (4 cr.)
FOR 223, Multi-Resource Silviculture (4 cr.)
Additional FOR courses to total 16 credit hours. *
*Note: Rubenstein School students may not count FOR 1 towards completion of Forestry minor.

GEOSPATIAL TECHNOLOGIES MINOR

The recent availability of high spatial resolution (detailed) satellite and aerial imagery, desktop and online software for Geographic Information Systems (GIS), Remote Sensing (RS), and inexpensive Global Positioning Systems (GPS) have driven geospatial technologies to the forefront of a revolution in acquisition, integration, and analysis of geospatial data. These data can be applied to a wide array of environmental issues at local to global scales. The tools offered by these technologies can incorporate huge volumes of data from many sources tied to a location on the Earth and analyze that data using new and innovative methods to reveal relationships in time and space.

Training in Geospatial Technologies will complement many major fields of study, including but not limited to computer sciences, engineering, environmental sciences, forestry, geography, geology, and natural resources. Skills learned in the Geospatial Technologies minor are highly sought after by future employers. The field is considered emerging with strong growth by US Labor and Statistics.

GST Minor Coordinator: Professor Gillian Galford, Gillian.Galford@uvm.edu
GST Curricular Committee: Professor Gillian Galford (Rubenstein), Gillian.Galford@uvm.edu, Professor Beverley Wemple (CAS), Beverley.Wemple@uvm.edu, Professor Donna Rizzo (CEMS), Drizzo@uvm.edu.

GEOSPATIAL TECHNOLOGIES MINOR REQUIREMENTS
The courses for the minor include a minimum of 15 required credits. At least 9 credit hours must be at the 100-level or above. At least half of the courses (8 credits) used to satisfy the minor must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Geospatial Technologies minor courses to earn a minor in Geospatial Technologies. The courses for the minor include:

1) One or more course(s) on Geospatial Technologies in the Disciplines 3-6 cr.
   Choose from:

CE 10, Geomatics (4 cr.)
CDAE 101: Computer Aided Drafting and Design (3 cr.)
ENGR 2: Graphical Communication (2 cr.)
ENSC 130, Global Environmental Assessment (3 cr.)
GEOG 81, Geospatial Concept & Visualization (3 cr.)
GEOL 151/GEOG 144 Geomorphology (4 cr.)
GEOL 185: Geocomputing (3 cr.)

2) Courses in two or more categories (Geographic Information Systems, Remote Sensing & Data Science) 6-9 cr.

Geographic Information Systems (Choose one) (3 cr.)
GEOG 184, Geographic Information: Concepts & Application (3 cr.)
NR 143, Introduction to Geographic Information Systems (3 cr.)

(continued on page 30)

Remote Sensing (Choose one) (3 cr.)
NR 146/FOR 146: Remote Sensing of Natural Resources (3 cr.)
GEOG 185, Remote Sensing (3 cr.)

Data Science (Choose one) 3-6 cr.
CS 8: Intro to Web Site Development (3 cr.)
CS 21: Computer Programming (3 cr.)
CS 87/STAT 87: Intro to Data Science (3 cr.)
CS 110: QR: Intermediate Programming (4 cr.)
CS 142: QR: Advanced Web Design (3 cr.)
CS 148, QR: Database Design for the Web (3 cr.)

3) One or more advanced or capstone experience(s) 3-6 cr.
Choose from:
CS 204: QR: Database Systems (3 cr.)
GEOG 281: Adv Topics in GIS & Remote Sensing (3 cr.)
GEOG 287: Spatial Analysis (3 cr.)
MATH 266: Chaos, Fractals, and Dynamical Systems (3 cr.)
NR 242, Advanced Geospatial Techniques (1-3 cr.)
NR 243, GIS Practicum (3 cr.)
NR 245, Integrating GIS & Statistics (3 cr.)
NR 346: Digital Image Processing (2 cr.)
STAT 201: QR: Stat Computing and Data Analysis (3 cr.)

With approval of the curriculum committee, students may substitute a credit-bearing internship or research credits for one of the capstone courses.

NATURAL RESOURCES (2021 catalogue & earlier)

The Natural Resources Curriculum combines course work from disciplines inside and outside the Rubenstein School to produce an individualized major focused on an ecological theme or the human-environment relationship. Students concentrate in Resource Ecology, Resource Planning, or Integrated Natural Resources. They take foundational courses in natural or social sciences and then tap into upper-level and field-based courses to focus in areas such as aquatic ecology; terrestrial ecology; environmental policy, economics and law; community-based resource planning; environmental education; sustainability and resource management; and energy and environmental systems. Most students incorporate internship, research, and/or study abroad experiences into their academic program. Graduates are competitive for positions in the environmental field in a range of settings. They also are prepared to pursue graduate

studies in environment and natural resources including advanced study in the natural sciences and in law, urban, regional and community planning, and public administration. Students may choose to concentrate their studies in ***Resource Ecology*** or ***Resource Planning***, or to develop an individualized program of study in ***Integrated Natural Resources***.

