

Sterling College

Working Hands. Working Minds.

Self-Designed Major Proposal: A Guide to the Process

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Timeline

First Year

Take foundations course requirements
Explore widely in various majors

Second Year

Consider different major options
Talk with your advisor about whether a self-designed major path makes sense for your interests and long-term goals

Third Year, 1st semester

1. Enroll in Self-Designed Major Workshop held throughout the semester (1 credit INT course)
2. Work with your advisor to determine your first and second readers with whom you will develop, revise, and polish your proposal
3. The first and second readers approve proposal for submission to the Academic Council for review
4. SDM proposals are due to the Degree Progress Committee by the 7th week of the semester
5. Upon approval, a formal letter is sent from the Degree Progress Committee Chair to the students' advisor and to the Registrar.
6. Revise your proposal as needed for final approval.

Third Year, 2nd semester

Propose Senior Year Research Project
Submit any significant changes to your self-designed major to the Degree Progress Committee for approval

Fourth Year

Complete Senior Year Research Project
Submit any significant changes to your self-designed major to the Degree Progress Committee for approval

Frequently Asked Questions

What is a self-designed major?

The self-designed major is a student-centered option for those who wish to explore an area outside of currently offered majors or to integrate coursework from existing major areas. Students work closely with faculty to develop an academic program that both fulfills a student's educational goals and is within the realm of faculty expertise.

Why design my own major?

Designing your own major ("self-designing") enables you to weave a major course of study that draws significantly on more than one area of study and/or that intentionally incorporates non-Sterling coursework. A major proposal that essentially replicates one of the offered majors with one or two changes will not be approved.

What is the Self-Design Major Workshop?

The Workshop is an introduction to the process of designing a major. You will be guided through the stages of developing a major proposal, be introduced to the proposal form, and begin working with a first and a second reader during the course of the workshop. The 1-credit workshop is required for students in the self-designed major process.

When do I have to submit a proposal?

Proposals are due to the Degree Progress Committee by the seventh week of the first semester of a student's third year. Students must discuss proposals with their First and Second Reader, and revise as necessary, before submission to the Chair of the Degree Progress Committee. The First and Second Reader must indicate approval on FAWeb.

What are the roles of the First and Second Reader?

The First Reader, typically a student's Academic Advisor, is the point-person throughout the student's Self-Designed Major process. They support and assist the student with drafting and developing the major proposal. The Second Reader provides feedback and additional expertise once there is a complete proposal draft.

In the event that one of your readers becomes unable to continue in their role, you should work with your advisor to select a replacement.

Does the title matter?

Yes. The title is one of the most important components of your major and will appear on a student's transcript. The title indicates the focus of your studies to people outside of Sterling, and many titles have very specific connotations.

Should I list every class I have taken?

No. Your self-designed major proposal should list only the courses that together create your major (your major course of study). You may not include Foundational classes in the proposal. Senior Year Research Projects *should* be included on the proposal.

Can courses I took at a different institution count toward my self-designed major?

Yes. Look at your transcript in order to include the course number and credits in your proposal. Indicate the institution where you took these courses.

What is the description?

The description articulates in a concise way the scope and focus of your major. A one-sentence statement of what the major is should introduce the description. The remainder concisely articulates the scope and themes of the major. Within the 200-words of the description is where you have a chance to explain the parameters of the major to the Degree Committee and to others outside Sterling. Some sample self-designed major descriptions are included in this packet.

Can my narrative be a simple chronological listing of all the courses in my major?

No. The purpose of the narrative is for you to discuss how your courses fit together. While this discussion might end up being chronological, it should be structured *thematically*, around components of your major. See the sample Self-Designed Major proposals in this packet for examples of how you might approach the narrative. Be sure to include your plans for a SYRP.

When will my Self-Designed Major proposal be approved?

The Committee will consider your proposal in a meeting shortly after the submission deadline, and you will be notified of either approval or a request for revision in the week thereafter.

What happens if I do not have an approved major before I begin my senior year?

You will not be able to register for classes in your senior year if you do not have an approved or declared major.

What happens if I make changes to my major after it has been approved?

Occasionally students need to change their self-designed major proposals after approval. For example, a course they intended to take failed to run or there are scheduling conflicts that prevent them from taking the courses planned. All changes to an approved major must

be discussed with your Academic Advisor and must be approved by your First and Second Readers (as indicated in FAWeb), and then submitted to the Chair of the Degree Committee with a brief rationale for the changes.

