Master’s Project Kick-off
Class of 2016

James Frew, Group Project Committee Chair
Satie Airame, Assistant Dean for Academic Programs
March 30, 2015
Projects for 2015-2016

1. Return of Wolves to California? Strategies to Promote Human/Wildlife Coexistence
2. Economic Valuation of Southern California's Coastal Wetlands
3. Vessel Speed Reduction, Air Pollution, and Whale Strike Tradeoffs in Santa Barbara Channel
5. Western Montana Groundwater Mitigation Program
6. Optimal Strategies for achieving Carbon Neutrality at UCSB by 2025
7. Model Citizen Science Program for Multi-Agency Rocky Intertidal Network (MARINE)
8. Environmental and Economic Impacts and Benefits of PV-battery Microgrid Systems
9. Assessing Benefit of Fire Mitigation Programs for Cities in the Wildland Urban Interface
Projects for 2015-2016

11. Ecological and economic implications of invasive giant reed control for Santa Clara River
12. Not a Drop to Spare: Sustainable Water Supply Solutions for the South Coast
13. Microplastics & the Apparel Industry
14. Planning sustainable residential development in the South Coast
15. Increasing Acceptance of Direct Potable Reuse as a Drinking Water Source in Ventura, CA
16. Forestry Supply-Chain Mapping to understand and address impacts on forests
17. Costa Rica Seafood Supply Chain Tool to Increase Economic, Environmental and Social Benefits
18. Eco-E: Wasteless
19. Eco-E: EVMatch (formerly ChargeRage)
20. Eco-E: BierGarden
Information Sources

• Group & Eco-E Project student information
  •  http://bren.ucsb.edu/services/student
    •  section “MESM GROUP PROJECTS and Eco-E PROJECTS”

• Master’s Project Public Presentations
  •  Friday, April 24, 1:30-6:30 pm

• Your Peers

• Past Reports, Briefs, and Posters
  •  GP:  http://bren.ucsb.edu/research/gp_past.html
  •  Eco-E:  see Academic Programs Coordinator
Registration & Grading

• Register with your faculty advisor
  • **Spring 2015:** ESM 401A (4 units)
  • **Fall 2015:** ESM 401B (4 units) (IP grade)
  • **Winter 2016:** ESM 401C (4 units) (grade also applies to 401B)
  • **Spring 2016:** ESM 401D (2 units)

• Spend 10–12 hours/week on group project.
• Try to balance workload across quarters.
• A grade of B or better is required in all of ESM 401
Evaluations

Extremely important that every group member participates and provides thorough and informative feedback

• Peer & Self Evaluations
  • Completed at end of each quarter
  • Submit to faculty advisor & Group Project Coordinator

• Faculty Advisor Evaluations
  • Spring 2016: Submit to Group Project Coordinator
Project Management

- Determine Group Project member roles:
  - Project manager (PM)
  - Financial manager (FM)
  - Data/computing manager (DM)
  - Web manager (WM)
  - Editor
  - Other? E.g. Internship coordinator (IC)

- Create a group email alias

- By **April 3**: Report roles and alias to Group Project Coordinator Casey Hankey

- Attend relevant workshops
Workshops: REQUIRED

• **Monday, March 30**: Master’s Project kickoff
• **Tuesday, March 31**: Client relations (Dave Parker)
  • (optional for Eco-E)
Workshops

• Computing & data management workshop
  • presented by Compute Team
  • required for DM & WM

• Financial management workshop
  • presented by Kim Fugate and Frank Soares
  • required for FM

• Introduction to web design & tools
  • May 4-5, 6-8 pm
  • presented by Rob Turner
  • recommended for WM
Website

• Each group must create (by Jun 12) and maintain a web site for the duration of your project.