The **Resource Ecology** concentration explores the biology and ecology of plants and animals in both aquatic and terrestrial systems and allows students to select courses around their specific interests. Students can concentrate their studies on areas such as conservation biology, ecosystem analysis, or ecological dimensions of environmental quality.

Successful students in Resource Ecology will be able to:

- Describe components, structures, processes, & functions of ecological systems, including relationships between abiotic & biotic dimensions, at multiple scales (e.g. community, landscape, global);
- Apply skills of measurement, spatial orientation, sampling, and data analysis to characterize natural resource phenomena;
- Analyze and synthesize scientific data to characterize and evaluate the status of ecological systems.

The **Resource Planning** concentration explores interactions among individuals, communities, and society with nature, resources and the environment. It allows students to select courses around their specific interests such as natural resource planning and community, policy and economic dimensions of resource planning, and international dimensions of resource planning.

Successful students in Resource Planning will be able to:

- Describe key social components, structures, processes, & functions occurring in a given social-environmental context at multiple scales (e.g. individual, community, institutional, global);
- Demonstrate skills to use evidence appropriate to chosen area of study, e.g., integrating evidence into persuasive policy arguments, gathering & analyzing data to characterize human interactions with the environment, mapping data for land use design, incorporating natural resources information into outreach and communication materials;
- Analyze & synthesize knowledge/data about human processes related to environment/natural resources to interpret & assess a social-environmental context using conceptual frameworks from at least one area of the social sciences.

The **Integrated Natural Resources** (INR) concentration provides a broad natural resources education, giving students considerable flexibility in selecting courses. It is for students who have strong interests in natural resources and the environment, clear academic direction, and the motivation to develop a well-focused, personally meaningful course of study. Students in INR have developed concentrations in Environmental Education, Sustainable Resource Management, Resource Conservation, International Resource Issues, and Spatial Analysis of Natural Resources.

Students in Integrated Natural Resources will:

- Create a program of study that includes clear learning objectives and learning outcomes for conceptual foundations and applications pertinent to natural resources and environment that (1) are distinct from other majors in the Rubenstein School, (2) locate the program of study in the context of systems or processes that encompass the intersection of social and ecological dimensions of natural resources and environment, and (3) contain an integrative component that addresses the intersection of ecological and social dimensions of natural resources and environment.
- Demonstrate proposal writing skills through a proposal that explains clearly a program of study for review, input, and approval by a committee of 3 faculty members.
- Complete an in-depth program of study that includes learning outcomes appropriate to the defined learning objectives and courses that will support the achievement of learning objectives and outcomes.

Program Director: Professor Clare Ginger, 308F Aiken, Ph: (802) 656-2698, Clare.Ginger@uvm.edu

DEGREE REQUIREMENTS

All students who enroll in the Natural Resources curriculum must fulfill the following requirements for graduation:

1. Complete the Rubenstein School's core curriculum.
2. Complete the Rubenstein School's general education requirements.
3. Complete a minimum of 120 credit hours of courses.
4. Complete concentration requirements for **Resource Ecology**, **Resource Planning**, or **Integrated Natural Resources.**

Resource Ecology concentration:

Required Basic Science courses (34-42 credits, depending on Chemistry courses taken):

BIOL 1 and 2, Principles of Biology (8 cr.)

GEOL 1, Earth System Science (4 cr.)
- or - PSS 161, Introduction to Soil Science (4 cr.)

MATH 19, Fundamentals of Calculus I * (3 cr.)

NR 140, Applied Environmental Statistics * (4 cr.)

CHEM 23, Outline of General Chemistry (4 cr.)
- or - CHEM 31 and 32, General Chemistry 1 and 2 (8 cr.)

CHEM 26, Outline of Organic and Biochemistry (4 cr.)
- or - CHEM 42, Introduction to Organic Chemistry (4 cr.) - or - CHEM 141 and 142, Organic Chemistry (8 cr.)

FOR 111, Natural Resource Ecology and Assessment 1 (4 cr.)

NR 143, Introduction to Geographic Information Systems (3 cr.)
- or - NR/FOR 146, Remote Sensing of Natural Resources (3 cr.)

*Also fulfills general education requirement.

Concentration Electives -- ecology or ecology-related courses (27 credits): In consultation with an academic advisor, student chooses 27 additional credits from an approved list of courses available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Natural Resources). In choosing courses, students pursue interests in the biology and ecology of plants and animals in aquatic and terrestrial systems. They may concentrate their studies in areas such as conservation biology, ecosystem analysis, or ecological dimensions of environmental processes and quality.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student enrolls in the substitution course.

