CAPSTONE PREP
ESRM 491
FALL 2014
(syllabus last revised August 27, 2014)

WHEN & WHERE  MON 2^{00} – 3^{50} IN BT 1365 (GIS Lab)
FINAL PROPOSAL MONDAY, DECEMBER 10 @ 4^{00}PM BT 1352
INSTRUCTOR DR. SEAN ANDERSON
OFFICE HOURS MON 12^{00}-1^{00}, TUE 3^{00}-4^{00} OR BY APPT. (BTW 1265 OR STUDENT UNION)
OFFICE BTW 1265 (GO DOWN STAIRS, TURN RIGHT, 1ST OFFICE ON LEFT AFTER COPY ROOM)
TELEPHONE OFFICE: (805) 437-8984 OR CELL: (805) 732-2732
EMAIL SEAN.ANDERSON@CSUCI.EDU

COURSE DESCRIPTION:

In this course you will research and develop a proposal for an ESRM senior capstone project. In addition you will create a roadmap and plan for the successful completion of your complete capstone by the end of Spring Semester. This includes piloting and analyzing preliminary datasets and exploring possible alternative outcomes/interpretations of your research endeavor.

LEARNING OUTCOMES:

Learning Outcomes: Concepts

By the end of this course, you should understand and be able to clearly articulate:

• your central hypothesis of your research.
• the processes by one conducts independent research.
• how your particular research agenda can contribute to basic and/or applied knowledge in your targeted discipline.
• how your particular research agenda will impact local management efforts in California.

Learning Outcomes: Skills

At the conclusion of our course you will be able to:

• evaluate technical issues presented in scientific papers and gray literature.
• present quantitative data in tabular and/or graphical forms.
• have confidence in your own interpretations and insights.
You should also be able to demonstrate a marked improvement in your:

- technical and professional communication (including interpersonal, oral, and written communication).
- ability to organize & properly cite sources using various of bibliographic styles.

**Course Materials:**

- no particular texts are required for this class, although various readings may be offered over the course of the semester. As this is fundamentally and individual research endeavor, you will be creating your own reading list as the semester progresses.

**Learning Assumptions & Expectations:**

- Success is your choice! If you choose to be successful, I will be happy to help you. If you do not choose to be successful, I will honor your choice and allow you to keep your delusions of adequacy. **You have the potential to succeed in this class.**

- Respect is one of the foundations of an environment conducive to learning. This class will have a positive and respectful learning environment. In class discussions, everyone should be courteous and respectful of others; disrespectful comments or behavior will not be tolerated. This includes silencing your cell phones, avoiding web surfing, and arriving on time for class. While note taking on laptops is acceptable, non-course related multimedia “multi-tasking” (texting, web surfing, Facebooking, etc.) is prohibited and may result in a reduced course grade.

- One of the most important aspects of learning is being able to be an active listener. As you listen to your classmates, be attentive and supportive. Everyone has something valuable to contribute to our class and your success.

- Times are tough and your projects may touch on potentially depressing subjects or findings. Despite this, we all need to stay positive. Humor and a wry take on things help your overall comprehension, enjoyment, ability to focus, and comprehension. (That being said, I apologize in advance for my bad jokes.)

- I am always open to feedback as to how I can best meet your needs as a student. Please do not be afraid to make suggestions on how this course can be improved or adjusted.

- You will attend all class sessions, arriving **before** the start of class.

- You will meet all assigned deadlines.
A BRIEF NOTE ON PROFESSIONAL COMMUNICATION:

I have noticed a worrying trend in recent years; the ability to write and communicate in a clear, concise, and professional manner appears to be degrading precipitously. This concerns me a great deal and is indeed one of the motivations for our having numerous written assignments due over the course of your ESRM coursework here at CSUCI. You can only improve with practice, and I seek to continue to give you a lot of practice as you embark on your culminating capstone experience. Please realize that anything submitted to me at any time must be free of any grammatical, formatting, or referencing errors. Submitting a well-written assignment tells me you care about the content and the way you present yourself. Poor writing creates a haze between you and your audience, leaving the reader to conclude you do not understand the subject matter you are attempting to convey. Submitting anything (resume, annotated bibliography, etc.) that is poorly written will therefore result in zero points awarded for that assignment. As stated in my above section on Learning Assumptions and Expectations, succeeding in this class is your choice. Submitting a well-written assignment is a clear signal to me that you have chosen to succeed. If you have any questions at all about what constitutes a well-written assignment, please do not hesitate to seek out help or advice from me, other faculty, the Writing Center in Broome Library, references you have from previous courses (such as Elements of Technical Writing), and the ESRM section of the Channel Islands Campus Writing Guide (found here: http://www.csuci.edu/writing-ci/guide/esrm.htm).