Who will have access to my Self-Designed Major proposal after it has been approved?

Upon approval, the titles, descriptions and course grid components of Self-Designed Major proposals will be made available to other students, in an anonymized fashion.

Sample Self-Designed Major Descriptions

DESCRIPTION of proposed major and rationale. The description articulates in a concise way the scope and focus of your major. A one-sentence statement of what the major is should introduce the description. The description is where you have a chance to explain the parameters of the major to the Academic Council, to your advisor, and to others outside Sterling (approximately 200 words).

Be sure both to DESCRIBE what this major is (and what it explores) and to DISCUSS why you are proposing this major.

Green Building & Design:

Green Building and Design (GBD) promotes healthier, more energy efficient building methods, which reduce negative environmental impacts, while slowing the depletion of natural resources. GBD majors will investigate the practical relationships between environmental science, forest and land management, and green building practices and design. Students will incorporate a broad understanding of human relationships, perceptions, and policies towards the environment, with a diversified understanding of concepts related to the interaction of physical, chemical, and biological processes within our environment. Students will study sustainable approaches to material acquisition, construction, site design, building design, and the generation of energy, as well as learning skills vital to historic preservation and the renovation and re-use of existing buildings and materials. In addition, students will gain experiential knowledge in building science fundamentals related to an interdisciplinary, whole-systems thinking, while developing fundamental technical skills in architecture and construction. Upon completion, graduates will be equipped with the knowledge to design and/or build structures that make positive contributions to both their communities, and to their environment.

Environmental Chemistry:

Environmental Chemistry studies the interactions among organisms, between organisms and their environment, and among environmental systems, where the nature of those interactions is chemical. Of particular interest are the chemical components of soil,

water, and air systems. Studying the chemistry of the environment involves understanding the reactions, movement, and transformation of chemicals, and quantifying the pools and fluxes that make up biogeochemical cycles. Environmental chemists use science to solve environmental problems around, for example, pollution, nutrient management, climate change, and water quality, and knowledge of the chemical basis of Earth systems helps allow for informed and directed stewardship.

Some Hints for Writing the Narrative

NARRATIVE. *This is a thematic discussion of your course of study, organized around the key components of your major. Consider how your proposed coursework connects together to support your major description. Address how your major includes both breadth and depth of study. Be sure to talk about your senior capstone project and its relevance to the major (500-750 words).*

Identify the key areas or components of your major, and dedicate a paragraph or section to discussing the courses that are part of each.

Focus on how the courses you discuss contribute to your major and your course of study, rather than simply describing them. Discuss what you learned in these courses and how this contributes to your understanding of the components of your major.

Connect your narrative to your description.

Include an introduction and a conclusion.

Be sure to discuss your Senior Project or SARP (at least your ideas for them).

Consider discussing your internship and/or your future plans, if relevant.

It is OK to use "I."

SAMPLE SELF-DESIGNED MAJOR PROPOSALS

These sample proposals are intended to give you a sense of what a successful proposal looks like. Keep in mind that there are many different approaches; these are merely three. They are not meant to be prescriptive or to suggest that there is a “right” way to complete the proposal.

YOUR NAME: _____

TITLE of proposed major: Vertebrate Natural History

INTENDED DATE OF GRADUATION: Spring 2019

DESCRIPTION of proposed major and rationale. The description articulates in a concise way the scope and focus of your major. A one-sentence statement of what the major is should introduce the description. The description is where you have a chance to explain the parameters of the major to the Academic Council, to your advisor, and to others outside Sterling (approximately 200 words).

The Vertebrate Natural History (VNH) major takes a multi-layered approach to understanding our natural surroundings by blending existing Sterling College naturalist coursework with an intensive wildlife track and sign curriculum. The major's specific focus in naturalist studies is the qualitative understanding of our environment and the study of the interactions between species on a spatial and temporal scale, with a strong focus on life history and phenology.

The VNH major will focus two major themes: vertebrate ecology and evolution, and practical field skills. Vertebrate ecology and evolution covers such topics as the autecology of vertebrates, the ecological underpinnings of vertebrate behavior, and vertebrate evolutionary history. Practical field skills include vertebrate habitat analysis, and vertebrate track and sign identification. Field skills such as tracking develop the skills to understand the ways that human lives and the lives of animals overlap, highlighting the tangible ways in which we use the same space over a given time. The VNH major couches this knowledge in a larger framework of naturalist and ecological understanding. This understanding ranges from the small-scale and specific, such as herbaceous plant identification, to the large-scale and general, such as geology and evolutionary history. Additionally, it focuses on different scopes of the human relationship to nature, from the personal to the societal/global.