Resource Planning concentration:

Required distribution courses (21-22 credits):

PSYS 1, General Psychology
- or - PSYS 111, Learning, Cog. & Beh. - or - PSYS 130, Social Psyc. - or - PSYS 150 Develop. Psyc. (3 cr.)

CDAE 2, D2: World Food, Pop., & Develop. (3 cr.)

- or - ENVS 2, D2: Solutions in Env Studies (4 cr.)
POLS 21, American Political System

- or - POLS 41, Introduction to Political Theory - or - POLS 51, Intro International Relations (3 cr.)

SOC 1, Introduction to Sociology
- or - SOC 11, Social Problems (3 cr.)
PHIL 21, 22 or 23 Introduction to Philosophy (Ethics or Ethics of Eating or Environmental Ethics)
- or - CDAE 208, Agricultural Policy and Ethics - or - ENVS 178, Environmental Ethics (3 cr.)
ANTH 21, D2: Cultural Anthropology
- or - GEOG 50, D2: Global Environments & Cultures (3 cr.)
EC 11, Principles of Macroeconomics
- or - EC 12, Principles of Microeconomics - or - CDAE 61, Principles of Community Development (3 cr.)

Concentration Electives (27 credits): In consultation with an academic advisor, student chooses a minimum of 27 additional credits from an approved list of courses available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Natural Resources). In choosing these courses, students pursue interests in interactions among individuals, communities, and society with nature, resources, and the environment. They may concentrate their studies in areas such as natural resource planning and community, policy and economic dimensions of resource planning, and international dimensions of resource planning.

Any course substitution request should be approved **prior to the end of the add/drop period** for the semester in which the student enrolls in the substitute course.

Integrated Natural Resources concentration:

Concentration required courses (minimum of 9 credits):
Students select from a list of approved courses, at least one course in each of three areas: *biology/ecology; NR courses in social sciences and communications; and quantitative and analytical methods.* These courses are **IN ADDITION** to those taken to fulfill Rubenstein's general education requirements. The list of approved courses is available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Natural Resources).

Individualized Program of Study (minimum of 39 credits):
The student develops an Individualized Program of Study composed primarily of intermediate and advanced level Rubenstein courses (ENVS, ENSC, FOR, NR, PRT or WFB prefix). This must include at least twenty-four credits inside the School and no more than six credits below the 100-level. With careful selection of courses, students develop concentrations such **as *Environmental Education, Sustainable Resource Management, Environmental Health, and Spatial Analysis of Natural Resources***.

All programs of study must be endorsed by the advisor, then approved by the faculty. If not approved, the student may not continue in the INR option and must seek another major. **The program of study is to be completed by the end of the sophomore year (60 credits).** Transfer students with more than sixty credits must have a program of study approved as part of the transfer application. It is expected that transfer students will be active in the Program for at least two years (four semesters) after transferring into the INR option. Any course substitution request should be approved *prior to the end of the add/drop period* for the semester in which the student plans to enroll in the substitute course.

PARKS, RECREATION, AND TOURISM

The Parks, Recreation, and Tourism Program (PRT) provides outstanding learning opportunities for students interested in tourism management and environmental education in parks, outdoor recreation, and cultural heritage settings. Those who major in Parks, Recreation, and Tourism will receive professional training in sustainable planning and management of sustainability planning and management of parks, outdoor recreation and tourism resources. Students will also learn how to design and deliver high-quality recreation and tourism programs and services that enrich peoples' lives, create livable communities, and preserve the natural environment. Parks, Recreation, and Tourism courses are offered in combination with a well-rounded liberal education.

The program prepares students to become leaders in the parks, recreation and tourism fields. Students learn about experience-based program design and management in recreation and sports management, ecotourism, entrepreneurial business management, leisure behavior, resort marketing and management, green design, environmental interpretation, leisure programming, leadership, visitor-centered services, and more. Vermont's natural environment provides an ideal laboratory to learn first-hand about recreation and tourism practices that are environmentally sustainable, socially inclusive, and economically responsible.

A professional internship (PRT 191) is a required part of the PRT program at UVM. Internship opportunities provide valuable work experiences and assist students with career planning; they provide education not offered in campus course work, lead to professional contacts, and provide a transition to full time jobs. Past PRT graduates are employed in the management of ski areas, private campgrounds, marinas, four-season resorts, travel businesses, and local, state, and national parks and outdoor recreation places. Eligibility requirements vary, but applicants must be PRT juniors or seniors. The internship may occur during either semester or during the summer; it requires 135 hours of work, enrollment in PRT 191 for 3 credits, and must be approved in advance by your PRT advisor. Required documentation must be complete for internship completion.