ACCEPTED FORMATS FOR ASSIGNMENTS:

The default format for submitting materials for this class is a printed hard copy. Unless specifically instructed to the contrary, the only time you should submit an assignment electronically (i.e. via CI Learn) is if you encounter an emergency and are unable to attend class the day an assignment is due. I will not grade this electronic submission, but rather use it to determine if you submitted the assignment on time (i.e. the start of the class). You are still responsible for submitting a hard copy of the assignment to me as soon as practical following your absence. Failure to submit a hard copy constitutes a missed assignment and will result in zero points. Simply e-mailing a missed assignment in lieu of submitting a hard copy at the stated day/time is not a guarantee of my willingness to accept your submission.

COURSE EVALUATION:

You will be graded on your participation, presentation, etc. as follows:

10% Participation
15% Deadlines Met
5% Topic
5% Data Collection/Research Plan
10% Mock Data/Alternative Interpretation
5% Draft Introduction and Methods
10% Preliminary Data Collection

40% Final Proposal

Grade Break Down: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F ≤ 59%

Please note that I use the “+” and “-” system (e.g. B- = 80–82%, B = 83–86%, B+ = 87–89%)

iTunesU:

I will be posting as much of our in-class discussions as possible to our iTunesU site. As such I need everyone to have iTunes installed on their computers. Before the start of our second class session, please go to our ESRM Capstone iTunesU podcast page (http://itunes.apple.com/us/itunes-u/esrm-capstone/id499823175) and subscribe to this podcast. Also, please download the existing demo screencast from a previous semester and watch at least the first minute of it to confirm your system can handle the audio, etc. Also, watch the short screencasts on Vimeo (http://vimeo.com/user8078769) and YouTube (https://www.youtube.com/channel/UChWSe6a7wJgEu4e4mDn37SA/videos). As of this writing, screencasts up and running on these sites include:

- Introduction to Scoop.It (required of everyone)
- Introduction to Plot.ly (required of everyone)
- Use of Zello on your smart phone (only if you are in another class with Dr. A)
- Introduction to GraphSketcher (only if you are a Mac person)

SOFTWARE:

Everyone will be using bibliographic software to manage their scientific sources in Capstone. I suggest you use Endnote, but this particular program is on the more expensive side (it is available for both Mac and PC for $113 for you as students). All of us will have access to Endnote Web, a service which school has just paid for/subscribed to which might serve your purposes (although we have yet to pilot it and so I cannot yet endorse its use). Consider purchasing Endnote with the student discount as this program will travel with you post-graduation (Endnote Web will not). Should you not choose to use Endnote, please download either Zotero or Mendeley. Both of these options are free, browser-based (although desktop clients are coming soon) alternatives to EndNote. The vast majority of environmental science professionals (and hence your future collaborators or employers) currently use one of these three bibliographic management software programs for their work. More on this later, but getting one of these programs up and running will smooth the start of the semester for you. You will be best served by playing with the software package of your choice and getting a feel for how it works before classes start and early in the semester. While it has not been updated in the past few months, you may wish to check out the Health Librarian Wiki contrasting bibliographic software options.

The vast majority of you will use ArcGIS to at least some degree over the course of your Capstone. As such I want to make sure you all have access to this key piece of software. We have this on our GIS Lab computers, various computers in the Broome Library, and at the STEM Center in El Dorado Hall. But as 1) we will not necessarily be in the GIS lab when you need to work on maps this semester and 2) much of the work on
this will often be done on your own schedule, I encourage any of you who wish to get your own student copy of ArcGIS to request this from me on the first day of class. ArcGIS runs in the PC environment, but many of your fellow students have had success with it running in a virtual windows environment on a Mac (via VM Ware or Parallels). This student version will be free and run for one year after activation, independent of your enrollment status.

Depending on your project you will also need to familiarize yourself with various data analyses and presentation programs. This will become something of an individual choice and we will discuss this later. But example of good graphing programs include SigmaPlot (for the PC) and Graph Sketcher (for the Mac). Excel is a poor substitute and generally produces lower quality results. We will all be piloting the online, collaborative, and just-released graphing program Plot.ly. We have set-up a special 120 day demo server for our use here in Capstone. Please log onto our site (https://csuci.plot.ly/) and register for your free account. We will be discussing this after people have selected their project topics, but please start playing around with this wonderful new tool.