• Minimum required content:
  • Name and emails of all group members
  • Group email address
  • Names and email of advisor(s)
  • Description of your project
  • Final work plan (GP) or Eco-E Opportunity Overview (Eco-E) (Spring 2015)
  • Final paper and brief (GP), poster (Spring 2016)
Group Meetings

• Meet at least once weekly as a group
  • Do not meet at 11:30 – 12:30 on weekdays
  • Designated student meeting spaces:
    • Visitors Center - business hours
    • Manzanita (BH 4024) - business hours
    • Bonsai (BH 4402) - all hours

• **Students (not advisors) schedule meetings and reserve meeting rooms**
  • Reserve meeting rooms on Corporate Time
  • Email scheduling@bren.ucsb.edu
    • if student rooms are booked
    • to reserve media equipment
Computer Work Stations

• One computer designated per group
  • Commons (13 computers)
  • BH 1011 (4 computers)

• Computer assignment map will be posted
  • Internal Services/Group Projects

• Tentative move-in date: Monday, May 4
Project Funding

• Each group has a budget of $1,300
  • + $200 for printing.
  • Most group projects can be done on this budget
• If client has pledged additional funding (travel, supplies, ...) then client should pay these expenses directly, if possible.
Contracts & Grants

• Money given to University for specific deliverables
• Faculty principal investigator (PI) writes proposal to funding organization
  • coordinates with Business Officer Kim Fugate
• **Must** be approved by the Office of Research (takes at least 1-2 weeks) **before** submission
• **Only** the Office of Research can accept contracts or grants
  • You can’t do this on your own!
Contracts & Grants

• Proposal must have budget including
  • indirect costs ("overhead")
  • budget justification
  • clearly articulated deliverables
  • start and end date

• Indirect costs are 53%
  • e.g., client gives UCSB $100 → you get $65
    • $100 ÷ 1.53: overhead is a markup, not a tax
Gifts

- All gifts coordinated by Director of Development Andrew Krupa (andrew@bren.ucsb.edu)
- Gift overhead is 6%
  - e.g., client gives UCSB $100 → you get $94
- Active fundraising by students without Andrew’s guidance is NOT appropriate
- **Under NO circumstances** should you talk to anyone about a giving a gift without first speaking with Andrew Krupa!
Faculty Advisors

• Each group has one or two faculty advisors
  • GP: schedule **weekly** meetings with your advisor(s)
  • Eco-E: attend ESM 402A and meet with faculty advisor as needed.

• Your faculty advisor(s) will:
  • monitor progress
  • provide technical assistance & expertise
  • evaluate project
  • assign grades

• Allow **at least** a week for feedback on anything written
• No two advisors alike
Faculty Advisors

• During your first meeting (this week!) discuss:
  • Expectations
  • Project scope
  • Objectives
  • Meeting schedule
  • Dates for spring review meeting
GP Clients

• Each Group Project has one primary client.
  • Eco-E Projects do not have clients.

• Client is the reason for the project, so be responsive to client’s guidance.

• Interact with client with absolutely the highest standards of professionalism.

• Client engagement depends on their availability and expertise.

• No two clients are alike.
GP Clients

• Meet with client & faculty advisor in week 2
  • Discuss project scope, objectives, deliverables, potential external advisory committee members, and internship, if relevant.

• When appropriate, invite your client to:
  • participate in spring & fall review meetings
  • attend defense in winter & public presentation in spring

• Write thank-you notes to client following review meetings and other milestones.

• ACKNOWLEDGE them frequently, privately and publicly (if they welcome this)
External or Technical Advisors

- Each group must engage 2+ external (GP) or technical (Eco-E) advisors
  - One additional advisor may be a Bren faculty member
- Interact with advisors with absolutely the highest standards of professionalism
- When appropriate, invite advisors to:
  - participate in spring & fall review meetings
  - attend defense in winter & public presentation in spring
- ACKNOWLEDGE them frequently, privately and publicly (if they welcome this)
Additional Resources

• Writing skills
  • Individual and group tutoring
  • Communication Center (Bren Hall 3310)
    • Hours on website http://bren.ucsb.edu/academics/comm_center.htm
    • Email: writing@bren.ucsb.edu

• Research skills
  • Kristen LaBonte (klabonte@library.ucsb.edu)
    • Librarian assigned to Bren School
    • Holds weekly office hours at Bren (Thurs, 9-10 am)
Human Subjects

If you are conducting a survey or working with human subjects as part of your project:

• You **MUST** obtain approval (or an exemption) from the Human Subjects Committee (HSC).
  • Eco-E students have a blanket exemption.

