

**Bren School of Environmental Science & Management
University of California, Santa Barbara**



Group Project General Guidelines for MESM Class of 2010

TABLE OF CONTENTS

INTRODUCTION	1
GROUP PROJECT TIMELINE OVERVIEW	2
1. GENERAL INFORMATION	3
A. GROUP PROJECT TIMELINE.....	3
B. ACADEMIC UNITS AND GRADING.....	3
C. STUDENT TIME COMMITMENT	3
D. SUMMER GROUP PROJECT WORK.....	3
E. DELIVERABLES.....	3
F. AUTHORSHIP/OWNERSHIP.....	3
G. DATA DISTRIBUTION	4
H. PUBLISHING.....	4
I. USE OF HUMAN SUBJECTS	4
2. COMPOSITION OF THE GROUP PROJECTS.....	5
A. GROUP MEMBERS.....	5
B. FACULTY ADVISORS.....	5
C. GROUP PROJECT COMMITTEE.....	5
D. GROUP PROJECT COORDINATOR	5
E. EXTERNAL ADVISOR.....	5
F. STAKEHOLDERS	5
3. PROJECT MANAGEMENT	6
A. GROUP MEETINGS.....	6
B. SCHEDULING MEETING ROOMS	6
C. CONFLICT RESOLUTION.....	6
4. PROJECT DELIVERABLES	8
A. ESM 401A (SPRING QUARTER).....	8
1. <i>Project Proposal</i>	8
2. <i>Background/Literature Review</i>	8
3. <i>Management Plan</i>	9
4. <i>Proposal Review</i>	10
5. <i>Website</i>	10
6. Evaluations	11
B. ESM 401B (FALL QUARTER).....	11
1. <i>Progress Review</i>	11
2. <i>Written Progress Report</i>	11
3. Evaluations	11
C. ESM 401C (WINTER QUARTER).....	11
1. <i>Project Defense</i>	12
2. <i>Final Report</i>	12
3. <i>Quality Standards for Final Report</i>	13
4. <i>File Final Report with the Bren School</i>	13
5. <i>Project Brief</i>	13
D. COMMUNITY PRESENTATIONS (SPRING QUARTER)	14
1. <i>Invitations</i>	14
2. <i>Presentations</i>	14
3. <i>Project Poster</i>	14
5. PROJECT EVALUATION.....	15
A. FACULTY EVALUATION.....	15

B.	STUDENT EVALUATION OF FACULTY ADVISORS	16
6.	CREATING A PROJECT BUDGET.....	17
7.	GROUP PROJECT BUDGETS.....	18
A.	COST CENTERS	18
B.	EXPENSE REPORTS	18
C.	PRINTING FUND TRANSFERS	18
D.	COPY MACHINE CODE	18
E.	OPTIONAL VOICEMAIL	19
F.	PHONE AUTHORIZATION CODE	19
G.	INSTRUCTIONS FOR MAKING GROUP PROJECT PHONE CALLS:	19
H.	CONFERENCE CALLS.....	19
I.	LIBRARY COPY CARD	19
J.	VISITOR PARKING PERMITS.....	19
K.	PURCHASE ORDERS.....	19
L.	REIMBURSEMENT	20
M.	OUTSIDE FUNDING.....	20
8.	COMPUTER RESOURCES	22
A.	DATA MANAGER AND WEB MANAGER.....	22
B.	PROJECT NICKNAME.....	22
C.	GROUP EMAIL ALIAS.....	22
D.	SHARED DIRECTORY.....	22
E.	GROUP ACCESS PERMISSIONS.....	22
F.	WORKING DOCUMENTS (RECOMMENDED).....	22
G.	LIBRARY (RECOMMENDED)	23
H.	CALENDAR (OPTIONAL).....	23
I.	REFERENCES (OPTIONAL).....	23
J.	PROJECT POSTER	23
K.	DEFENSE AND COMMUNITY PRESENTATIONS.....	23
L.	PUBLIC WEBSITE	23
9.	LOGISTICS: PREPARING FOR THE GROUP PROJECT FINAL PRESENTATION ...	25
	APPENDIX I.....	27
	APPENDIX II.....	28
	APPENDIX III.....	32
	APPENDIX IV.....	33
	APPENDIX V.....	34
	APPENDIX VI.....	35

INTRODUCTION

These guidelines define the Bren School's expectations for student Group Projects and include explanations of the Group Project process, timeline, and required deliverables.

