Environmental Science (EVS) 614

White Papers in Integrated Coastal Science
Spring Semester

4-6 credits

Briefing Reviews Every Other Week
Wednesdays or Thursdays 5:00 to 8:00 p.m.

Location: Coastal Institute Rm. 117 Kingston Campus

INSTRUCTORS

Dr. Peter August
Office hours by appointment
CELS-Department of Natural Resources
Science
Coastal Institute/Kingston
401-874-4794
pete@edc.uri.edu

Dr. James Opaluch
Office hours by appointment
Office Location: Coastal Institute Kingston
Room 210
CELS-Department of Environmental and
Natural Resource Economics
401-874-4590
JimO@uri.edu

Dr. Q. Kellogg
Office hours by appointment
CELS-Department of Natural Resources
Science
Coastal Institute/Kingston
401-874-7532
q@edc.uri.edu

Dr. Richard Burroughs
Office Hours by appointment
Office Location: Washburn Hall 310
Department of Marine Affairs
401-874-4045
RBurroughs@uri.edu

Additional Faculty Participants

Professor Judith Swift, Communication Studies, jswift@uri.edu
Dr. Cheryl Foster, Philosophy, cherylf@uri.edu
Dr. Art Gold, Natural Resources Science, agold@uri.edu
Dr. Candice Oviatt, Graduate School of Oceanography, coviatt@gso.uri.edu
Dr. Stan Cobb, Biological Sciences, scobb@uri.edu

COURSE OVERVIEW AND RATIONALE

Developed specifically for the URI Coastal Institute IGERT Program (CIIP), this course will match CIIP Trainees with our non-academic partners (e.g., Environmental Protection Agency, RI Department of Environmental Management, The Nature Conservancy, Conservation Law Foundation, Narragansett Bay Commission, and others) for collaborative assessment of the environmental, economic, social, and ethical dimensions of current issues in coastal ecosystem management. The non-academic partners will contribute to the supervision of the preparation of written White Paper synthesis. CIIP faculty and Trainees will meet every other week to review trainee progress on White Paper research.

"A white paper typically argues a specific position or solution to a problem. Although white papers take their roots in governmental policy, they have become a common tool used to introduce technology innovations and products." (www.stelzner.com/copy-HowTo-whitepapers.php)

The White Paper course is designed to:

- Provide experiential opportunity for CIIP Trainees to learn of issues of practical importance in coastal ecosystem management.
- Discover the value systems, constraints, opportunities, and working environments in non-academic work settings.
- Provide opportunity to synthesize the multiple domains – social, scientific, political, and ethical – of contemporary issues in coastal ecosystem science.
- Provide opportunity to exercise communication skills for technical and non-technical audiences.

Non-academic partners will be matched to CIIP Trainees based on trainee knowledge and interest in specific issues in coastal ecosystem management (e.g., pollution, fisheries management, protection of biodiversity, water quality, etc.). CIIP faculty work regularly with our non-academic partners on research and outreach projects and will assist in pairing our trainees with colleagues who will be good mentors.

Each CIIP Trainee will be paired with a non-academic partner. The partner will define the scope and theme of the White Paper analysis and will provide mentoring to the trainee on perspectives to include in the White Paper and sources of information. Over the course of the semester the trainees will complete research on the issue. This will entail data gathering, literature review, consultation with experts, and brainstorming with peer CIIP Trainees and faculty.

Trainees will be required to prepare a number of products for the class and these are described under the section on written assignments.

OUTCOMES

The purpose of this independent study course is to create an opportunity for CIIP Trainees to work with our non-academic partners on a contemporary issue of coastal ecosystem management.

After the Spring semester course the trainees should have the growing ability to:

- Frame an issue in coastal ecosystem management in the context of the multiple dimensions of the problem.
- Develop and implement a research strategy that includes mining knowledge resources on the Internet, primary published literature, interviews with disciplinary experts, and peer learning.
- Write a clear and concise statement that is scientifically accurate and understandable to readers from a variety of disciplines.
- Write clear and informative descriptions of the issue for non-technical audiences in venues such as Op-Ed columns in the newspapers or popular press such as the Narragansett Bay Journal.
- Establish and meet deadlines in preparing written and oral summaries of research.