Faculty and Other Resources for this Course of Study: a brief narrative (approximately 100 words) on how particular Sterling faculty expertise and interests, as well as off-campus resources (including people and organizations), support the major.

At Sterling College, there are three faculty members who will serve as primary resources for me. David Gilligan, Emily Brodsky, and Laura Spence are naturalists and scientists with ample experience in this bioregion, and will help me craft the specifics of the major, generating and refining important questions to ask, and helping me interpret the answers.

Dan Gardoqui and White Pine Programs staff in Cape Neddick, Maine, are also vital parts of my support network. Between our field weekends, they have been consistently available via email

and phone to answer questions I have about my tracking work, help me interpret what I find, and ask me questions that allow me to reframe my knowledge and go deeper.

Lastly, the plants, animals, and wild landscapes of New England, from Northern Maine down to Western Massachusetts, are invaluable teachers. The more time I spend with them, the more my curiosity and connection grow.

DOCUMENTATION of coursework comprising the major. Include the year and term, credits and distribution area for each course. Be sure to indicate courses you have completed, are currently enrolled in, and to be completed. This list should be organized according to discipline and/or chronologically, whichever is most appropriate. Be sure to include any transferred courses that apply to your major.

The number of self-designed major credits must total at least 30 credits. (This does not include core course requirements or SARP or SP.)

Be sure to also account for the following minimum requirements in your self-designed major courses:

- * 1 credit of Applied Sciences
- * 3 credits of Natural Sciences
- * 3 credits of Social Sciences
- * 3 credits of Humanities
- * 6 credits of 300-400 level coursework within the proposed major. (Please identify these courses with an asterisk.)

(Keep in mind that you must meet General Education distribution requirements, as described in the Sterling College Catalogue.)

MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Applied Science:		
INT380B Global Field Studies – Norway	Summer 2018	1 (5 total)
INT452 Wildlife Tracking White Pine *		4
		5 total AS
MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Natural Science:		

NS328 Vertebrate Natural History *	Spring 2018	4
NS314 Field Botany of Flowering Plants	Summer 2018	3
NS312 Field Ornithology	Summer 2018	3
NS235 Natural History of the North Woods	Fall 2018	4
NS260 Geology	Fall 2018	4
NS360 Winter Ecology	Spring 2019	4
NS402 Conservation Biology	Spring 2018	3
NS410 College Teaching Experience (Vertebrate Natural History TA) *	Spring 2019	2
NS352 Wildlife Tracking White Pine *	Spring 2018	4
NS351 Wildlife Tracking White Pine *	Fall 2018	4
		35 total NS
Social Science:		
PSYC101 General Psychology (Clark University)	Spring 2001	4
INT380B Global Field Studies – Norway	Summer 2018	2 (5 total)
		6 total SS
MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Humanities:		
ENG184 American Poetry (Clark University)	Spring 2002	4
IS351 Wildcrafted Baskets and Knives	Spring 2019	4
		8 total HM
Total Credits:		54

NARRATIVE. This is a thematic discussion of your course of study, organized around the key components of your major. Consider how your proposed coursework connects together to support your major description. Address how your major includes both breadth and depth of study. Be sure to talk about your senior capstone project and its relevance to the major (500-750 words).

The VNH major combines two central elements: the natural history and related ecology coursework offered by Sterling College, and the White Pine Tracking Apprenticeship (*WPTA*) at White Pine Programs, a nature skills school in Cape Neddick, Maine. Basic wildlife tracking is taught at Sterling College, but in order to gain more expert knowledge I have sought out specialized coursework taught by dedicated trackers. These two paths combine to provide a broad understanding of the natural world and will be a big leap forward in my quest to feel a part of my wild surroundings. We have evolved in deep connection with the plants, animals, and inanimate objects around us, and in order to fully realize our human selves we must learn to interact with our environment holistically and intimately – seeing track and sign from our animal neighbors and being able to accurately interpret them is a big part of that interaction.