**JOB OFFERINGS:**

A key part of what we will be doing this year is helping to get everyone prepped for the logistical side of the job market. As such, I strongly suggest you all join the social media site LinkedIn and request 1) a connection to me (the best way is to search for me, then connect as a “We’ve done business together” and select CSU Channel Islands and then 2) submit a request to join our ESRM Jobs group. This is where I am now posting all the internships, job offerings, etc. I get. LinkedIn has many advantages over Facebook, the most important of which is that LinkedIn is only for professional, business-related work. It has become the most important social networking site for those seeking interns or those seeking to hire new employees. Again, while joining LinkedIn is not mandatory, it is the way I disseminate job-related info.

**TOPICS:**

Those of you who have not yet started thinking about a Capstone topic need to do so over these next few weeks. While you don’t have to have this topic the very first day of class, you will be much more successful if you have your topic ASAP. Please note that we will be experimenting with a revised timeline in Capstone this year. I want all of you collecting data BEFORE the end of this semester. While potentially any topic is available to you, I will have various ideas for those who are stuck/can’t decide on a topic over the first few weeks of class. These include:

**Individual Projects:**
- Public Interpretation of Long Grade Creek
- Christmas Bird Counts of Coastal Salt Marshes in Ventura County
- Camera Trapping of Road Crossings in the Santa Monica Mountains/101 Freeway
- Cost and energy feasibility study for Quite Revolution’s qr5 vertical turbines
- Confirming the presence of rare species in the Santa Monica Mountains
- Shorebird Monitoring along Sandy Beaches
Cappingstone Prep
Fall 2014

Group Projects (to be done with 2 to 4 people):
ROV building and Education (with Drs. Chris Hanna & Anderson)
Recovering endangered Dudleya verity on CSUCI campus
Documenting the Hydrological Constraints within Mugu Lagoon
Sandy Beach Ecology and Stressor Index Development (with Drs. Anderson & Steele)
Historic Changes in Coastal Landscapes in Ventura County

Examples from previous Capstone efforts include:
Academic Assessment of Ventura County School Garden Classrooms
The effectiveness of current salt management plans for the Las Posas Basin
Water Quality on Conejo Creek Before and After Storm Events
Density Distribution of Invasive Arundo donax along Lower Conejo Creek.
The Effects of Sea Level Rise on the Critical Habitat for the Tidewater Goby
(Eucyclogobius newberryi) at Ormond Beach, California and the Need for High Quality Critical Habitat Data
Increasing Energy Efficiency by Condensing Classroom Usage
Guided Tour of the CSUCI Channel Islands Long Grade Creek Restoration
Native and Non-Native Bumblebee Community Composition at Varying Distances form a Commercial Greenhouse
Analysis of Barn Owl (Tyto abla) Diet at CSU Channel Islands and Their Potential to Control Rodents, and Serve as an Alternative to the Application of Second-Generation Anticoagulant Rodenticide
Targeting Coastal Monitoring Sites For Ventura County Via Historic Coastlines Profiles
Steelhead (Oncorhynchus mykiss) Habitat and Migration Challenges Along the Santa Clara River
The Effects of Anthropogenic Noise Upon Bats in Griffith Park
Clear Preferences for Sustainably Harvested Seafood
Plant Distribution in Comparison to Elevation Change at the Pt. Mugu Coastal Salt Marsh
CSU Channel Islands’ Role in Maintaining Different Modes of Transportation
Solar Energy at CSUCI: To Build Or Not To Build

Cheating, Plagiarism, and Other Forms of Academic Dishonesty

All work that you submit as your own work must, in fact, be your own work. For example, if your paper presents the ideas of others, you must clearly indicate this by citing the source. Word-for-word language taken from other sources – books, papers, web sites, people, etc. – must be placed in quotation marks and the source identified. Likewise, work on tests and exams must be your own work, not copied or taken from other students’ work, and you must comply with instructions regarding use of books, notes, and other materials.

In accordance with the CSU Channel Islands policy on academic dishonesty, students in this course who submit the work of others as their own (plagiarize), cheat on examinations, help other students cheat or plagiarize, or commit other acts of academic dishonesty will receive appropriate academic penalties, up to and including failing the course and expulsion.

Papers with plagiarized ideas or language will be graded “F” and must be rewritten with proper use of quotations and referencing. The grade of “F” will remain the recorded grade on that assignment. Plagiarism or cheating on exams will result in an “F” on that
exam, very likely resulting in a lower or possibly a failing final grade in the course overall. In cases where I have reason to believe the cheating or plagiarism was premeditated or planned, students may receive an “F” for the course.

Please consult with me on when and how to document sources if you have any possible questions about what might constitute an act of plagiarism or cheating.