• **All** group members & faculty advisor will need to take the Human Subjects Exam.

• Consider taking **ESM 269 Survey Design** in Spring 2015.

• Review Office of Research site: [http://research.ucsb.edu/compliance](http://research.ucsb.edu/compliance)

*It could be a very big deal not to be in compliance.*
Summer Internships

- If GP summer internships promised, you may identify one group member to be Internship Coordinator (IC).
- Client may ask students to apply for internship(s).
- If the decision lies with students, decide EARLY who will do the internship(s).
- IC and/or intern(s) will work with Dave Parker & Kristen Robinson to coordinate internships.
- If internship is paid, client should pay intern(s) directly.
Internship Funding Opportunities

• Summer Internship Fellowship (Career Center)
• Eco-E/SVPSB Summer Internship Fellowship
  • Application deadline: April 24; May 15
• Eco-E Award for Prototype Development
  • Teams may apply by October 9
## Project Deliverables

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Group Project</th>
<th>Eco-E Project</th>
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</table>
| Spring 2015    | • Develop work plan  
                  • Work plan review meeting with Client and External Advisory Committee  
                  • Website  
                  • Self/peer evaluations                                                                                                                         | • Create team partnerships  
                  • Develop business model  
                  • Eco-E Opportunity Analysis Presentation to EEAC  
                  • “Lessons Learned” to Eco-E Committee  
                  • “Lessons Learned” to External Judging Panel  
                  • Website  
                  • Self/peer evaluations                                                                                                                         |
### Project Deliverables

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<tr>
<td>Fall 2015</td>
<td>Fall review meeting with External Advisory Committee&lt;br&gt;• Draft paper/outline&lt;br&gt;• Self/peer evaluations</td>
<td>“Lessons Learned” presentation to EEAC&lt;br&gt;• Bren Net Impact New Venture Competition&lt;br&gt;• Technical Literature Review&lt;br&gt;• Draft paper/outline&lt;br&gt;• Self/peer evaluations</td>
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# Project Deliverables

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<td>Winter 2016</td>
<td>• Final report&lt;br&gt;• Project Defenses&lt;br&gt;• Self/peer evaluations</td>
<td>• Final report&lt;br&gt;• Project Defenses&lt;br&gt;• Other Competition TBD&lt;br&gt;• Self/peer evaluations</td>
</tr>
<tr>
<td>Spring 2016</td>
<td>• Poster&lt;br&gt;• Project Brief&lt;br&gt;• Final Presentation&lt;br&gt;• Faculty evaluation</td>
<td>• Poster&lt;br&gt;• Marketing collateral&lt;br&gt;• Final Presentation&lt;br&gt;• Faculty evaluation</td>
</tr>
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*All students are **required** to participate in defense and final presentations.*
Authorship

• ALL group members MUST be acknowledged as co-authors on all deliverables produced by the group
  • while at Bren or after you graduate

• If you plan to publish results:
  • ALL group members must be invited to be co-authors
  • Consider inviting your faculty advisor to be a co-author

• The only exception is when ALL group members agree to a specific requirement for authorship
  • e.g., 2 units of ESM 596 in Spring 2016
  • in this case, some group members may elect not to be co-authors.
GP Review Meetings

- Plan spring and fall review meetings for weeks 8-10.
- Include all group members, faculty advisor, client (for GP), and external advisors.
- Invite participants at least two weeks in advance.
- Send meeting agenda and materials to all meeting participants at least one week in advance.
- If participants are not able to attend in person, make arrangements for teleconference (phone, Skype, etc.)
- Summarize feedback from spring review meeting and integrate into final work plan or business model.
- Send thank you notes to your client (for GP) and external advisors.
Project Defense