The Sterling College curriculum composes a substantial part of the VNH major, and it provides a wide sampling of knowledge about varied topics. Most track and sign covered by the major is made by vertebrates, and *Vertebrate Natural History* provides a foundation in vertebrate evolution and gives background on the vertebrate phyla extant today, and extant in Vermont. *College Teaching Experience – Vertebrate Natural History Teaching Assistant* will provide an opportunity to cement that knowledge and gain experience transmitting it to other students. *Geology, Natural History of the North Woods*, and *Winter Ecology* explain ecosystem-wide environmental processes across different time scales. These processes are larger than the habits of individual animals, or of their populations, which is necessary context for understanding the behavior of animals at different trophic levels. *Field Botany of Flowering Plants* gives broader understanding and methods for identification of local flora, a knowledge set that is highly applicable to both natural history and tracking as individual disciplines – natural history because plant knowledge is a basic component of being a naturalist, and tracking because plant knowledge and identification is necessary for examining many different aspects of vertebrate behavior, such as what they eat, where they choose to bed, or in what plant communities they choose to hunt or browse. *Field Ornithology* offers life history and identification techniques of New England birds, relevant to both track and sign, and naturalist pursuits.

Because the major focuses on all vertebrate classes, special attention will be paid to those classes not thoroughly covered in existing Sterling College curricula. *Field Ornithology* and *Vertebrate Natural History* give broad and deep examination of birds and mammals, respectively, but lack serious examination of herptiles and fish. Therefore the major includes a research project on amphibians in *Field Ecology* and one on fish in *Winter Ecology*, as well as a focus on amphibians in *Wetlands Ecology*. Additionally, the Montpelier Bioblitz provided an opportunity for amphibian and fish field survey work with experienced naturalists and field biologists.

The track and sign component of the VNH major is a focused examination of a particular discipline that forms part of a larger connection to wild nature. Track and sign adds value to the

naturalist's knowledge by providing a deeper understanding of habitat-wide interactions between species, and the individual life histories and behaviors of specific species. Many different aspects of track and sign are covered, including gait and track pattern identification, vertebrate behavior, track aging, practical trailing skills, track measurement and journaling, primary observation and description best practices, and animal sign interpretation. Since they are all components of one discipline, this aspect of the major allows for deep and complete study, as opposed to the survey-style sampling provided by the natural history component.

The track and sign curriculum is three semesters of study in the *WPTA* under the tutelage of track and sign experts. By weaving homework assignments in with one weekend a month out in the field, the program gives me the opportunity to increase my observation, interpretation, and documentation skills on my own, and then have those skills checked and expanded on by my mentors in the *WPTA*. The field examinations offered periodically throughout the program also give me invaluable quantified feedback on my growth edges in the discipline.

The *Global Field Studies – Arctic Norway* course provides another part of the wider context for this major. On the trip, we will meet with glaciologists to study Norway's glaciers and talk about current climate change models, making up the Applied Science credit from this course for the major. This is relevant because all of the systemic, local, and regional naturalist and tracking skill contained in the major must be firmly seated in a current understanding of climate change dynamics. Climate change is the largest and most unpredictable threat facing our ecosystems, and therefore humans as well. Thus, seeking to understand the current climate change science must be part of any effort to study nature. Further, this course includes an introduction to the traditions of the Sami, a semi-nomadic herding people living in the arctic circle. This social science approach brings a wider perspective to the VNH major, and accounts for the two Social Science credits from the course that count towards the major.

A central theme of the VNH major is human interaction with nature, and three courses specifically focus on this from different angles. *General Psychology* helps to understand how our psychological selves operate, and assists in analysing our emotional connections to nature. *American Poetry* pulls environmental themes from the work of major American poets in order to illustrate the ways in which our natural environment provides inspiration for our modes of artistic expression. Lastly, *Conservation Biology* offers a concrete and data-driven perspective on industrial capitalism's current relationship with the environment.

Our role as humans in a wild landscape is not limited to observation and interpretation – to claim our place in the ecosystem, we must interact with our wild surroundings in a way that is regenerative and contributes directly to our survival. To this end, the VNH major includes material culture production that is bio-regionally appropriate to Central and Northern Vermont. This will be presented in an *independent study on wildcrafted baskets and knives*, because containers and cutting edges are some of the most universal and useful parts of human material culture. I will wildcraft and process basket materials, and then use them to make a pack basket. I will also harvest wood for a knife handle, get a blade made by a blacksmith friend of mine, set it in the handle, and make a sheath.