Group Projects are a unique and important component of the Bren School's approach to environmental science and management. The School developed the Group Project process in direct response to prospective employer requests that Bren graduates possess "real world" skills. These skills include excellent academic training, but also the ability to successfully work and communicate as a member of a team and manage a professional project. The Group Project provides students an opportunity to work together to design, propose, conduct, and present professional interdisciplinary environmental research. Without exception, all students pursuing the Master's of Environmental Science and Management (MESM) degree must successfully complete a Group Project.

Students are expected to collaborate with outside clients which include industry, government, and non government organizations. Clients must present a problem can be successfully addressed and solved by the group project., The goals of the group project are to provide students with training and experience in multidisciplinary real-world environmental problem-solving, provide a mechanism for students to apply their technical expertise in solving complex environmental problems, and provide avenues for learning management skills of group dynamics.

All group projects last three quarters, beginning during the spring quarter of the first year of study and ending in winter quarter of the second year, the project requires:

- An environment in which the students can learn to operate as an independent professional team.
- A spirit of trust and collaboration by all parties.
- Limited client involvement to allow students to develop their own ideas and approaches
- Healthy and professional communications and rapport amongst all parties.
- The ability of the students to choose courses of action, make mistakes, and learn from those experiences.

All groups are encouraged, but not required, to present their Group Project findings in formal conferences outside the University. Participation in such conferences gives students valuable experience and increases the visibility of the Bren School and its students.

GROUP PROJECT TIMELINE OVERVIEW

Below are some of the key deadlines in this year's Group Projects. Note that there may be additional deadlines associated with ESM 401A or faculty advisors may set deadlines for drafts or other materials in addition to deadlines listed here.

Spring Quarter 2009	
Thurs April 9	Management Plan; Problem Statement - Objectives
Tuesday April 21	Partial Literature Review
Thurs April 28	Full Literature Review
Tues May 5	Methods Outline
Thurs May 14	Proposal draft
Tues, Thurs May 19, 21	In-class presentations
Tues May 26	Submit final proposal to review committee
June 1-11	Schedule proposal review during this time
Fri June 12	1 page summary of proposal review meeting
Fri June 12	Group Project weblink due to GP Coordinator

Fall Quarter 2009	
Fri Nov 13	Progress Reviews must be completed
Fri Dec 4	Written Progress Report due
Fri Dec 4	Submit Self/Peer Evaluation to Faculty Advisor(s) & GP Coordinator: form on website

Winter Quarter 2010	
TBA	Project Defenses
TBA	Project Defenses
Mon Feb 15	Draft of final report due to Faculty Advisor(s)
Wed Mar 10	Submit Presentation Program Abstract to GP Coordinator (Template sent out by GP Coordinator)
Fri Mar 19	Final Report with all signatures due: hard copy and .pdf version due to GP Coordinator
Fri Mar 19	Project Brief hard copy and .pdf version due to GP Coordinator
Fri Mar 19	Submit Self/Peer Evaluation to Faculty Advisor(s) & GP Coordinator: form on website
Fri Mar 19	Submit Faculty Advisor Evaluation Form to GP Coordinator: form on website

Spring Quarter 2010	
1-2 weeks before GP Presentation	Take group photo w/ Faculty Advisor(s) to use on the first Final Presentation slide
1-2 weeks before GP Presentation	Submit PowerPoint presentation to Faculty Advisor for review
1-4 days before GP Presentation	Optional practice and videotaping of presentations
TBA	Group Project Presentation
TBA	After Group Project Presentation downtown give posters to GP Coordinator

1. GENERAL INFORMATION

The number of Group Projects depends on the number of students in each incoming class.

A. Group Project Timeline

Students begin their Group Project in the spring quarter of their first year of study and complete their project by the end of winter quarter of their second year of study. Public presentations (discussed later) may be held at the end of winter quarter or at the beginning of spring quarter, depending upon facility availability. If the final presentation is held at the beginning of spring quarter, students are still expected to have all deliverables completed by the end of winter quarter. The timeline overview provides deliverable due dates. Working with their advisors, groups define their own deadlines for intermediate products.