Learning Rubrics

Trainees will be evaluated on the following rubrics that comprise the learning goals for the White Paper exercise.

Value of Research to Target Audience. The trainee should clearly identify the target audience of the White Paper and tailor the final written product to meet the audience's need. Research questions should be clearly identified, sources of information thoroughly researched, and results presented in a format that maximizes ease of use by the reader and conveys all the required information. Appropriate statistics should be used to describe patterns, trends, and to test hypotheses. There should be a complete synthesis of the information for the target audience. The implications and ramifications of the results should be clearly and succinctly articulated.

The following elucidates those discrete elements that comprise each level of achievement.

Exceeds Expectations: The trainee demonstrated careful and thorough assessment of the knowledge needs of the White Paper host. The trainee regularly briefed the White Paper host of interim results and work accomplished to ensure the study was staying on track. The research succeeded in filling the information void for the target audience and provided useful answers or direction. The research will affect future decisions by the host institution. The questions being asked were clearly articulated and the results or knowledge obtained succinctly presented.

Meets Expectations: The trainee demonstrated adequate diligence in the assessment of the knowledge needs of the White Paper host institution. The trainee met occasionally with the White Paper host to brief them on work accomplished. The research met some of the information needs of the target audience and provided useful answers or direction. The research might affect future decisions by the host institution. The questions being asked were defined and the results or knowledge obtained were clearly presented.

Approaches Expectations: The trainee attempted to grasp knowledge needs of host and target audience but was unable to clearly define the expectations of the partner. The trainee should have met more frequently with the White Paper host to keep target audience needs in focus. The research met some of the information needs of the target audience but large and important questions remain unanswered. The questions being asked and the results or knowledge obtained were not clearly presented.

Organizational Skills. Trainees are expected to pace his/her work over the semester; keeping hosts, peers, and CIIP faculty abreast of progress. The trainees should record data or information in a systematic and thorough way that does not result in a loss of information. The trainees should provide comfortable lead time in scheduling meetings and should develop a project timetable early in the exercise, adjusting as required as the project progresses.

Exceeds Expectations: Trainee was well organized in every dimension of the study. Presentations at bi-weekly meetings were carefully thought out and crisply delivered. White Paper hosts, CIIP Trainees, and CIIP faculty were kept informed as the project developed. Time was allotted to synthesize information gathered and put it in the context of the information needs of the target audience. Meetings were planned well in advance to permit rational scheduling. Data or knowledge obtained were recorded in a form and format that was efficient, accurate, and flexible. Deadlines were always met.

Meets Expectations: Trainee was well organized in the important dimensions of the study. Presentations at meetings showed evidence of preparation. White Paper hosts, CIIP Trainees, and CIIP faculty were kept reasonably informed as the project developed. More time could have been allotted to information synthesis. Meetings were sometimes planned well in advance. Data or knowledge obtained were recorded in a form and format that was effective. Deadlines were usually met.

Approaches Expectations: Trainee could have been more attentive to organizing the work done in the White Paper study. White Paper hosts, CIIP Trainees, and CIIP faculty were sometimes unclear on what was being done for the project. Final aspects of the project (synthesis, interpretation, writing) were rushed and appeared to have been done at the last minute. Meetings were poorly planned and

organized, and the trainee's remarks in meetings showed signs of inadequate preparation. Data were haphazardly recorded or information lost. Deadlines were sometimes not met.

Science. The Trainee exhibits mastery of the scientific basis of his/her White Paper by demonstrating a comprehensive knowledge of the published literature. He/she sought the input of recognized leaders in the field, considered all dimensions of the scientific issues, including natural and social science aspects, and effectively used CIIP Fellow and faculty peer review of his/her scientific compilation.

