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Academic Learning Compact : M. S. Environmental Science and Policy [Effective 2012]

University of South Florida St. Petersburg.

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Academic Learning Compacts
M.S. Environmental Science & Policy

2012-2013
Due: May, 2013

Academic Program-linked College Mission-based Goals/Objectives

In the matrix on the following page, please place an X in the grid that identifies the degree program goals and objectives that align with the institutional mission-based goals/objectives and the College based goals/objectives. These goals/objectives need to be documented in your ALC data.

UNIVERSITY OF SOUTH FLORIDA ST. PETERSBURG GOALS & OBJECTIVES		COLLEGE OF ARTS & SCIENCES GOALS & OBJECTIVES		GRADUATE PROGRAMS										
				Anthropology	Biology	Criminology	Literature & Writing	Environmental Science (MS)	Graphic Design	Political Science	Psychology	History	I.S.S.	Journalism (BA)
Academic Performance	Use sustained evidence of SLO's and student achievement for continuous improvement	Initiate and expand graduate programs and develop formal academic ties to other graduate programs within the USF system					X							
	Offer certificate, undergraduate and graduate programs that meet regional needs						X							
	Implement and support information and instructional technologies that facilitate effective pedagogies						X							
	Enhance programs that specifically support academic excellence						X							
	Increase student awareness of participating in a global society						X							
Student Engagement	Create a freshman experience that enables students to thrive and move successfully through to graduation	Our students will have critical skills and a broad outlook that will make them engaged and productive citizens Incorporate civic engagement, service learning, and experiential learning into their classes, when appropriate												
	Foster institutional pride and strengthen connections within the campus community													
	Enhance opportunities for increased student involvement in curricular and co-curricular activities													
Diversity & Inclusion	Insure an inclusive community where differences are respected and valued	Cultivate a vigorous liberal arts culture by recruiting talented diverse students, maintaining small class sizes, and mentoring those students we have. Encourage free discussion, foster critical thinking, demand that our students write, and work across disciplines												
	Attract and retain a diverse student population													
	Increase the diversity of faculty and staff													
& Creativity	Create a vibrant culture of faculty research and creative scholarship	Make significant and meaningful												

one is at FWRI, and another is a southwest Florida regional lead scientist in Modica & Associates and also president of the Southwest Chapter of the Florida Association of Environmental Professionals.

In fall 2012, 4 students took the written comprehensive exam (comps). Four passed both the environmental science and policy portions. One passed the statistics portion, one had a conditional pass (complete the condition on the same semester) and two failed. In spring 2013, one student took all three sections of the written comps: passed the environmental policy portion, got conditional pass on the environmental science portion (has not completed the conditions) and failed the statistics portion. Another student re-tried the statistics portion only and passed.

Nine MS students were admitted in fall 2012 and spring 2013,
http://www.usfsp.edu/coas/espg/gradprogram/c_students.htm.

Noteworthy accomplishments

The ultimate measure of the quality of our SLO with the MS (thesis option) – is to be able to publish the thesis as a peer reviewed journal article. Our recent graduates successfully published their thesis work in peer reviewed journal (students names are denoted with *). The ESP faculty has been very busy working with students this past year in many ways. Here are some results of that dedication in this year alone.

Smoak, J.M., **Breithaupt, J.***, Smith III, T.J. and C.J. Sanders; 2013. Sediment accretion and organic carbon burial relative to sea-level rise and storm events in two mangrove forest in Everglades National Park, Catena, 104, 58-66.

Baumstark, R*., Dixon B., Carlson P., Palandro, D., and K. Kolasa. 2013 Alternative spatially enhanced integrative techniques for mapping seagrass in Florida's marine ecosystem. International Journal of Remote Sensing. 34(4), 1248–1264.

Breithaupt, J.L*., Smoak, J.M., Smith, T.J., Sanders, C.J. and Hoare, A., 2012 Mangrove organic carbon burial rates: strengthening the global budget, Global Biogeochemical Cycles, 26, GB3011.

Tokotch, B.*, Meindl, C., Hoare, A. and Jepson, J. 2012 Stakeholder perceptions of the Northern Gulf of Mexico Grouper and Tilefish Individual Fishing Quota Program, Journal of Marine Policy, 36, 34–41.