I will petition for the coursework-only option for a senior project. There are many courses at Sterling College that I am excited about and are important for the major, and while I have the opportunity to be a full-time college student I want to take advantage of as many of them as possible. Additionally, the *WPTA* curriculum is better than any senior project I could design myself. In that program, we track across all of New England, from Northern Maine down to Western Massachusetts, constituting a large amount of upper-level independent work. Although it is not classified as a senior project, the experience provides many of the same benefits.

YOUR NAME: _____

TITLE of proposed major: Place Based Education

INTENDED DATE OF GRADUATION: May 2019

DESCRIPTION of proposed major and rationale. The description articulates in a concise way the scope and focus of your major. A one-sentence statement of what the major is should introduce the description. The description is where you have a chance to explain the parameters of the major to the Academic Council, to your advisor, and to others outside Sterling (approximately 200 words).

Place Based Education is a type of methodology that utilizes local resources as a foundation to explore larger global issues. The four core values of Place Based Education are environmental stewardship, local heritage and culture, local landscapes, and service to the community. Within this major, students will learn to utilize the resources available in their local community; thereby breaking free of the traditional norms of classroom instruction and broadening their perspective of place. The Place Based Education major focuses on a broad spectrum of classes that embody one or more of the four core values. These classes will prepare major students to teach across the curriculum and to a diversity of learning styles. Graduates of the Place Based Education major will be able to find work in progressive schools and earn a higher education degree or teaching certificate to become a certified teacher.

Faculty and Other Resources for this Course of Study: a brief narrative (approximately 100 words) on how particular Sterling faculty expertise and interests, as well as off-campus resources (including people and organizations), support the major.

On the education side of the major, John Zaber, Anne Morse, and Allison Van Akkeren are all essential in their classes around curriculum design and outdoor education. From there, Craftsbury offers many opportunities for me to be involved with, including the Saplings daycare center in East Craftsbury. WonderArts is another great organization that I have already had the pleasure to work with through their community engagement days and their work with local children.

DOCUMENTATION of coursework comprising the major. Include the year and term, credits and distribution area for each course. Be sure to indicate courses you have completed, are currently enrolled in, and to be completed. This list should be organized according to discipline and/or chronologically, whichever is most appropriate. Be sure to include any transferred courses that apply to your major.

The number of self-designed major credits must total at least 30 credits. (This does not include core course requirements or SARP or SP.)

Be sure to also account for the following minimum requirements in your self-designed major courses:

- * 1 credit of Applied Sciences
- * 3 credits of Natural Sciences
- * 3 credits of Social Sciences
- * 3 credits of Humanities
- * 6 credits of 300-400 level coursework within the proposed major. (Please identify these courses with an asterisk.)

(Keep in mind that you must meet General Education distribution requirements, as described in the Sterling College Catalogue.)

MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Applied Science:		
AS110 Agricultural Techniques	Spring 2018	2
MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Natural Science:		
NS360 Winter Ecology*	Spring 2019	3
NS255 Environmental Education: Elementary School Outreach	Spring 2019	1
Social Science:		
APA4696 Group Tutorial: Seed Library	Spring 2017	2
SS317 Small Business Management	Spring 2018	4
SS330 Experiential Curriculum Design*	Fall 2018	3
SS250 Independent Study: Saplings Community Children's Center	Summer 2018	3
SS336 Native Farming and Food Traditions	Fall 2019	3
SS240 Education and Learning Theory	Spring 2019	3
SS255 Environmental Education: Elementary School Outreach	Spring 2019	2

MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDITS
Humanities:		
INT _{380B} Cultural and Ecological Resilience in Arctic Norway	Summer 2018	2
HM ₂₄₅ Stories and Storytelling	Fall 2018	3
Total Credits:		3 ¹

- **John Zaber and I have discussed the sequencing of Experiential Curriculum Design and Learning Theory**

NARRATIVE. This is a thematic discussion of your course of study, organized around the key components of your major. Consider how your proposed coursework connects together to support your major description. Address how your major includes both breadth and depth of study. Be sure to talk about your senior capstone project and its relevance to the major (500-750 words).

Under the four core values of Place Based Education, the proposed coursework will support the graduates ability to teach the specific area of focus. To begin with Environmental Stewardship, the classes that support this are Agricultural Techniques and Environmental Education. These classes focus on the natural world and how humans interact with it. Major students will learn to understand the local environmental community and learn how to incorporate these ideas into education classes later one. Agricultural Techniques takes a look specifically at agriculture and different methods of farming, taking care of various types of livestock and added value products. Environmental Education is the application of these themes; bringing the concerns to students and educating them about what solutions exist.