Graduates from the program will be able to:

- Draw upon knowledge of the historical, scientific, and philosophical foundations of the park, recreation, and tourism fields to envision sustainable futures and plan for professional success.
- Design, implement, and evaluate park management plans, recreation and sports programs, and tourism services that contribute to positive outcomes of community tourism development, and park and recreation resource management and planning.
- Explain how natural, economic, and social systems interact to foster sustainability within parks, recreation, and tourism settings, and propose policy alternatives to encourage sustainability practices.
- Identify and evaluate domestic and international issues associated with achieving and supporting diversity, equity and inclusion in the planning, management, and implementation of park, recreation, sports and tourism programs and services.
- Demonstrate entry level knowledge of entrepreneurial business practices including business planning, marketing, hospitality services, and program administration supporting high quality tourist experiences.
- Demonstrate entry level knowledge of park management practices, including principles of resource management, agency leadership, legislative mandates, planning processes, and sustainable design.
- Demonstrate, through a comprehensive internship of at least 135 hours, the ability to use knowledge and skills to address challenges and stimulate innovation in applied parks, recreation, and tourism settings.

Program Director: Professor Patricia A. Stokowski, 313A Aiken, Ph: (802) 656-3093, Patricia.Stokowski@uvm.edu

DEGREE REQUIREMENTS

In addition to completing University requirements, all students enrolled in the Parks, Recreation, and Tourism Program must

fulfill the following requirements for graduation:

1. Complete the Rubenstein School's core curriculum.

2. Complete the Rubenstein School's general education requirements.

3. Complete a minimum of 120 credit hours of courses, including requirements and electives.

4. Complete four Parks, Recreation, and Tourism foundation courses:
   - One 3-credit course in humanities (Classics, History, Philosophy, Religion)
   - One 3-credit course in communications (Art, Art History, English Literature, Foreign Language, Music, Theater, World Literature)
   - One 3-credit course in social sciences (Anthropology, Economics, Geography, Political Science, Psychology, Sociology)
   - One 4-credit laboratory course in natural sciences (Astronomy, Biology, Chemistry, Geology, Physics, Plant Biology). *Neither NR 1 nor NR 9 count towards this requirement.*

5. Complete the PRT Program requirements (8 courses):
   PRT 10 Introduction to Sustainable Recreation and Tourism (3 cr.)
   PRT 50 Tourism Planning (3 cr.)
   PRT 96 Parks and Protected Areas (3 cr.)
   PRT 158 Resort Marketing and Management (3 cr.)
   PRT 230 Ecotourism (3 cr.)
   PRT 235 Parks, Recreation and Sports Planning (3 cr.)
   PRT 255 Environmental and Cultural Interpretation (3 cr.)
   PRT 191 Internship (3 cr.) – must be approved by an advisor in advance.

6. Choose ONE of the following two concentrations – either (1) Tourism Planning and Management, or (2) Recreation Leadership and Environmental Education – and take at least two courses in that concentration:

Concentration 1: Tourism Planning and Management – take 2 courses from this list:
PRT 138 Park and Recreation Design (4 cr.)
PRT 157* Ski Area Management (4 cr.)
PRT 258 Entrepreneurship in Recreation and Tourism (3 cr.)
NR / ENVS 141 Introduction to Ecological Economics (3 cr.)
Other courses by permission

Concentration 2: Recreation Leadership and Environmental Education – take 2 courses from this list:
PRT 149** Wilderness Education and Leadership (3 cr.)
HLTH 51 Wilderness First Responder (3 cr.)
ENVS 294 Environmental Education (3 cr.)
ENVS 295 Birding for Change (4 cr.)
Other courses by permission

*PRT 157 includes a required week of class during the Winter Session, prior to the start of the Spring semester.
**PRT 149 includes an additional course fee to cover travel expenses.

7. Completion of 3 credits of required professional internship (PRT 191) as discussed above.

PARKS, RECREATION, AND TOURISM MINOR REQUIREMENTS
A minimum of 15 credit hours is required, including:

- at least 9 credits to be selected from PRT 10, 50, 096, 138, 149, 157, 158
- at least 6 credits to be selected from PRT 230, 235, 255, 258.

Students must earn at least a 2.0 cumulative GPA in their Parks, Recreation, and Tourism minor courses to earn a minor in Parks, Recreation, and Tourism.

SPORTS MANAGEMENT MINOR

The Sports Management minor is sponsored by the Rubenstein School of Environment and Natural Resources, in collaboration with the College of Agriculture and Life Sciences, the College of Education and Social Services, and the Grossman School of Business. The minor is for students who aspire to work in settings involving the management of sporting endeavors, including entrepreneurial sports ventures, professional, amateur, interscholastic, intercollegiate, community recreation, and youth sport organizations into their majors. Career paths may lead students to minor or major league sport management or marketing, working as an administrator in college or high school sports, owning or managing a fitness club, working in event facilities management, etc. The Rubenstein School, as the sponsoring unit on campus, seeks to cultivate an awareness and enhanced understanding of the interaction between human activities, like sports and recreation, and the natural environment.