Three ESP students represented the graduate program in the Statewide Graduate Student Research Symposium that was hosted by USF Tampa's Graduate School. One of these students is graduating this summer and another will do so in the fall. The other student is a 2013 spring admitted student. The following are their research presentations. (* ESP graduate student)

Drakopoulos, L.A.* 2013 Consuming Places: A Bioregional Comparison of Voluntary Simplicity Lifestyles, Florida Statewide Graduate Student Research Symposium, USF Tampa, Florida

Beckhorn, R.M.*, Smoak, J.M., Poore, R.Z., Hoare, A. 2013 700-year record of sea-surface temperature variability derived from Mg/Ca in planktonic foraminifera from the northern Gulf of Mexico, Florida Statewide Graduate Student Research Symposium, USF Tampa, Florida

Schmidt, L.*, Martinez-Colon, M. and Alegria, H. 2013 Determining temporal levels of POPs in sediments and bioaccumulation in mangroves, Florida Statewide Graduate Student Research Symposium, USF Tampa, Florida

In addition, below are other ESP students' presentations made at various conferences this year. (* ESP graduate student)

Price, R.*, Whitmore, T.J., Riedinger-Whitmore, M.A., Kenndy, W.F., Hoare, A., Flocks, J.G. 2012 Historical Analysis of Polycyclic Aromatic hydrocarbon, Pesticide, and Metal Contamination in Clam Bayou, Florida, 9th INTECOL International Wetlands Conference, Orlando, Florida

Beckhorn, R.M.*, Smoak, J.M., Poore, R.Z., Hoare, A. 2012 400 year long record of mean annual and winter sea-surface temperatures derived from Mg/Ca in planktonic foraminifera from the Fisk Basin in the northern Gulf of Mexico, Graduate Expo, USFSP

Breithaupt, J. L.*, Smoak, J.M., Smith III, T.J., Sanders, C.J., Hoare, A. 2012. Strengthening the Century-Scale Global Estimate of Mangrove Organic Carbon Burial Rates. 9th INTECOL International Wetlands Conference, Orlando, Florida

Breithaupt, J.L.*, Smoak, J.M., Smith III, T.J., and C.J. Sanders, 2012 Organic Carbon Burial Rates in Southwestern Everglades Mangrove Sediments. INTECOL International Wetlands Conference, Orlando, Florida

Breithaupt, J.L.*, Smoak, J.M., Smith III, T.J., and C.J. Sanders, 2012 Blue carbon in the Everglades Watershed: a preliminary measurement of burial rates in mangrove sediments. All Scientists Meeting, Florida Coastal Everglades Long Term Ecological Research, Miami

Breithaupt, J.L.*, Smoak, J.M., Smith III, T.J., and C.J. Sanders, 2012 Blue carbon in the Everglades Watershed: a preliminary measurement of century-scale burial rates in mangrove sediments. Sarasota Bay Watershed Symposium, Sarasota, Florida

Faculty Grant Awards and Distinction

Joseph M. “Donny” Smoak, Ph.D., associate professor of environmental science, policy and geography at USF St. Petersburg, has been awarded a National Science Foundation grant for research in Everglades National Park. The \$168,582 grant is part of the National Science Foundation’s Water Sustainability and Climate program.

Joseph M. “Donny” Smoak, Ph.D., associate professor of environmental science, policy and geography at USF St. Petersburg, is among a handful of U.S. scientists invited to present at the International Workshop on Global Change and Aquatic Ecosystems, May 27-29, 2013.

Barnali Dixon, Ph.D., associate professor of environmental science, policy and geography at USF St. Petersburg, recently returned from a national conference organized by the National Institutes of Health about the impact of nitrogen on human health. invited to the conference, “Impacts of Excess Nitrogen in the Environment on Human Health,” held Nov. 13 and 14 at the NIH campus in Bethesda, Md.

Dr. Henry Alegria, Ph.D, associate professor of environmental science, policy and geography at USF St. Petersburg, has been invited to visit Turkey as a visiting fellow in the upcoming academic year.

Dr. Henry Alegria, Ph.D, associate professor of environmental science, policy and geography at USF St. Petersburg, in consideration of his expertise in the management of chemicals, was invited to form part of an international group advising China on developing a sound strategy on management of its chemicals.

The following are the low points of the graduate program from summer 2012 to spring 2013.

The MA degree has not attracted students contrary to what was anticipated, despite considerable efforts on the part of the department to recruit via outreach events such as Information Sessions, presentations to our graduating seniors, and outreach to neighboring schools. There were no MA students admitted in fall 2012 or spring 2013. One of the students in the MS program (who was not successful in MS program and started the program in 2009) will transfer to the MA program in fall 2013.