B. Academic Units and Grading

Students must register for ESM 401A, B, & C to obtain the necessary 12 units. Grading for ESM 401A is done by the professor. Grading for 401B is on an "in progress" basis, i.e., the grade given in the final quarter for 401C automatically applies to 401B. (In the interim, an "IP" –In Progress-grade appears on the transcript.) It is not required that all students in a project receive the same grade, although advisors may choose to do so.

At the end of each quarter, students are required to complete a self and peer evaluation and submit it to their faculty advisor by the last day of classes. This form is on line at http://www.bren.ucsb.edu/services/student/GP/peer_evaluation.doc. These evaluations will be considered by the faculty in preparing evaluations and assigning grades.

Students must achieve a grade of B or better on their Group Project. The group project requirement for the MESM degree also requires faculty advisor signatures on the cover page of the report. Even if passing grades are assigned, advisors may withhold their signatures until the Group Project is fully completed to the satisfaction of the faculty advisors. Students can not be recommended for graduation until they have submitted an approved report.

C. Student Time Commitment

Students should expect to devote, on average, at least 12 hours a week to their Group Project, although more hours can be expected. Progress on Group Projects should be evenly allocated over the three quarters to avoid excess workload during winter quarter.

D. Summer Group Project Work

Some students will be engaged in a summer internship associated with the group project. Students not involved in a group project-related internship can, but are not expected to, continue some level of work on their projects during the summer.

E. Deliverables

The major deliverables for the Group Project are:

- ▶ a proposal
- ▶ a progress report
- ▶ group website
- ▶ a final report
- ▶ a 4-page summary brief of the project
- ▶ a poster and oral presentation.

F. Authorship/Ownership

Each member of the group is an equal owner of the intellectual property of the project. That means that every paper, poster, presentation, etc. that arises from the work must list every member as an author. Even if a group member adapts the deliverables long after the

project has ended to present at a meeting or submit for a paper, EVERY group member should be listed as an author.

G. Data Distribution

Datasets and processed datasets that may have been obtained/derived during your work may be licensed or copyrighted or confidential. You should NOT make them available to third parties without authorization from your faculty advisor AND the original source of data. Also, data should not be placed online unless it has been properly approved by the advisor and source of data.

H. Publishing

If a group decides it wants to try to publish their work, it is essential that they discuss this with their advisor and obtain their guidance. Your advisors are experts in the process of peer-reviewed publication, and you want to take advantage of their knowledge and experience. Publication of peer reviewed literature requires interfacing with a larger scholarly community, and we want to make sure that this is done in a way that reflects well on you, your advisor, your client, and the school in general. Also, keep in mind that it often takes quite some time (months to years) to get something published. Moreover, many submissions are rejected and never published and those that are published usually require revisions.

I. Use of Human Subjects

Faculty and students that engage in research involving human subjects must first obtain prior approval from the UCSB Human Subjects Committee (HSC).

"Human Subject" means a living individual about whom an investigator (whether professional or student) conducting research obtains (i) data through intervention or interaction with the individual or (ii) identifiable private information. This means that **even if you are just going to be conducting a survey, you MUST obtain HSC approval in advance.** Approval is required no matter who you will be interacting with - even your friends or family!

If your group is going to use human subjects, please review the Office of Research site: <http://www.research.ucsb.edu/compliance>. The group must understand and abide by the policies and procedures. It can take some time to obtain approval, so this can not be tackled at the last minute. There are serious consequences if your group is not in compliance. Under no circumstances can human subjects be used if prior approval has not been obtained.

2. COMPOSITION OF THE GROUP PROJECTS

A. Group Members

Each group is normally composed of 3 to 5 students. Students vote on projects by assigning preference points to at least 3 projects. These point allocations are then plugged into an optimization program. Group assignments are determined by the program by optimizing overall student preferences for different projects as revealed by the point allocation scheme. As such, not all students will be assigned to their most preferred project. However, rarely are students assigned to projects that are not their third or higher choice.

B. Faculty Advisors

Each Group Project is assigned one or two faculty advisors who monitor progress and provide technical assistance, expertise, and project evaluations. The faculty advisor(s) assign interim and final project grades. However, project leadership and management and the quality of the final product are strictly the students' responsibilities.