Under Local Heritage and Culture, the following classes are applicable: Native Farming and Food Traditions, Cultural and Ecological Resilience in Arctic Norway, and Stories and Storytelling. Each of these three classes look at the culture that first took root in an environment and how that culture has evolved. Major students apply this knowledge to the design of curriculum by using culture as a pathway and not simply a topic. Native Farming and Food Traditions will inform Place Based Education majors how the land was used as well as the food systems that entangle food production. These topics are vital to students learning about their own community and the food systems at play. Cultural and Ecological Resilience in Arctic Norway looked at resiliency through the lens of both ecology and the cultural landscape of northern Norway. Stories and Storytelling dived into the stories that create a culture. By learning how to read and develop personal culturally diverse stories, students gain the skills to look further and understand the values of cultures.

For learning about Local Landscapes the four classes that best fit are Winter Ecology, Experiential Curriculum Design, Education and Learning Theory, and Landscape, Food

and Culture. Experiential Curriculum Design and Education and Learning theory will further the student's teaching knowledge and prepare them to utilize the local landscape in their design of curriculum, as well as prepare them to teach to a diversity of learning styles. Through designing curriculum and through learning how people learn, the major student will be prepared to dive deeper into topics of interest. Winter Ecology will provide a solid basis for teaching local landscapes as well. In Vermont, much of the school year has a winter landscape, so it is practical to have Winter Ecology as a core class to prepare for teaching the natural world around them. Landscape, Food and Culture provides understanding of local food systems in tandem with local landscapes and is key to developing a set of tools to educate about place.

Finally, and not to be overlooked, is the contribution of students to the community they are a part of. Too often students are separate from their communities and only take resources instead of giving back. Teaching service to community can best be learned through interactions and actual work with a community. Small Business Management used the lens of a business to show how to contribute to a need in a community. Similar to this, the Seed Library group independent study focused on maintaining and promoting events around the Bennington Community Seed Library. And finally, perhaps the most important class I have taken was my summer independent study working at Saplins Community Daycare Center in East Craftsbury. While learning about teaching methods and childhood development in tandem with working, I learned an incredible amount about preschool education. The reflective nature of my assignments in addition to the readings and work made for a rich learning experience.

For my SYRP I plan on working with the students of Saplins and facilitating six full day trips to practice the design and implementation of a place based curriculum. The goals will be to gain further understanding of childhood development between the ages of 3 and 5 years old, to craft six engaging and place based lesson plans, and to provide a framework for these types of day trips to continue year round without me.

Self-Designed Major Proposal

YOUR NAME: _____

TITLE of proposed major: Life Science Education through Agriculture

INTENDED DATE OF GRADUATION (including completion of SARP): **Dec. 2013**

DESCRIPTION of proposed major and rationale. This section should identify the academic context of your proposed major as well as your specific goals and objectives and why you have chosen to pursue this particular major track at Sterling College (approximately 200 words).

This major integrates natural science and sustainable agriculture with a focus on the power of applied outdoor experience in agriculture to teach both specific and broad scientific concepts. This type of natural science education emphasizes the interrelationships in an agroecosystem, such as the interrelationship between soil biota and crop plant productivity, with the goal of encouraging ecological thinking and a more robust understanding of the sciences. It also engenders interest and values in young people regarding local food systems, ecological agriculture and the cycles that human beings all depend upon.

This major merges my passion for teaching natural science with my life's experience in sustainable, diversified agriculture. While teaching at Sprout Creek Farm I realized the efficacy of the agricultural medium to explore complex scientific and ecological concepts. Making science, which is essentially the study of life, connected to the act of producing food which sustains and protects life, can be transformative for students' environmental values and understanding of science.

Faculty and Other Resources for this Course of Study: a brief narrative (approximately 100 words) on how particular Sterling faculty expertise and interests, as well as off-campus resources, support the major.

Allison Van Akkeren is my advisor as well as the primary advisor on my SARP. Her extensive involvement in this field within the local community is invaluable in my exploration of these topics. Other faculty who have or will serve as resources include John Zaber, Jill Fineis, Charlotte Rosendahl, Louise Calderwood and other farm, garden and education faculty. In order to have as much classroom experience and teaching experience as possible I will be working with Cheryl Eckland, a middle school science teacher in Albany and Peter Merrit, the science teacher at the Craftsbury Academy. Another local connection will be my proposed SARP focus, working with the Craftsbury Academy to design and implement a sustainable agriculture program with curricula blending into the sciences. Education classes at Johnson State College as well as my proposed internship at

one of the many “Enviroschools” in NZ will round out the education component of my major.