One student withdrew due to poor academic performance in spring 2013. Two students became inactive in spring 2013 for not signing up for courses in three consecutive semesters.

A continuing problem for the MS program is its inability to compete with similar programs across the nation in terms of providing adequate financial support to its students. Similar programs offer both teaching assistantship along with tuition waivers. This program has been able to only offer teaching assistantship without tuition waivers. This has caused two major problems: it has been unable to attract highly academically competitive students and has created strictly part-time students. For example four MS students were accepted for fall 2013; the top two applicants have refused their acceptance. One wrote that the program she accepted was the one that offered full scholarship, even though she wanted to do our program instead. Having only part-time students will continue to be a major obstacle in meeting the minimum threshold of forty graduates set by the USF System Board of Trustees. The program desperately needs more financial support to support students so they pursue the graduate degree full-time. At present, the program's only form of support is a TA-ship without tuition waiver. The stipend for the TA-ship is enough for students to pay tuition, fees and books, which means they have to work full time to pay for rent, food, etc. Effectively this makes them part time students since they can only devote a few hours weekly to their research. The department will greatly benefit from having a budget to offer tuition waivers to full-time graduate students and also to provide some financial support to allow students to travel to professional meetings. Data kept by the Chair over the past two years indicate that approximately 15 students who have made serious inquiries about pursuing the MS degree have ultimately decided to pursue their graduate studies elsewhere because of the lack of tuition waiver. This does not include others who have simply inquired and upon learning of the lack of tuition waiver do not follow up.

Another major low is that the program continues to lose the numbers of students being accepted by the Department of Biological Sciences to teach their labs. Traditionally (when Biological Sciences and ESPG were under the same ESPG program) ESP grad students always offered Bio I and Bio II labs. Since becoming a separate dept – this has become a problem. Although we understand that ESP students may not be able to teach bio classes beyond Bio I and Bio II level (and Bio dept will require higher level bio classes) – we still should be able to work out ways to ensure ESP students are funded before students from Tampa or adjuncts

are hired. For fall 2013, none of the four new students were chosen to teach labs and only two of the present students will be given biology labs to teach. Even though the biology department has its reasons, it would be beneficial for USFSP to promote its own programs. There should be mechanisms in place to help ESP students obtain these labs over, for example, marine science students. Of the incoming students (6 in total) starting with sp 2013, 3 students (i.e. 50% of the new students) have biology as their undergrad degrees. None of these students were given TA-ship in spite of efforts on ESP grad coordinator's part. This practice can't be good for recruitment for ESP, nor is it good investment practice for USFSP. Marine science students are at a major advantage, since they have a Ph.D. program and in addition they receive tuition waiver. But USFSP should fund USFSP students (viz ESP) at the introductory Bio level. TA-ship is the only way we fund our students – we offer chemistry and environmental science labs too. Most of our students come with stronger backgrounds in biology than any other field in environmental science so there is pedagogically no reason not to hire them as Bio TAs at the introductory level. It is a disservice to our students when they are not hired as TAs for intro Bio classes. It hardly makes sense to take USFSP resources and fund Marine Science or other Tampa Programs when ESP grad students are not funded. It should be noted that few ESP students actually have a strong chemistry background (3 out of 48 total students that have graduated or are presently in the program since its inception had a degree in Chem). Yet the chemists recognize that since chemistry labs are the largest number of science labs ESP offers, it is critical to use TA-ships in chemistry labs in order to support our grad students. Therefore, the chemistry program developed two years ago a strong program of training to ensure incoming grad students are trained to be chemistry TAs. This involves a two-week program during which grad students scheduled to be chemistry TAs have to run every experiment that they will supervise that year to note any issues that students might have during the year. In addition, students receive training on pedagogy and safety from the chemistry faculty. Such a program should allow ESP grad students to supervise labs in Bio I and II labs. When and if this approach of training is adopted and followed through by CAS and Bio Dept, ESP graduate program, CAS and USFSP will be able to maximize limited resources in supporting ESP grad students and graduate students of ESP will be the ultimate beneficiary.

