

MEMO

To: The UVM Faculty Senate
From: Curricular Affairs Committee of the Faculty Senate, Laura Almstead, Chair
Date: March 3, 2017
Re: Approval of a proposal for a new Certificate of Graduate Study in Agroecology submitted by the College of Agriculture and Life Sciences

At its meeting on March 2, 2017, the Curricular Affairs Committee unanimously approved the action recommended in the following memo.

The Curricular Affairs Committee unanimously approved a proposal for a new Certificate of Graduate Study in Agroecology submitted by the College of Agriculture and Life Sciences. The proposal was also reviewed and approved by the Graduate College Executive Committee in January. The certificate program will be housed in the Department of Plant and Soil Science, tenure home of the certificate's Faculty Director, Ernesto Méndez and his Agroecology and Rural Livelihoods Group (ALRG); and current locus of much of the work in agroecology occurring at UVM. If approved by the Faculty Senate and Board of Trustees, the program will be offered beginning Fall 2017.

Program Description, Rationale, and Evidence for Demand

The newly proposed Certificate of Graduate Study in Agroecology (CGSA) is a low-residency program in the emerging field of Agroecology – a transdisciplinary, participatory and action-oriented approach that seeks viable and sustainable ways to improve our agrifood systems by confronting the social, ecological and production problems and issues they face. The curriculum is designed to encourage students to integrate the natural and social sciences with perspectives and experiences of farmers and other practitioners, and to explore evidence-based, practical solutions to contemporary issues from production to consumption.

The initial target audiences are UVM graduate students from Food Systems, Community Development and Applied Economics, the Rubenstein School of Environment and Natural Resources, and Plant and Soil Science seeking an agroecology complement to their current studies, as well as US-based and international graduate students seeking a comprehensive introduction to the field. The new certificate is also likely to attract food systems, agriculture, and rural development professionals wishing to implement an agroecological approach, and policymakers who want to deepen their understanding of this emerging field.

Justification and Evidence for Demand

UVM is perhaps the only university where agroecology, ecological economics, and agrifood system initiatives are thriving and have the potential for a deeper integration. This positions UVM as a leader in this important and timely transdisciplinary confluence. Moreover, land-grant universities, as emphasized in a recent statement by Union of Concerned Scientists, are an appropriate source of much needed public support for agroecology, which is less likely to be supported by the private sector since these farming methods often reduce requirements for purchased inputs.

Evidence of demand includes a reported 50% increase in student inquiries regarding graduate-level work in agroecology at UVM. These potential students are both domestic and international, many with prior research or professional experience in relevant areas. Participants of the 16th Annual International Agroecology Shortcourse in Santa Cruz, California (July, 2016) greeted the idea of a CGSA at UVM with enthusiasm; and voiced strong support for largely online delivery that would not disrupt their own ongoing professional duties. A survey of current UVM graduate students (N = 49) also indicated strong support, with 61% agreeing that a low residency certificate would benefit them academically, and 47% stating an interest in taking online courses in agroecology to complement their current coursework.

Relationship to Existing Programs

The proposed CGSA will be a curricular complement to the Rubenstein School Environmental and Natural Resources (RSENR). Since agroecology provides a framework for linking food production and distribution models with issues related to environmental health and sustainability, graduate students from RSENR working in food and/or agricultural related areas will be eligible, and encouraged, to participate. The proposers also expect to supplement the Food Systems Graduate Program, with the program's primary coursework centered upon participatory action research and transdisciplinary collaboration appealing to students with an interest in the production side of agrifood systems who are looking to apply their food system knowledge via an action oriented approach.

The proposers note that the CGSA has similar pedagogy (low-residency) to and possible content overlap with the low-residency Master of Science in Natural Resources concentration in Leadership for Sustainability (MSLS). The MSLS course NR312: Power, Privilege, and Catalyzing Change shares an exploration of power and food sovereignty, though with differing emphasis (catalyzing change vs. addressing agricultural issues). The proposers see this not as a conflict, but a complement; and the directors of the MSLS are interested in using the proposed agroecology content as part of their elective and/or required coursework. In the future, the CGSA will also incorporate electives from other associated low-residency programs. For example, the proposers have expressed their openness to explore future possibilities for students in this CGSA program taking related courses in the MSLS and FS programs, and supporting the enrollment of students in the MSLS and FS programs in the agroecology courses.

Curriculum

The fifteen-credit curriculum is a sequence of three required core courses and two electives. Five new courses were specifically developed to fit the low-residency model of the certificate program; all five courses have been approved to the level of the registrar's office. At present, there are only two possible elective course options. The proposers fully recognize the importance of adding to the elective options, and have expressed a commitment to doing so. As noted previously, greater variety is anticipated in the near future from collaborating units and departments. New courses are also likely to be developed; topics to be based on student interests and needs. In addition, certain graduate-level seminar courses may be offered as "hot topic" courses.