- Weeks 8-9 of winter quarter 2016
- Presented to advisor and 2+ other Bren faculty
- Opportunity to present and receive feedback from faculty on methods, analysis, results, and conclusions
- Focus on project’s scientific content
- Open to all Bren faculty and students
- May invite client (GP) and external advisors
Public Presentation

- Spring quarter: **Friday, April 22, 2016**
- General audience, including faculty, students, potential employers, community, and family members
- Focus on substance, key findings, and significance
  - not methods and analyses
- Poster session and reception follows
Start Doing NOW

• **Read** the Group Project or Eco-E Project guidelines
• Schedule group meetings
• Define roles (PM, FM, DM, WM, IC, editor)
• Start developing your group
  • learn about each other
  • do something together
• Educate yourself about your project
• Confirm client’s funding commitments
  • work with Business Officer Kim Fugate
Problems

- Students have primary responsibility for solving problems
- Involve faculty advisors only after thorough efforts by group to solve problems
- Eco-E team partnership agreement has arbitration clause.
- If serious problems arise (rare), go to Academic Programs Coordinator or Assistant Dean
  - Written documentation is essential if an administrative solution is required
- Campus ombuds office: http://ombuds.ucsb.edu
Satie’s Words of Wisdom

• Master’s Project should not be all/overly consuming
• Issues with group members, advisor or clients may or may not arise
• This is one of the best preparations possible for your future career
• The work belongs to ALL group members
• Always reference others’ work, data, models
• Have fun!
Work Plan Elements

A. Title page
B. Executive summary (1 pg)
C. Objectives
D. Significance of the project
E. Background and literature review
F. Technical approach
G. Data catalog
H. Deliverables
I. Milestones
J. Management plan
K. Budget
L. References
Objectives

• Focus on one to three objectives.
• Tie data, analyses, results, conclusions, and deliverables to objectives.
• Objectives may shift as you gain knowledge.
• Monitor whether you are on track or need to re-orient.
Find out what is already known about your topic.
Locate relevant papers, reports, and data.
Systematically search the technical literature.
  • Meet with Research Librarian Kristen LaBonte
    • klabonte@library.ucsb.edu
    • Thursdays at 9-10 am in Bren Communication Center (BH 3310)
Know the relevant material, don’t just store it on your computer.
Technical Approach

• Describe overall strategy and specific tasks to meet objectives.
• What data will you need?
• Are these data available?
  • yes ➜ Acquire them.
  • no ➜ When and how will you get them?
• Use the data (or imagine data have arrived)
  • What will you do with them?
  • Describe analyses you will conduct to address objectives.
  • Conduct preliminary analyses and describe nature of results.
• Will results meet objectives?
Data Catalog

- For each known or desired dataset, describe:
  - What is it?
  - Where is it?
  - What objectives will it address?
  - What methods will you use to analyze it?
- Identify data gaps and develop a plan to address gaps.
Deliverables

• Short list of products for your client.
• Some deliverables can be completed in the early stages of the project.
• Monitor your list of deliverables to stay on track.
Milestones

- Identify key tasks
  - deliverables for your client
  - academic products
    - final paper
    - project brief
    - poster
    - website
    - academic defense
    - public presentations

- and milestones (when the tasks will be completed)
  - Review (& possibly reorganize) milestones at end of each quarter.
Management Plan

• How will you organize and manage yourselves?
• When/where/how often will you meet?
  • Do not meet at 11:30 am – 12:30 pm on weekdays!
    • reserved for colloquia and career talks (and faculty meetings!)
• How will you ensure that critical tasks are completed on time?
• How will you document, catalog, and archive information?
• How will you interact with faculty advisors, clients, and external advisors?
• What do you and your advisors expect from each other?
• How will you resolve conflicts?