Finally, since the launch of the graduate program the department has lost five faculty members – Gore, Krest, Cassill, Riedinger-Whitmore, and Dorsey. In addition, it appears the department will lose one more – Asano – after the next academic year. In addition, two faculties have changed their major commitments to other programs – Meindl and Krishnaswamy (Johns). Of these, only one line has been replaced: the department hired in 2012-2013 an outstanding Policy expert who start in Fall 2013 and will work in the areas of policy and sustainability, and specifically in the areas of REDD and climate change and energy. This means that at the beginning of the next academic year the department will have only three dedicated ESP tenure track faculty members actively mentoring research (Alegria, Barnali, and Smoak), of whom one (Smoak) stopped accepting new students as of Fall 2012; two potential mentors: Carvalho (who was on sabbatical during the 2012-2013 academic year) and the new hire Mbatu; and two part-

ESP faculty members mentoring research: Meindl and Krishnaswamy. With the current faculty situation it will be difficult if not impossible to attain a mandate of the administration's requirement of admitting 12 new graduate students per year (in the MS program) or graduating 8 master's students per year. **Although we are doing a great job in graduating students in timely fashion with dwindling resources (faculty lines and funding), adding new faculty line (while selecting specialty strategically) will help us continue to remain a program of distinction (POD) and help us becoming a 'world-class program'. The department has informed the Dean (in response to the Colleges' request) our need for two Environmental Science tenure track lines and one Policy line as soon as possible (this will help us replace some of the critical lines we lost).**

The graduate program will continue its effort in supporting: the recruitment efforts of new students, program efficiency and its present students by reaching out more and encouraging the present students to successfully complete their degree in a timely fashion. The graduate program will be implementing an annual student driven progress report to help students become more accountable for their progress. In addition, the program will continue to work for financial and faculty support for the program from administration. The program will prioritize its pursuit of establishing the MOU proposed by the former chair and graduate director with nearby 4 year colleges. The proposal entails a 4+1 format, where students from the institution who sign the MOU will be able to start taking the graduate courses in their last year and complete the degree in 1 year (they will be given automatic admission upon meeting the criteria).

Summary Statement – Impact of Changes Made in 2012-13

Provide a summary statement about changes that were made in your program as a result of ongoing assessment in 2011-12 and the positive/negative impact of the changes that were made.

One of the major changes from the efforts of the previous year was the MA degree. The graduate program started recruitment for its MA program starting in fall 2012. Unfortunately, it has not gained the expected momentum. Another change was the requirement of a thesis proposal defense, in place of the written exam. None of the eligible students defended this spring but the program will strongly encourage students to do so by fall 2013. The former chair and graduate director proposed establishing MOUs with nearby 4 year colleges. The proposal entailed a 4+1 format, where students from the institution who signed the MOU will be able to start taking the graduate courses in their last year and complete the degree in 1 year (they will be given automatic admission upon meeting the criteria). These were proposed to the graduate recruitment office in early 2012. There were some discussions with Saint Petersburg College and Eckerd College in this area (we need to pursue establishment of MOU vigorously and make it a reality).

Academic Learning Compacts: 2012 – 2013

“... to ensure student achievement in undergraduate and graduate degree programs ...”

Academic Program: ESP Grad Program
Person Responsible: Dr. Armando Hoare

Mission of Academic Program (include URL):

Master of Science degree in Environmental Science and Policy: <http://www.usfsp.edu/coas/espg/gradprogram/index.htm>

Our Master of Science degree in Environmental Science and Policy brings interdisciplinary expertise in the social and natural sciences together with advanced technologies, such as remote sensing and geographic information systems, to prepare students to effectively address complex environmental problems.

Our program graduates will be able to:

- develop solutions to the increasingly urgent problems resulting from human impacts on the environment;
- contribute to efforts to better understand and respond to those impacts; and
- protect and manage environmental resources in the face of population growth and economic change.

Two focus tracks - Applied Environmental Science and Society-Environment Interactions are available for students pursuing an M.S. degree in Environmental Science and Policy.

Graduates of the Master of Science in Environmental Science and Policy program at USF St. Petersburg will be highly skilled and imaginative individuals, prepared for leadership roles in local, state, and federal agencies; non-profit organizations working to ameliorate environmental concerns; and private scientific, research, environmental and engineering firms. Our graduates will have the analytical skills to understand and impact the socio-cultural and political context in which environmental problems are created and ameliorated, and the scientific expertise to fully explore and analyze the consequences of ongoing environmental change and

interaction.