REQUIRED		CREDITS	PRE-REQUISITES	DELIVERY
PS 311	Introduction to Agroecology. Establishes baseline knowledge of agroecology; fosters collegial rapport with fellow students, instructors and advisors.	3	Graduate standing or instructor permission	Residential
PS 312	The Ecological Foundations of Agroecology Provides tools necessary to evaluate agrifood topics through ecological lens.	3	One semester biological science at the 100-level or Instructor permission.	Online
PS 315	Agroecology Capstone/synthesis project Synthesis exercise/application of agroecological knowledge involving "communication piece exhibiting their understanding of agroecological concepts."	3	PSS 311, PSS 312, PSS 313, PSS 314	Online
ELECTIVES				
PS 313	Participatory Action Research (PAR) and transdisciplinary approaches to Agroecology Provides baseline knowledge in the various fields of agroecology.	3	PSS 311	Online
PS 314	Agroecology, Food Sovereignty and Social Movements Provides baseline knowledge in the various fields of agroecology.	3	Graduate Standing	Online

Admission Requirements and Process

Students must hold an accredited bachelor's degree and meet other Graduate College requirements. International students will need TOEFL scores, and proper documentation is required for the residential course. The proposers are also working to develop an online course tailored to the needs of international students who cannot obtain the necessary documentation, possibly involving local experiential learning in their home country. The admissions committee will be comprised of affiliated faculty, with the Faculty Director serving as the final judge. Retention and graduation will be encouraged by advisory support from Dr. Méndez and the Educational Coordinator.

Anticipated Enrollment and Impact on Current Programs

Eventual enrollment, after initial fall cohort of at least 8, is anticipated to be 16 to 32 per year, each cohort contributing a minimum of 8 and a maximum of 18 individuals. The proposers expect some 85 students to receive a full certificate in the first five years.

The low-residency program expands the educational reach of CALS, and broadens its impact locally, regionally and abroad, while advancing the college's standing as a leader in innovative pedagogy. The proposed certificate is intended to contribute to the attractiveness of existing programs as a stackable credential where enrolled students can take CGSA courses as electives associated with their own degree program. UVM students not formally in the CGSA may still enroll in selected courses with the approval of program coordinator and course instructor (subject to space limitations). Thus, the CGSA is not expected to affect participation in other UVM graduate programs, but rather provide an option for additional credentials that would support their graduate work.

Advising

Because the CGSA may be taken as either a stand-alone degree or as part of a larger academic program, advisory duties may vary considerably among students. Graduate students pursuing a MS or PhD will continue to receive mentorship from their primary academic advisor housed within their home department, and will follow any committee procedures detailed within the college's student handbook. Any advisory duties pertaining directly to the CGSA will be handled by the CGSA Faculty Director (Dr. Méndez) and/or coordinators unless instructed otherwise by the student's home department. Academic mentorship for certificate-only students will be primarily the role of the Faculty Director and Educational Coordinator.

Assessment Plan

The CGSA will be evaluated via the typical University Academic Program Review (APR). An initial program assessment by program faculty and the Graduate College will take place following the first two cohorts (i.e. the first year). An external review will be scheduled with each APR. Criteria for evaluation of program success will include the number of participating students, course evaluations, and feedback from participating faculty, and non-profit organizations associated with the program (e.g. employers of participating students).

Staffing Plan, Resource Requirements, and Budget

Dr. Méndez will be Faculty Director of the program, overseeing development, evaluation and execution of curriculum, including all scheduling, course coordination, recruitment of necessary faculty; he will also teach one course per year on-load (0.1 FTE), and take a lead role in advising incoming certificate students as needed.

A Program Coordinator (0.25 FTE), reporting directly to Dr. Méndez, will provide administrative, technical and instructional support for all students and faculty participating in the program (including yearly evaluations through faculty, student and staff evaluation methods); the Program Coordinator will also oversee all budgeting and course scheduling.

An Educational Coordinator (0.75 FTE) will track the student progress and provide academic support throughout the program. They will also direct the development of course curricula and outcomes with participating faculty and staff, providing necessary training for adapting face-to-face coursework into an online format, including the Teaching Effectively Online courses and any necessary collaborations with Continuing and Distance Education (CDE) instructional developers.

The direct personnel expenses for the three positions above is expected to range between \$88,770 and \$93,916 per year through 2022. Members of the Agroecology and Rural Livelihoods Group have held preliminary conversations with representatives from the UVM Foundation and several local companies to explore the possibility of seed funds and/or scholarship support for the program. In the event that these funds are not obtained before the start of the program, CALS has agreed to provide the necessary startup costs for the first year of the program. Staff support for marketing and website development provided by CDE.

Evidence of Support

In developing the new CGSA, the proposers communicated with a wide variety of units including the Graduate Program in Food Systems, the Food Systems Initiative, the Gund Institute for Ecological Economics, the Rubenstein School of Environment and Natural Resources (RSENr), the College of Engineering and Mathematical Sciences (CEMS), and the Center for Sustainable Agriculture (CSA). All report enthusiasm for the new program, as shown by numerous letters of support (see below).

Letters of support were provided by the CALS Curriculum Committee, the Graduate College Executive Committee; Deans Vogelmann (CALS), Forehand (Graduate College), Matthews (RSENr), Lantagne (UVM Extension and Director of UVM Food Systems Initiative), and Belliveau (CDE); and by Professors Trubek (Director, Graduate Program in Food Systems), Neher (Chair, PSS), Ricketts (Director, Gund Institute for Ecological Economics), and Berlin (Director, UVM Center for Sustainable Agriculture).

Summary

The newly proposed Certificate of Graduate Study in Agroecology capitalizes on faculty expertise and initiatives unique to UVM in an area where there is a societal need and student demand. It will place UVM in a position to a leader in the field of agroecology, and will complement and support current graduate programs. The overwhelming support voiced in the letters received from individuals across the University further demonstrates the recognition of this high-quality program as being a valuable addition to UVM's curricular portfolio.