SPORTS MANAGEMENT MINOR REQUIREMENTS
The courses for the minor include three required courses and at least three elective courses, one from each category, for a minimum of 18 required credits. At least half the courses must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Sports Management minor courses to earn a minor in Sports Management. The courses for the minor include:

Required Courses (3): 9 credits total (no prerequisites)
EDPE 220, Sport in Society (3 cr.)
EDPE 101, Sports Management (3 cr.)
– or – EDPE 241 at 3 credits (EDPE 241 is a fee-based spring break travel course)
PRT 235, Outdoor Recreation Planning (3 cr.)

One of the following Management courses, 3 credits total
BSAD 120, Organizational Behavior and Leadership (3 cr.)
EDPE 119, Careers in College Athletics (3 cr.)
EDPE 230, Philosophy of Coaching (3 cr.)
PRT 157, Ski Area Management (3 cr.)

One of the following Marketing/Communications courses, 3 credits total
BSAD 150, Marketing Management (3 cr.)
CDAE 168, Marketing: Community Entrepreneurs (3 cr.)
CDAE 119, Event Planning for Athletics (3 cr.)
CDAE 024, Fundamentals of Public Communication (3 cr.)
PRT 158, Resort Management and Marketing (3 cr.)

One of the following Entrepreneurship courses, 3 credits total
BSAD 138, Entrepreneurship: Business Planning (3 cr.)
CDAE 166, Introduction to Community Entrepreneurship (3 cr.)
CDAE 267, Strategic Planning: Community Entrepreneurs (3 cr.)

PRT 258, Entrepreneurship, Recreation and Tourism (3 cr.)

OTHER INFORMATION
Consult your major advisor for any applicable course/major restrictions and information regarding the use of one course to meet multiple degree requirements. Majors in Parks, Recreation and Tourism, or Business Administration may double count at most two courses from the Sports Management minor towards the major.

SUSTAINABILITY, ECOLOGY & POLICY (starting with 2022 catalogue)

The program in Sustainability, Ecology & Policy combines course work from disciplines inside and outside the Rubenstein School to produce an individualized major focused on an ecological theme or the human-environment relationship. Students concentrate in Applied Ecology; Environmental Planning, Policy & Law; or Integrated Natural Resources. They take foundational courses in natural or social sciences and then tap into upper-level and field-based courses to focus in areas such as aquatic ecology; terrestrial ecology; environmental policy, economics and law; community-based environmental planning; environmental education; sustainability and resource management; and energy and environmental systems. Most students incorporate internship, research, and/or study abroad experiences into their academic program. Graduates are competitive for positions in the environmental field in a range of settings. They also are prepared to pursue graduate studies in environment and natural resources including advanced study in the natural sciences and in law, urban, regional and community planning, and public administration. Students choose to concentrate their studies in ***Applied Ecology*** or ***Environmental Planning, Policy & Law***, or to develop an individualized program of study in ***Integrated Natural Resources***.

The **Applied Ecology** concentration explores the biology and ecology of plants and animals in both aquatic and terrestrial systems and allows students to select courses around their specific interests. Students can concentrate their studies on areas such as conservation biology, ecosystem analysis, or ecological dimensions of environmental quality.

Successful students in Applied Ecology will be able to:

- Describe components, structures, processes, & functions of ecological systems, including relationships between abiotic & biotic dimensions, at multiple scales (e.g. community, landscape, global);
- Apply skills of measurement, spatial orientation, sampling, and data analysis to characterize natural resource phenomena;
- Analyze and synthesize scientific data to characterize and evaluate the status of ecological systems;
- Evaluate sustainability initiatives through an interdisciplinary framework.

The **Environmental Planning, Policy & Law** concentration explores interactions among individuals, communities, and society with nature, resources and the environment. It allows students to select courses around specific individual interests such as environmental planning and community sustainability or environmental policy and law.

Successful students in Environmental Planning, Policy & Law will be able to:

- Describe key social components, structures, processes, & functions occurring in a given social-environmental context at multiple scales (e.g. individual, community, institutional, global);
- Demonstrate skills to use evidence appropriate to chosen area of study, e.g., integrating evidence into persuasive policy arguments, gathering & analyzing data to characterize human interactions with the environment, mapping data for land use design, incorporating environmental information into outreach and communication materials;
- Analyze & synthesize knowledge/data about human processes related to environment/natural resources to interpret & assess a social-environmental context using conceptual frameworks from at least one area of the social sciences;
- Evaluate sustainability initiatives through an interdisciplinary framework.

The **Integrated Natural Resources** (INR) concentration provides a broad natural resources education, giving students considerable flexibility in selecting courses. It is for students who have strong interests in natural resources and the environment, clear academic direction, and the motivation to develop a well-focused, personally meaningful course of study. Students in INR have developed concentrations in Environmental Education, Sustainable Resource Management, Resource Conservation, International Resource Issues, and Spatial Analysis of Natural Resources.