DOCUMENTATION of coursework comprising the major, including year and term, credits and distribution area for each course. Be sure to indicate courses you have completed, are currently enrolled in, and to be completed. This list should be organized according to discipline and/or chronologically, whichever is most appropriate. Be sure to include any transferred courses that apply to your major.

The number of self-designed major credits must total at least 30 credits. (This does not include core course requirements or SARP or SP.)

Be sure to also account for the following minimum requirements in your self-designed major courses:

- * 1 credit of Applied Sciences
- * 3 credits of Natural Sciences
- * 3 credits of Social Sciences
- * 3 credits of Humanities
- * 6 credits of 300-400 level coursework within the proposed major, including a senior seminar. (Please identify these courses with an asterisk.)

(Keep in mind that you must meet General Education distribution requirements, as described in the Sterling College Catalogue.)

MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDIT S
Applied Science:		
AS100 Agricultural Techniques I	Fall 2010	2
AS204 Livestock Systems Management	Summer, 2011	2
AS168 Intro to Draft Horse Management	Summer, 2011	2
AS219 Feed and Forage	Summer 2011	1
AS310 Permaculture Design	Fall 2011	4
MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDIT S
Natural Science:		
NS135 Integrated Chemistry and Physics	Spring 2011	3

NS200 Watershed Ecosystem Analysis	Summer 2011	3
NS245 Soil Science and Lab	Fall 2011	4
NS271 Topics in NS: Soil Fertility and Water Quality	Fall 2011	2
NS381A ST in NS: Agroecology	Fall 2011	3
NS254 Biology and Lab	Spring 2012	4
NS346 Plant Science and Lab	Spring 2012	4
NS410a College Teaching Experience: Soil Science and Lab	Fall 2012	2
NS410b College Teaching Experience: Biology and Lab	Spring 2013	2
NS205 Environmental Science (AP Credits)	--	3
Independent Study: Scientific Research Methods	Fall 2014	2
Social Science:		
SS135A&B Whole Farm Thinking	Summer 2011	2
SS337 US Agricultural Policy	Fall 2011	3
SS256 Environmental Education: Elementary School Outreach	Spring 2011	3
SS410 College Teaching Experience: Environmental Education	Spring 2012	2
EDU2360 Perspectives on Learning (Johnson State College)	Fall 2012	3
SS240 Education and Learning Theory	Spring 2011	3
SS233 Independent Study: Small Group Dynamics and Classroom Observation	Fall 2012	2
Independent Study: Secondary School Education Methods	Fall 2012	1
SS330 Experiential Curriculum Design	Fall 2012	3
SS325 Education and Culture	Spring 2013	3
MAJOR COURSE NUMBER/TITLE	SEMESTER/YEAR	CREDIT S
Humanities:		

HM275 Black River Sketches: Landscape Art	Summer 2011	2
HM272B Topics in HM: Pottery	Spring 2012	2
Total Credits:		72

NARRATIVE. This is a thematic discussion of your course of study. In this narrative, consider how your proposed coursework connects together to support your major description. Address how your major includes both breadth and depth of study. Be sure to talk about your senior capstone project and its relevance to the major (500-750 words).

The three core themes that I have followed through my career at Sterling are: natural science, sustainable agricultural techniques and education. Although separate disciplines, all three are connected; each adds more context and meaning to the other. Natural science is one of my greatest intellectual passions and is the foundation of my course work as 30 credits of the 70 in my major have been dedicated to it. In of themselves, the natural science courses I have taken at Sterling can be seen as layers upon a strong foundation of Biology, Plant Science and Integrated Physics and Chemistry. Specifically, these three courses provide a basis for understanding the key inner-workings of entirety of life on Earth. From there, larger systems, such as those explored in Soil Science, Agroecology and Soil Fertility and Water Quality can be understood in a deeper more meaningful way. Watershed Ecosystem Analysis connects all of these systems through the almost artful movement of water in the landscape.