Exceeds Expectations: Trainee mastered the scientific basis of the White Paper topic by referencing all the current peer reviewed published literature on the topic from a variety of sources, has evaluated all relevant gray literature such as conference proceedings and technical reports, interacted with nationally respected leaders in the field, thoroughly evaluated the natural and social science dimensions of the topic, and regularly used CIIP Fellow and faculty review of their work.

Meets Expectations: Trainee grasped the major elements of the scientific basis of the White Paper topic. Major papers were consulted in the peer reviewed literature from multiple sources. The gray literature was referenced. Trainee consulted with some scientists in the field. Trainee evaluated most of the natural and social science dimensions of the topic and used CIIP Trainees and faculty to review his/her work.

Approaches Expectations: Trainee addressed many, but not all aspects of the scientific basis of the White Paper topic. Papers in the peer reviewed literature were consulted but a thorough literature review was not accomplished. The gray literature was not fully referenced. Trainee did not consult with scientists in the field. Trainee evaluated some, but not all of the natural and social science dimensions of the topic. Trainees did not fully use CIIP Trainees and faculty to review of his/her work.

Writing. The writing will be well-organized and mechanically correct. The format and style will be consistent with the format and style chosen for the White Paper by the trainee and host.

Exceeds Expectations: The White Paper is extremely well organized and uses an appropriate organizational system, makes effective use of the published literature, contains clear and intuitive tables and figures, and uses appendices as necessary. The style is accessible, yet informative, and can be easily understood by the intended audience. There are no distracting errors in spelling or grammar. The structure of the paper, including paragraphs and transitions, is well done.

Meets Expectations: The White Paper is well-organized, using a transparent organizational system to compartmentalize sections. The style is informative and can be understood by most readers, but uses some excessively technical jargon

that is not generally recognized by some members of the intended audience. There are no distracting errors in spelling or grammar. Figures and tables achieve adequately convey the intended information. The structure of the paper, including paragraphs and transitions, is well done.

Approaches Expectations: The White Paper lacks organization and clarity. The style of the writing is sometimes obtuse and may not be accessible, understandable, informative, or appropriate for the intended audience. There are distracting spelling and/or grammatical errors that reflect poorly on the trainee and his/her role as a representative of the CIIP. Writing of this quality would require significant revision to be acceptable.

Spring Colloquium Presentation. The White Paper Presentation at the Spring Colloquium is intended as an opportunity for the Trainees to share their work with the CIIP community and other invited guests. While some may not have completed their investigations, they will have progressed far enough to have preliminary findings to present.

Exceeds Expectations: The presentation is clear and concise. The trainee is well prepared and stays within the allotted time. The trainee uses visuals in an effective and appropriate way, with no spelling or grammatical errors, and good use of color, layout and content. The presentation is not read, eye contact is effective, and the visual aids are not wordy. The speaking style makes appropriate use of the trainee's personal strengths of delivery. The trainee is able to answer questions and receive comments in a professional manner. The overall impression is that of a professional with command of his/her subject.

Meets Expectations: The presentation is clear and concise. The trainee is well prepared and stays reasonably within the allotted time. The trainee uses visuals in an appropriate way, with no spelling or grammatical errors, and good use of color, layout and content. The trainee's speaking style demonstrates an emerging ability to make use of personal strengths. Eye contact is erratic and visual aids contain too much text. The trainee is able to answer questions and receive comments in a professional manner. The overall impression is that of a professional working towards command of his/her subject.

Approaches Expectations: The presentation is not effectively organized. The trainee is not well prepared or exceeds the allotted time. The trainee's use of visuals may be ineffective due to poor color choices, ineffective layout, too much information, too much text, or too many slides. The visuals may contain spelling or grammatical errors. The trainee's speaking style may be difficult to understand or distracting to watch. Eye contact with the audience could be increased. The trainee does not answer questions clearly or accurately. The overall impression is not that of a professional with command of his/her subject.