Successful students in Integrated Natural Resources will:

- Create a program of study that includes clear learning objectives and learning outcomes for conceptual foundations and applications pertinent to natural resources and environment that (1) are distinct from other majors in the Rubenstein School, (2) locate the program of study in the context of systems or processes that encompass the intersection of social and ecological dimensions of natural resources and environment, and (3) contain an integrative component that addresses the intersection of ecological and social dimensions of natural resources and environment.
- Demonstrate proposal writing skills through a proposal that explains clearly a program of study for review, input, and approval by a committee of 3 faculty members.
- Complete an in-depth program of study that includes learning outcomes appropriate to the defined learning objectives and courses that will support the achievement of learning objectives and outcomes.

Program Director: Professor Clare Ginger, 308F Aiken, Ph: (802) 656-2698, Clare.Ginger@uvm.edu

DEGREE REQUIREMENTS

All students who enroll in the Sustainability, Ecology & Policy program must fulfill the following requirements for graduation:

1. Complete the Rubenstein School's core curriculum.
2. Complete the Rubenstein School's general education requirements.
3. Complete a minimum of 120 credit hours of courses.
4. Complete concentration requirements for **Applied Ecology**, or **Environmental Planning, Policy & Law**, or **Integrated Natural Resources.**

Applied Ecology concentration:

Required Basic Science courses (33-41 credits, depending on Chemistry courses taken):

BIOL 1 and 2, Principles of Biology (8 cr.)

MATH 19, Fundamentals of Calculus I * (3 cr.)

NR 140, Applied Environmental Statistics * (4 cr.)

CHEM 23, Outline of General Chemistry (4 cr.)
- or - CHEM 31 and 32, General Chemistry 1 and 2 (8 cr.)

CHEM 26, Outline of Organic and Biochemistry (4 cr.)
- or - CHEM 42, Introduction to Organic Chemistry (4 cr.) - or - CHEM 141 and 142, Organic Chemistry (8 cr.)

ENSC 149, Climate Change II (3 cr.)
- or - ENVS 188 Sustainability Science (3 cr.)

FOR 111, Natural Resource Ecology and Assessment 1 (4 cr.)

NR 143, Introduction to Geographic Information Systems (3 cr.)
- or - NR/FOR 146, Remote Sensing of Natural Resources (3 cr.)

*Also fulfills general education requirement.

Concentration Electives -- ecology or ecology-related courses (27 credits): In consultation with an academic advisor, student chooses 27 additional credits from an approved list of courses available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Sustainability, Ecology & Policy). In choosing courses, students pursue interests in the biology and ecology of plants and animals in aquatic and terrestrial systems. They may concentrate their studies in areas such as conservation biology, ecosystem analysis, or ecological dimensions of environmental processes and quality.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student enrolls in the substitution course.

Environmental Planning, Policy & Law concentration:

Required distribution courses (21-22 credits):

CDAE 2, D2: SU: World Food, Pop., & Develop. (3 cr.)
- or - ENVS 2, D2: SU: Solutions in Env Studies (4 cr.)
POLS 21, American Political System

- or - POLS 41, Introduction to Political Theory - or - POLS 51, Intro International Relations (3 cr.)

SOC 1, Introduction to Sociology
- or - SOC 11, Social Problems (3 cr.)
PHIL 21, 22 or 23 Introduction to Philosophy (Ethics or Ethics of Eating or Environmental Ethics)
- or - CDAE 208, Agricultural Policy and Ethics - or - ENVS 178, Environmental Ethics (3 cr.)
ANTH 21, D2: SU: Cultural Anthropology
- or - GEOG 50, D2: SU: Global Environments & Cultures (3 cr.)
EC 11, Principles of Macroeconomics
- or - EC 12, Principles of Microeconomics - or - CDAE 61, Principles of Community Development (3 cr.)
ENSC 149, Climate Change II
- or - ENVS 188 Sustainability Science (3 cr.)

Concentration Electives (27 credits): In consultation with an academic advisor, student chooses a minimum of 27 additional credits from an approved list of courses available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Sustainability, Ecology & Policy). In choosing these courses, students pursue interests in interactions among individuals, communities, and society with nature, resources, and the environment. They may concentrate their studies in areas such as environmental planning and community sustainability or environmental policy and law.

Any course substitution request should be approved **prior to the end of the add/drop period** for the semester in which the student enrolls in the substitute course.

Integrated Natural Resources concentration:

Concentration Required courses (minimum of 9 credits):
Students select from a list of approved courses, at least one course in each of three areas: *biology/ecology; NR courses in social sciences and communications; and quantitative and analytical methods.* These courses are **IN ADDITION** to those taken to fulfill Rubenstein's general education requirements. The list of approved

courses is available on the Rubenstein Student Services website, http://www.uvm.edu/rsenr/student_services, under *Forms, Policies, Advising, Support* (sub link is Program Specific Forms for Natural Resources).