Master of Arts degree in Environmental Science and Policy: <http://www.usfsp.edu/coas/espg/gradprogram/ma/index.htm>

Our Master of Arts degree in Environmental Science and Policy provides a balance between Environmental Science and Environmental Policy through a themed course study in Core Concepts in Science, Core Concepts in Policy and an elective area of your choice. The degree culminates in a final project that allows you to integrate and apply the knowledge learned in the coursework with a personal relevant area of interest to result in your professional growth.

Designed with the environmental field professional in mind, as a program graduate you will be able to:

- develop solutions to the increasingly urgent problems resulting from human impacts on the environment;
- contribute to efforts to better understand and respond to those impacts; and
- protect and manage environmental resources in the face of population growth and economic change.

Graduates of the USFSP Environmental Science and Policy Master of Arts in Environmental Science and Policy will be highly skilled and imaginative individuals prepared for leadership roles in local, state, and federal agencies; non-profit organizations working to mitigate environmental concerns; and private scientific, research, environmental and engineering firms.

List Program Goal(s) / Objective(s):

Program Goals / Objectives must be mapped to College Goals / Objectives – use consistent nomenclature.

[Please note impact of any changes that were made as a result of 2010-11 assessment]

ALCs must address student learning in three areas: 1. Content/Discipline Skills; 2. Communication Skills; and Critical Thinking Skills.

*Please include multiple assessments. For example: students perform well on classroom assignments, norm-referenced tests/surveys, and they get accepted to graduate school or are employed.

1. Content/Discipline Skills				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2013-14
1a. <i>Graduate students will demonstrate proficiency in statistical methods and use of statistical programming software in presenting, analyzing, interpreting and decision making concerning scientific data of real world problems</i>	The final exam for STA 5166 consists of two parts. In the first part students have to explain the data from descriptive statistic given. They have to explain the statistical structure of the data. In the second part they use statistical software to analyze the data and make recommendations based on their findings. Demonstration of statistical competency on statistics portion of comprehensive exam. Competency demonstrated by passing exams.	We want all students to earn at least a 70% on the final exam in STA 5166. Students need to score 70% or higher on comprehensive exam stats section to show proficiency in statistics	In fall 2012, four students took the comps in STATS and two (50%) passed it. In spring 2013, 2 students took the comps in STATS and 1 (50%) passed it. Of the six students that took STA 5166 spring 2013, four (66%) met the passing mark of the final exam.	Continue to give students time in class to work on their hw assignments and to encourage group collaboration. It also helped that we had better prepared students. The graduate committee needs to continue being selective of the courses the students have taken before being admitted to the program.
1b. <i>Demonstrate a knowledge and understanding of contemporary issues in environmental science, especially as they pertain to human interactions with natural ecosystems, and how scientists have</i>	The final grade for EVR 6936 (Seminar in Environmental Science) taught during Fall of 2011 is comprised of 30% from Research Proposal (written and presentation), 40% from weekly scholarly article review, presentation and summarization, 20%	We want all students to earn at least 80% on the research proposal. Students need to score 75% or higher on comprehensive exam to show proficiency in environmental science	In fall 2012, four students took the comps in Environmental Science and all four successfully completed the exam. One student took the COMPS in Spring - had a conditional pass in	Last year (2011 – 2012) we decided to selective in giving admissions. This strategy seems to work. We had better prepared students in Fall 2012 students (Fall 2012 admits). I started to work with them from second

<p><i>documented and reported those interactions as well as proposed future research to better understand and manage those same anthropogenic changes</i></p>	<p>from exams and 10% on short project.</p>		<p>environmental science and had NOT met the conditions in Sp 2013.</p> <p>Of the seven students that took EVR 6936 Fall 2012, one earned 90%, and four earned between 82- 88% on their research proposal and met the success criteria i.e. 60% of the student met the criteria of earning 80% or more in their research proposal. About 30% of the students in EVR 6936 didn't meet the criteria.</p>	<p>week onwards to develop the research proposal, however, I found out some students had better idea about their projects than others. Students who had clear idea about their research project were successful. I have created guidelines in a question answer format to help students develop research projects if they don't have one. I will give students this document during the first week of class in Fall 2013.</p>
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*Please include multiple assessments. For example: students perform well on classroom assignments, norm-referenced tests/surveys, and they get accepted to graduate school or are employed.