Date	Activity
November preceding the course	Meet with prospective non-academic partners and identify the topic of the White Paper research
Spring semester	Trainees will be in close communication with the non-academic partner to frame the White Paper and regularly report on progress, obstacles, and opportunities. At minimum, trainees will communicate with their hosts on a weekly basis.
Every other week during the Spring Semester	Trainees enrolled in the course will meet with CIIP Trainees and faculty every other week to deliver a brief synopsis of work performed to date. These meetings will be an opportunity to test new ideas and approaches to problem-solving among a group of peers. Furthermore, it will provide opportunity for trainees to engage in constructive criticism of each others work. Discussion and debate over emerging issues in trainee White Paper projects will also be discussed using the class blog. If a student can not attend a bi-weekly session, they must post an update (500 words maximum) on the class blog that addresses the following: 1. What was my greatest achievement the past two weeks? 2. What was my greatest challenge the past two weeks? 3. What are my goals for the next two weeks? 4. My interactions with my host have been (clear and productive, strained, confusing, infrequent) ... 5. (Optional) I need help with ... 6. (Optional) Any other item or issue not included above and you want to throw out. It's open mike time ...
Two weeks before the end of the Spring Semester	Trainees will submit their White Papers for peer review among the other CIIP Trainees. Trainees will critically examine papers for logic, clarity, scientific accuracy, and comprehensive coverage of the issue chosen.
Spring CIIP Colloquium (reading days before final exams)	White Papers will be completed by the last day of the semester. Trainees will make oral presentations on their White Papers to the CIIP community at the Spring CIIP Colloquium. Trainees will submit their White Paper (or a derivative written product) for publication in a scientific or popular journal, newspaper, magazine, radio, or television broadcast.

WRITTEN ASSIGNMENTS

Trainees will be required to prepare the following written products over the semester:

- A draft White Paper synthesis of their research for peer review among the other CIIP Trainees.
- A final White Paper synthesis of the topic.
- Published article on White Paper synthesis for a non-technical audience.

GENERAL NOTES

This syllabus is an outline of proposed events. **It is subject to change.** We will never change it to make anything due earlier for you. For the most recent updates see the CIIP course online. http://www.ci.uri.edu/ciip.

GROUND RULES FOR THIS CLASS

CIIP Trainees represent the University of Rhode Island and are expected to comport themselves as mature professionals. Trainees are expected to contribute to the development of each other's White Paper in the bi-weekly class meetings.

GRADING

Grading for this course will be S/U. You will be graded on the work you present both in bi-weekly meetings and in written assignments. At all times, you will be evaluated for the quality of your analytical thinking and the skill of your verbal and written communication. For information on grading for graduate trainees, see the **Graduate Student Manual**.

The breakdown is as follows:

In-class participation................................25%
White Paper...40%
Non-technical article................................35%

COMMUNICATION

We expect everyone to use e-mail in order that we can communicate efficiently with each other. We will use the listserv at CIIP@listserv.uri.edu for class notices and questions. We will use the CIIP blog that is linked from the class web site for electronic discussion of issues and ideas that the trainees bring forward. For any individual or personal issues, contact August at pete@edc.uri.edu. Q Kellogg is also available throughout the class to provide overall support and advice as needed at qkellogg@uri.edu.

ATTENDANCE

Timely attendance is expected. <u>If you have an emergency</u> and will not attend on a given day, please call or e-mail August or Kellogg. Class participation is an important aspect of our evaluation of your work.

HONOR CODE:

We expect each trainee to perform their own work in the development of White Papers; however, we also expect you to work together as part of the team process to solve problems, achieve solid analysis, and discuss issues. Assisting each other is a major part of this learning experience. The only caveat is to acknowledge that assistance. As you know, you must always include citations of any research. Faculty are asked to inform all trainees that the University of Rhode Island has very clear rules pertaining to plagiarism. See **The University Manual**, 8.27.10-8.27.19 and **The Graduate Student Manual**, 4.95.