Individualized Program of Study (minimum of 39 credits):

The student develops an Individualized Program of Study composed primarily of intermediate and advanced level Rubenstein courses (ENVS, ENSC, FOR, NR, PRT or WFB prefix). This must include at least twenty-four credits inside the School and no more than six credits below the 100-level. With careful selection of courses, students develop concentrations such **as *Environmental Education, Sustainable Resource Management, Environmental Health, and Spatial Analysis of Natural Resources***.

All programs of study must be endorsed by the advisor, then approved by the faculty. If not approved, the student may not continue in the INR option and must seek another major. **The program of study is to be completed by the end of the sophomore year (60 credits).** Transfer students with more than sixty credits must have a program of study approved as part of the transfer application. It is expected that transfer students will be active in the Program for at least two years (four semesters) after transferring into the INR option. Any course substitution request should be approved *prior to the end of the add/drop period* for the semester in which the student plans to enroll in the substitute course.

WILDLIFE AND FISHERIES BIOLOGY

The Wildlife and Fisheries Biology (WFB) program focuses on the biology, ecology, management, and conservation of animal populations that range from species common enough to be hunted/fished to species that are threatened and endangered. Management strategies include direct manipulation of populations or indirect manipulation through alteration of habitat and other landscape conditions. Courses emphasize applied ecology and techniques for managing populations and provide hands-on experience in labs and field trips. The four-year curriculum emphasizes interdisciplinary wildlife and fisheries science and provides a background for many wildlife, and fisheries-related positions. Students elect to concentrate in either Wildlife Biology or Fisheries Biology typically in their second year.

The WFB program prepares students to be applied scientists and leaders in the fields of management and conservation. Common career directions include working in 1) wildlife and fisheries management (state and federal agencies), 2) wildlife and fisheries conservation (nonprofit organizations), 3) wildlife and fisheries research (academic institutions and state and federal agencies), 4) game warden/law enforcement (state and federal government), 5) environmental consulting (private sector and nonprofits), and 6) animal care specialist (zoos and aquariums). Students are encouraged to speak with their academic advisor about career planning and development. Students are also encouraged to join wildlife-related SGA clubs on campus, including the Wildlife and Fisheries Society (an official student chapter of The Wildlife Society) and Audubon Society Student Chapter.

Successful Wildlife and Fisheries Biology graduates will demonstrate the following competencies:

- Biological Principles: Understand and apply life history and concepts of behavior, ecology, population dynamics, and conservation biology to issues surrounding the management and conservation of fish and wildlife.
- Scientific Method: Apply the scientific method – develop a hypothesis, use deduction to make predictions, observe and collect data (through appropriate sampling), analyze data, and use induction to infer, verify, or falsify the hypothesis.
- Communication: Effectively communicate scientific information for a variety of audiences and purposes.
- Policy/Legislation: Define key local, national, and international environmental legislation, policies, and agreements, their impact on the management and conservation of fish and wildlife, and which agency/organization is responsible for their development and implementation.
- Values/Beliefs: Evaluate the diversity of values, attitudes, and beliefs that affect the management and conservation of fish and wildlife within local, regional, and global contexts.

Program Director: Professor Jason Stockwell, 308H Aiken Ph: (802) 656-3009. Jason.Stockwell@uvm.edu

DEGREE REQUIREMENTS

All students who enroll in the Wildlife and Fisheries Biology curriculum must fulfill the following requirements for graduation:

1. Completion of the Rubenstein School's core curriculum.
2. Completion of the Rubenstein School's general education requirements.
3. Completion of a minimum of 120 credit hours of courses.
4. Completion of the Wildlife and Fisheries Biology professional core courses:

MATH 19, Fundamentals of Calculus I (3 cr.)
- or - MATH 21, Calculus I* (4 cr.)
NR 140, Applied Environmental Statistics * (4 cr.)
BIOL 1 and 2, Principles of Biology (8 cr.)

- or - BCOR 11 and 12, Exploring Biology (8 cr.)
CHEM 23, Outline of General Chemistry (4 cr.)
CHEM 26, Outline of Organic and Biochemistry (4 cr.)
- or - CHEM 42, Introduction to Organic Chemistry (4 cr.)
NR 143, Introduction to Geographic Information Systems (3 cr.)
WFB 101, Methods in Fisheries and Wildlife (4 cr.)
WFB 117, Scientific Writing and Interpretation (4 cr.)

WFB 161, Fisheries Biology & Techniques (4 cr.)
WFB 174, Principles of Wildlife Management (3 cr.)
WFB 224, Conservation Biology (4 cr.)

* Also fulfills general education requirement

5. Completion of option requirements in **Wildlife Biology** or **Fisheries Biology**.

Wildlife Biology option courses:

FOR 21, Dendrology (4 cr.)
WFB 130, Ornithology (3 cr.)
WFB 131, Field Ornithology** (2 cr.)
BIOL 217, Mammalogy (4 cr.)