2. Communication Skills				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2013-14
2a. <i>Students will demonstrate an ability to conduct literature research and prepare both written and oral critiques of environmental science or policy research</i>	All graduate students are required to take EVR 6936 (Seminar in Environmental Science), and complete a literature review and write a research Proposal. They are also required to present their research proposal in class.	All students in EVR 6936 are required to present their research proposal in class. They have to earn >80% to pass.	Of the five students who took EVR 6936, 5 students earned 80% or greater. Highest grade earned for research presentation was 90% (only one student achieved this mark) Lowest grade was 70%.	Last time (Fall 2011 and Fall 2012) I decided to have student present their research proposal twice. In fall 2011 I had them present once at the end of the semester and their final presentation scores were poor in Fall 2011. But in Fall 2012 the final presentation grade was higher because I had them present twice. In the future, I will continue to have them present once during middle of the semester before their final presentation. Although I will grade the middle of the semester presentation – I will use it as a feedback and not add to their final grade. This intermittent presentation of the proposal will be designed to help them

	<p>Students are also required to complete thesis (written and oral defense) for their degree.</p> <p>All graduate students are required to take EVR 6937 (Seminar in Environmental Policy) and complete 4 section review papers. Each section review paper has a literature review. They are also expected to discuss their papers in class during an open forum.</p>	<p>Students are required to write a thesis and present their work in a public event (including open and closed door defense). The thesis committee will evaluate the success of the thesis.</p> <p>All students in EVR 6937 (Seminar in Environmental Policy) are required to complete 4 section review papers and discuss their critiques of environmental policy research in class. They have to earn >80% on each paper to pass.</p>	<p>5 students successfully defended their thesis during summer 2012. 1 student successfully defended her thesis during fall 2012. 2 students successfully defended their thesis during spring of 2013.</p> <p>100% of students in EVR 6937 completed 4 section review papers, discussed their critiques of environmental policy research in class, and earned >80% on each paper to pass.</p>	<p>improve their presentation skill.</p> <p>Strongly encourage students to defend their thesis proposal in a timely fashion to enable them to be more effective in writing and defending their thesis.</p> <p>Current assessments have had successful academic outcomes. Therefore, there are no plans to change the evaluation format.</p>
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3. Critical Thinking Skills				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2013-14
3a. <i>Students will demonstrate the ability to design and conduct an original program of research in environmental science and policy, which results in a scholarly work of publishable quality</i>	Write a research proposal that provides an introduction to the research question, methodology to be used, and significance of research. Successfully defend the thesis (written and oral)	Thesis research and results presented in a public forum and successfully defended by the student to the satisfaction of the thesis committee members.	5 students successfully defended their thesis during summer 2012. 1 student successfully defended her thesis during fall 2012. 2 students successfully defended their thesis during spring of 2013.	We will continue to work with both faculty and students to have timely defenses.

4. Civic Engagement:				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2013-14

Academic Learning Compacts: 2014 – 2015

“... to ensure student achievement in undergraduate and graduate degree programs ...”

Academic Program: ESP Grad Program

Person Responsible: Dr. Armando Hoare

Mission of Academic Program (include URL):

<http://www.usfsp.edu/coas/espg/gradprogram/index.htm>

List Program Goal(s) / Objective(s):

Program Goals / Objectives must be mapped to College Goals / Objectives – use consistent nomenclature.

[Please note impact of any changes that were made as a result of 2010-11 assessment]

ALCs must address student learning in three areas: 1. Content/Discipline Skills; 2. Communication Skills; and Critical Thinking Skills.

1. Content/Discipline Skills

Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2014-15
1a. <i>Graduate students will demonstrate proficiency in statistical methods and use of statistical programming software in presenting, analyzing, interpreting and decision making concerning scientific data of real world problems</i>	The final exam for STA 5166 consists of two parts. In the first part students have to explain the data from descriptive statistic given. They have to explain the statistical structure of the data. In the second part they use statistical software to analyze the data and make recommendations based on their findings.	We want all students to earn at least a 70% on the final exam in STA 5166. Students need to score 70% or higher on comprehensive exam stats section to show proficiency in statistics		