Using the work and studies I have done in the agricultural field as a lens to study natural science, my understanding of both disciplines is strengthened. The integration of coursework in agricultural techniques and natural sciences epitomizes the type of ecological systems thinking that Sterling encourages. While it may appear that I have not taken many applied agricultural classes, many of the natural science classes I have taken are agriculturally focused. Soil Science, Agroecology, Plant Science and Soil Fertility and Water Quality exemplify those classes that bridge the discipline divide by adding context to the sciences they teach. These credits in agriculture and natural science also complement my studies in education by informing its content and place in the greater biosphere. Also these themes directly overlap through my work at Sterling assistant teaching Biology and Soil Science as well as my engagement in Environmental Education as a student and T.A.

While the humanities have played a relatively minor role in my coursework at Sterling, they play an integral role in my other areas of study. The experiences I gained in pottery could easily be woven into a unit I might teach on soil science; being able to work with clay and form something useful and beautiful deepens the connection of human life to the soil. In Black River Sketches, we found ways to observe and express the natural world through the medium of water color; this would also be an excellent component of a class I might teach. Firstly, the fact that the medium is water based forces the understanding of the

dynamics of water on a page, but also in the landscape. Also, the close observation of general patterns in nature as well as the details which comprise it allow for a more whole understanding of the natural environment.

From PTA meetings I would attend in elementary school to speaking to the board of education about the importance of school gardening programs in high school, education has been a critical part of my life's path. My experience at Sterling further clarified my calling as an educator. The educational theme of my major perhaps demonstrates the greatest depth and breadth of my studies, if not simply through the amount of time I have spent engaged in this field. The education classes which most applied to my major were those that explored the educational system, teaching, and curriculum design. While there are many other classes in outdoor education, the subject matter was too far away from the setting and circumstances I envision myself educating in. Therefore, I decided that the best way I could use my time at Sterling was to design independent studies and projects that completely fit with my vision and greatest interests. For example, in the fall intensive in 2012, I plan on deeply engaging in school standards by looking at policy, analyzing curricula and designing a science-based agriculture class with those standards as a guide. Moving away from such a narrow view, I have also had the experience of just being able to make mistakes, make jokes and make friends with the elementary school students just down the hill. My work program job as the Farm-to-School Coordinator next fall and spring will also ensure that I have as much productive time as possible in the classroom and engaged in the local school system.

Through my incessant questioning of local farm-to-school advocates and environmental educators it is clear that there is a major gap in the influence of those programs in high schools. In fact, the vast majority of environmental education and farm-to-school occurs only in grades 7 and below. Thus, the first option for my SARP (which hinges on a grant and is still in development) will be working with the Craftsbury Academy to develop and implement an agriculture program, including such efforts as: evaluating the program's effectiveness at teaching scientific, social and environmental concepts, building infrastructure, and writing curriculum. This would be a fantastic opportunity to engage directly in what I want to do later in life. If the Academy does not receive the grant, I will most likely be working with the new science teacher developing curriculum, implementing it and creating infrastructure for classes to be taught in an agricultural context outdoors etc. My proposed internship at an Enviroschool in NZ would add a layer of depth and experience to this major. Enviroschools employ what is called the "Whole-School Approach to Sustainability", which has been proven to increase environmental awareness, critical thinking skills and other qualities in students. Working in an Enviroschool would be an excellent opportunity for me to comparatively assess the New Zealand style of environmental educating with our own. Also, I would gain an array of educational tools, experience in the classroom and a new perspective on educational methods.

Teaching science in an engaging way through agricultural examples and hands-on experience can open the door to ecological thinking for students in almost any situation. This is due to two major benefits of this type of education; the first is that it provides for a basic need. Without basic needs met, children will simply not be able to reach their potentials in school. Second, it gives a useful construct to physically handle and experiment

with scientific concepts. When I was in New Zealand, I met Roy Fraser, director of the Buddhist Golden Light Sutra Center in Mongolia, who expressed the need for impoverished students in Mongolia's capital city to have science education in an applied agricultural context. He, amongst many others see this as a valuable opportunity to make a difference in the lives and minds of children. I cannot stress enough how influential this type of education can be for children with so little and also for children with so much. For five years I taught organic gardening and farming techniques as well as social/food justice to the poorest children in Poughkeepsie, who didn't know where their next meal was coming from alongside some of the wealthiest children in the country, living in apartments on the most expensive streets in New York City. Through that experience, slowly I began to see that agriculture is the great equalizer of humanity. Everyone, in no matter what economic situation, can benefit and often gain inner meaning from understanding the systems that sustain us as a species and our fundamental place in those systems.

This world is in ecological transition in many ways. If I can help students become connected to the environment both emotionally and through scientific understanding, I believe this transition may be more compassionate and informed.