Two courses (one must have a lab§) selected from:

PBIO 109, Plant Systematics§ (4 cr.)
WFB 271, Wetlands Wildlife Ecology§ (4 cr.)
WFB 141, Field Herpetology (4 cr.)
WFB 275, Wildlife Behavior (3 cr.)
WFB 283, Terrestrial Wildlife Ecology (4 cr.)
WFB 295, Advanced Special Topics
A relevant study abroad, internship, or research experience may potentially count towards this requirement with approval of the Program Director.
** Courses **OFFERED ONLY DURING SUMMER SESSION—*ADDITIONAL TUITION & FEES CHARGED.***

Fisheries Biology option courses:

WFB 261, Fisheries Management (3 cr.)
WFB 232, Ichthyology (3 cr.)
NR 250, Limnology (4 cr.)
NR 280, Stream Ecology (4 cr.)

Two courses selected from:

BIOL 264, Community Ecology (3 cr.)
BIOL 276 Behavioral Ecology (3 cr.)
GEOL 235 Geochemistry of Natural Waters (3 cr.)
NR 295 Advanced Special Topics (Phycology)
BIOL 199 Intro to Marine Science
A relevant study abroad, internship, or research experience may count towards this requirement with approval of the Program Director.

WILDLIFE BIOLOGY MINOR REQUIREMENTS

A minimum of 15 credit hours is required. Students must earn at least a 2.0 cumulative GPA in their Wildlife Biology minor courses to earn a minor in Wildlife Biology. Required courses:

WFB 130, Ornithology (3 cr.)

- or - WFB 232 Ichthyology (3 cr.) - or - WFB 141 Herpetology (4 cr.)
WFB 174, Principles of Wildlife Management (3 cr.)
WFB 074 Wildlife Conservation (3 cr.)

Choose additional courses to total at least 15 credits:

WFB 130, 131**, 141,195, 224, 232, 271, 275, 279, 283, 287, 295
** Courses **OFFERED ONLY DURING SUMMER SESSION—*ADDITIONAL TUITION & FEES CHARGED*.**

Pre / co-requisites: BIOL 1 and 2, Principles of Biology (8 cr.) - or - BCOR 11 and 12, Exploring Biology (8 cr.) and NR 103 Ecology, Ecosystems & Environ (3 credits) - or – BCOR 102 Ecology and Evolution (4 credits)

HONORS COLLEGE REQUIREMENTS

If students complete all four years of Honors College requirements (or three years for students accepted as sophomores) in addition to their school or college major requirements, they will graduate as an Honors College Scholar. The following requirements should be discussed with your academic advisor.

First Year and Sophomore Year

The Honors College experience begins with two three-credit special topics seminars; **HCOL 085** in the fall, and **HCOL 086** in the spring. Each semester of the second year, students take a three-credit honors seminar (**HCOL 185** and **HCOL 186**), choosing from an extensive slate of offerings created for Honors College students by schools and colleges throughout the university. Honors course offerings oftentimes fulfill university requirements (including FWIL, diversity, sustainability, quantitative reasoning. Sophomore honors courses can also sometimes be applied to fulfill requirements within the Rubenstein School. Students and their advisors should consult the Honors College list of course offerings to see if any offerings may fit school requirements.
SEE: https://www.uvm.edu/honorscollege/sophomore_curriculum. In the junior and senior year, the Honors College requirements are determined within the home school or college to focus more intensively on a field of study related to your major.

Junior Year

SEE: https://www.uvm.edu/honorscollege/junior/senior_curriculum
All HCOL students in Rubenstein take ENVS 201 (Research Methods, 3 credits), regardless of program or major. This course covers research methods, project design, and thesis planning, and culminates in the preparation of a literature review and thesis proposal. ENVS 201 is offered in the fall. **Students who are abroad in the junior year** may be able to take the course in fall of the senior year.

Rubenstein Honors students are also required to take NR 199 (Honors Seminar, 1 credit) during the spring of their junior year. Those spending spring semesters abroad during junior year may arrange to take NR 199 during their sophomore year or senior year. While Rubenstein students may choose a thesis advisor through these courses, students most frequently identify their advisors through specialized coursework in their program and major.

Students planning to study abroad during their junior year should consult with their advisors and the Rubenstein School (rsenr@uvm.edu) to plan ahead for completing required courses.

Senior Year

During the final year, students carry out their senior thesis or research project. A total of 6 credits will be earned for this work between fall and spring semester through registration in one of the following discipline areas:

- ENSC 299 Environmental Sciences Honors
- Thesis
- FOR 299 Forestry Honors
- NR 299 Natural Resources Honors
- PRT 299 Parks, Rec and Tourism Honors
- WFB 299 Wildlife & Fisheries Honors