	Demonstration of statistical competency on statistics portion of comprehensive exam. Competency demonstrated by passing exams.			
<i>1b. Demonstrate a knowledge and understanding of contemporary issues in environmental science, especially as they pertain to human interactions with natural ecosystems, and how scientists have documented and reported those interactions as well as proposed future research to better understand and manage those same anthropogenic changes</i>	The final grade for EVR 6936 (Seminar in Environmental Science) taught during Fall of 2011 is comprised of 30% from Research Proposal (written and presentation), 40% from weekly scholarly article review, presentation and summarization, 20% from exams and 10% on short project.	We want all students to earn at least 80% on the research proposal. Students need to score 75% or higher on comprehensive exam to show proficiency in environmental science		

2. Communication Skills				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2014-15
<p>2a. <i>Students will demonstrate an ability to conduct literature research and prepare both written and oral critiques of environmental science or policy research</i></p>	<p>All graduate students are required to take EVR 6936 (Seminar in Environmental Science), and complete a literature review and write a research Proposal. They are also required to present their research proposal in class.</p>	<p>All students in EVR 6936 are required to present their research proposal in class. They have to earn >80% to pass.</p>		
	<p>Students are also required to complete thesis (written and oral defense) for their degree.</p>	<p>Students are required to write a thesis and present their work in a public event (including open and closed door defense). The thesis committee will evaluate the success of the thesis.</p>		
	<p>All graduate students are required to take EVR 6937 (Seminar in Environmental Policy) and complete 4 section review papers. Each section review paper has</p>	<p>All students in EVR 6937 (Seminar in Environmental Policy) are required to complete 4 section review papers and discuss their critiques of</p>		

	a literature review. They are also expected to discuss their papers in class during an open forum.	environmental policy research in class. They have to earn >80% on each paper to pass.		

3. Critical Thinking Skills				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2014-15
<i>3a. Students will demonstrate the ability to design and conduct an original program of research in environmental science and policy, which results in a scholarly work of publishable quality</i>	Write a research proposal that provides an introduction to the research question, methodology to be used, and significance of research. Successfully defend the thesis (written and oral)	Thesis research and results presented in a public forum and successfully defended by the student to the satisfaction of the thesis committee members.		

4. Civic Engagement:				
Goals/Objectives	Means of Assessment/ Corroborating Evidence*	Criteria for Success	Findings	Plan for Use of Findings in 2013-14

Attachment 1
USF St. Petersburg
Strategic Goals and Objectives, 2009-2013

1 – Academic Performance

Support and enhance programs that prepare students to be knowledgeable, reflective and engaged citizen scholars

- 1.1 Use sustained evidence of student learning outcomes and student achievement for continuous improvement
- 1.2 Offer certificate, undergraduate, and graduate programs that meet regional needs
- 1.3 Implement and support information and instructional technologies that facilitate effective pedagogies
- 1.4 Enhance programs that specifically support academic excellence
- 1.5 Increase student awareness of participating in a global society

2 – Student Engagement

Enhance learning and achievement and promote retention through active engagement in curricular and co-curricular programs

- 2.1 Create a freshman experience that enables students to thrive and move successfully through to graduation
- 2.2 Foster institutional pride and strengthen connections within the campus community
- 2.3 Enhance opportunities for increased student involvement in curricular and co-curricular activities

3 – Diversity and Inclusion

Create a vibrant, inviting, and enriching university community that values and respects all individuals and whose students, faculty, and staff represent the diversity of its region

- 3.1 Ensure an inclusive community where differences are respected and valued
- 3.2 Attract and retain a diverse student population
- 3.3 Increase the diversity of faculty and staff

4 – Research and Creative Activities

Encourage faculty research and creative activities, and engage students in local, national and international scholarship

- 4.1 Create a vibrant culture of faculty research and creative scholarship
- 4.2 Promote and support undergraduate research as a meaningful aspect of campus life
- 4.3 Enhance and support research and scholarly collaborations with community partners

5 – Environmental Stewardship

Foster stewardship of the environment and embody the values of sustainability

- 5.1 Enhance sustainability through energy conservation and recycling
- 5.2 Create a community that champions environmental awareness and sustainable living

6 – Administrative and Financial Stewardship

Enhance revenue, provide effective and efficient financial management, and ensure institutional sustainability

- 6.1 Create and obtain funding streams to support short and long term initiatives
- 6.2 Increase private and corporate funding
- 6.3 Strengthen academic infrastructure of the university to ensure the proper alignment of instruction, services, and student life
- 6.4 Strengthen institutional infrastructure for the recruitment and retention of faculty and staff
- 6.5 Evaluate and improve facilities and processes that foster services to faculty, students, staff, and the community.