PHILOSOPHY OF TEACHING/LEARNING

We are hoping for lively commentary, difference of opinion, and engaged learning. Collectively, the CIIP Trainees, non-academic partners, and faculty have considerable knowledge of issues in coastal ecosystem management. The White Paper project is designed to tap that knowledge and organize it in a clear and meaningful way. We expect that we will all engage in debate with respect for differing opinions. We will also provide ongoing critiques of your work and will offer them in the spirit of constructive criticism. We strongly urge trainees to evaluate any critique you receive as objectively as possible. Do not hesitate to contact CIIP faculty if you find a bit of commentary confusing. On the other hand, recognize that we will not always agree with each other and part of your job is to sort through qualitative and quantitative data to determine their value and applicability.

EXPECTATIONS OF WHITE PAPER HOSTS

- The NSF IGERT grant will cover the trainee's stipend for the semester. We expect her/him to work 20 hours per week on the White Paper assignment. The trainee is also receiving 4-6 course credits for this effort.
- We expect the trainee to meet with the host often but s/he will not be resident at the host's institution. Most of the trainees will be taking other classes during the semester and their major advisors have provided them office space from which to

work. The IGERT grant has a modest amount of money available to cover travel expenses, small amounts of supplies, and photocopying costs.

- The topic of the White Paper should be of practical value to the host and of intellectual interest to the trainee. We have encouraged all the IGERT trainees to use the White Paper class as a means to expand their knowledge on the subject chosen in tandem with their host organization. We are defining the White Paper as loosely as possible. It should be on a topic of importance to the host and host's organization and require that the trainee conduct independent research and synthesis. Most importantly, it should assist the trainee in developing his/her skill in synthesizing science and writing about it succinctly for a broader audience rather than a more narrowly defined scientific one.

- The final product of the White Paper assignment should be a written document that is the joint intellectual property of the host and the trainee. It is important to us that the White Paper inform the host and host's organization in a meaningful way. We encourage both the host and trainee to publish this work in an appropriate outlet. Peer reviewed journals are always an excellent venue, but we encourage the trainees to consider other outlets as well such as technical bulletins, trade magazines, and popular print media. We fully understand that, depending on the issue and the agency, there may be constraints on what can and can not be printed. Hosts should discuss this with the trainee early on if it will be relevant.

- We hope to post White Papers on the IGERT program web site. If it will be necessary to restrict distribution for a short period as you submit the research to be published, please notify us. If you anticipate that issues of confidentiality, national security, or release of proprietary business information will limit distribution of the White Paper, please notify us as soon as possible.

- The host and the trainee must be in close communication; the trainee is responsible for creating a meeting schedule that is convenient for both. The trainee needs to keep the host informed of her/his research progress so they can, in turn, keep her/him focused and on track. All of the trainees will meet with their classmates and IGERT faculty every other week over the semester to report what they are learning and to use their URI peer group to consider questions and ideas. Of course, they will respect any sensitive information and any boundaries on information that the host feels are essential.

- The host should provide the trainee with critical review on his/her White Paper when it is complete since the host knows the topic better than anyone.

- The trainees will make public presentations on their White Paper analyses at the Coastal Institute IGERT Project Spring Colloquium at the end of the semester. We hope all hosts can join us for this celebratory event.

- We will ask that the host complete a review of the trainee's performance at the end of the White Paper exercise. The purpose of this assessment is to learn what we might do to make the White Paper exercise as meaningful as possible for the trainees and their hosts.

End of Semester Questionnaire for White Paper Hosts

Please comment on the CIIP trainee's White Paper performance under your mentoring this past semester. Your comments should be delivered directly to Peter August. They will be considered a confidential assessment and NOT shared with the trainee.

How would you characterize the trainee's organizational, communication, research, and writing skills?

Did the trainee grasp the problem rapidly and demonstrate creativity and imagination in addressing the White Paper problem?

Was the White Paper a useful product for you and your organization?

Would you host another IGERT trainee if the opportunity presented itself?

End of Semester Questionnaire for CIIP Trainee

We will ask Trainees to complete an on-line assessment of the course at the end of the semester.