For those who had too long a summer and can’t seem to recall the proper citation format I expect you to use, here is a brief example with an associated Literature Cited section (using the format of the academic journal *Ecology*):

**EXAMPLE TEXT WITH PROPER AUTHOR-YEAR CITATION STYLE:**

Many environmental disasters have an obvious and direct human cause, such as an oil spill. However, as the *Exxon Valdez* Spill illustrated (Parker and Wiens 2005, Peterson et al. 2003) and the unfolding Gulf Oil Spill promises to (Ko and Day 2004), documenting and understanding the impacts of these acute, human-caused stresses can be far from straightforward.

**AND HERE IS THE ASSOCIATED LITERATURE CITED SECTION:**


**DISABILITY STATEMENT:**

I am deeply committed to equal educational opportunities for all of my students. Students with disabilities will receive reasonable accommodation for learning and evaluation. Students with disabilities should contact our Disability Accommodation Services in BT 1541 or phone them at x3331 anytime between 830 AM and 530 PM. Anyone interested in being a note taker for Disability Accommodation Services for this or any other class should feel free to contact them.

**HOW TO DO WELL IN THIS COURSE:**

Focus on learning and scholarship, not on your grade. Make sure you complete all of your assignments on time and do a thorough job. If you search for and interact with the material/data and complete the course assignments, you should easily be able to pass this class. Please note however that merely submitting something for each assignment does not guarantee a passing grade. This is perhaps more important here in Capstone than for any of your previous courses, given you are on your own path for much of this endeavor. Although Capstone needs to be taken seriously and responsibly, this course should not create undo stress and anxiety. If you are having trouble with the assignments, not doing well on your preliminary research, or having any other problems, please talk to me after class or in my office hours. This should be an engaging and fun activity, not something to simply survive.

Please note that this syllabus is subject to change.
**Presumptive Course Schedule (This may be modified over the semester)**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic and Due Dates</th>
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<tbody>
<tr>
<td>1</td>
<td>August 27:</td>
<td>Intro to Course; Possible Project Ideas</td>
</tr>
<tr>
<td>2</td>
<td>September 3:</td>
<td><strong>no class: have discussed with Dr. A your project ideas by Sep 5</strong></td>
</tr>
<tr>
<td>3</td>
<td>September 10:</td>
<td>Possible Project Ideas, continued; 1st Resume Draft Due</td>
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<tr>
<td>4</td>
<td>September 17:</td>
<td>Endnote/Database Search Techniques Training</td>
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<tr>
<td>5</td>
<td>September 24:</td>
<td><strong>No Formal Class (Selecting Topics); All Topics Approved</strong></td>
</tr>
<tr>
<td>6</td>
<td>October 1:</td>
<td>Bibliographies; IRB Apps Due, Project Title &amp; Abstract Due</td>
</tr>
<tr>
<td>7</td>
<td>October 8:</td>
<td>Mock Datasets; 1st Annotated Bibliography Due (≥10 Peer-Review)</td>
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<tr>
<td>8</td>
<td>October 15:</td>
<td>Draft Data Collection/Research Plan Due</td>
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<tr>
<td>9</td>
<td>October 22:</td>
<td><strong>No Formal Class (Mock Data Work-Up)</strong></td>
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<td>10</td>
<td>October 29:</td>
<td>Mock Data in Excel Format (or Approved Alternative) Due</td>
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<tr>
<td>11</td>
<td>November 5:</td>
<td>Alternative Conclusion Outline Due; 2nd Resume Draft Due</td>
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<tr>
<td>12</td>
<td>November 12:</td>
<td><strong>Draft Intro &amp; Methods Section Due; Data Collection Begun</strong></td>
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<tr>
<td>13</td>
<td>November 19:</td>
<td>No Class (Dr. A on Central Coast Field Trip)</td>
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<td>14</td>
<td>November 26:</td>
<td>TBD</td>
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<tr>
<td>15</td>
<td>December 3:</td>
<td>TBD</td>
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Dr. Anderson’s Capstone Prep Course  
ESRM 491

I have read our syllabus and now know what to expect from this class, both in terms of the general layout of our course and desired learning outcomes. I am aware that it is my responsibility to keep up with all assigned reading and submit all my assignments by their deadlines. Missing deadlines, poor writing, or not keeping up with other course expectations will harm both my assignment grades and my overall performance in our course. I also understand that studying/discussing issues in groups, frequently reviewing my past material, and copying over/revising my drafts is a great way to improve my grade and (more importantly) boost my comprehension of the concepts and utility of my scholarship.

Name (please print neatly): ________________________________

Signature: ____________________________________________

Today’s Date: ________________________________________