Faculty advisors do not serve as project managers; their role is more similar to that of a consultant. The advisors attend the regular weekly meetings of the group and are responsible for grading. The advisors may offer reactive advice, reacting to activities in the group and giving advice when asked. The advisors may also give proactive advice regarding gross deficiencies and deadline problems. It is important that students understand the role of the advisors and the limited, though important, role they play in directing the project. Each faculty advisor has his/her own unique approach. Students should expect variability in engagement, expectations, and feedback from one advisor to the next. During the first quarter, each group should clarify the expected level of interaction with their advisors. It is recommended that groups include this information in the management plan.

C. Group Project Committee

The Group Project process is overseen by the Group Project Committee. Any questions or concerns regarding your group should be presented to the Group Project Coordinator (see below), who will forward the information on to the Group Project Committee for discussion.

D. Group Project Coordinator

The Group Project Coordinator is a staff member who serves as a liaison between the students, faculty advisors, and the Group Project Committee to assist all parties in facilitating the Group Project process. The Group Project Coordinator for the Class of 2010 is Amy Burgard, Bren School Academic Programs Coordinator.

E. External Advisor

Interacting and networking with the professional community are critical components of the Group Project process. Groups are expected to obtain the counsel of external advisors—individuals from government agencies, industry, non-profits, and private citizens—who may be interested in the projects, data, or deliverables. Each group will be responsible for identifying external advisors and maintaining professional contact with them for the duration of the project.

F. Stakeholders

Some projects will involve stakeholders (government agencies, industry, non-profits, and private citizens) who have a considerable interest in the project and/or the resulting data. There may be confidentiality, proprietary data, legal, intellectual property, and/or political issues that will need to be carefully addressed by the groups. Students must respect the privacy of these stakeholders in a professional manner.

3. PROJECT MANAGEMENT

A. Group Meetings

Groups are encouraged to meet as often as necessary, but all groups must meet at least once a week at a designated place and time. The faculty advisor(s) are expected to participate in the weekly meeting. However, it is the responsibility of the students, not the advisors, to schedule the meetings and make necessary arrangements. Advance notification of absences to the group is expected as a matter of courtesy. Participation in the group meetings is a portion of each student's grade; missed meetings may negatively affect the overall grade.

B. Scheduling Meeting Rooms

Students are responsible for scheduling their own rooms using Corporate Time for regular group project meetings. Two rooms are officially designated as Group Project meeting rooms—Bonsai (BH 4402) and the Visitor Center and only these rooms can be directly scheduled by students. Each group should designate a CT scheduler for the group and this person should be responsible for all Corporate Time entries for their group.

Corporate Time instructions can be found on the web at:

http://www.bren.ucsb.edu/services/computing/applications/corporate_time.html

To schedule a room:

- Open Corporate Time
- Click on File and then Agenda then Open
- Replace your name with r:esms
- A list of Bren resources (room and equipment) will come up
- Scroll down to the room you want to schedule (Bonsai or Visitor Center)
- Double click to pull up the calendar for that room
- Schedule
- Schedule your meeting if the room is free at the desired time
- Be sure to list your group nickname in Title entry and the scheduler's email (i.e... NICKNAME-scheduler@bren)

It is imperative that the scheduler check availability before scheduling and never schedule on top of an existing reservation. In addition, if plans change and the room is not needed as scheduled, the reservation should be removed from Corporate Time immediately since the rooms are in high demand.

Staff can schedule group project meetings in other rooms if the Visitor's Center and Bonsai are booked, if there is a special circumstance, or if it is a special stakeholder meeting or a project review meeting. In this case, schedule a room by sending an email to scheduling@bren.ucsb.edu.

Please use scheduling@bren to reserve any media (i.e. video projectors, conference phone, etc.) and do so reasonably well in advance.

C. Conflict Resolution

The primary responsibility for conflict resolution lies with the group members. The faculty advisors should help resolve any issues that cannot be adequately addressed by the group members. If after faculty arbitration a group is still unable to resolve a conflict, the group may seek assistance from the Group Project Coordinator or the Chair of the Group Project Committee, who will consult with the Group Project Committee if appropriate. Students may also wish to contact the campus ombuds office (<http://www.ombuds.ucsb.edu>). Trained mediators are available at no cost throughout the year. Their mediation techniques are informal, confidential, and impartial.

If students are having trouble with a member of their group, it is critical that they maintain written documentation of the problem. For example, if one member of a group is a "slacker" (not doing their share of work or not providing timely products or products of adequate quality), the other group members must document dates of specific incidences, what efforts were made to address the problem, and examples that support the allegation of slacker. Only under these circumstances will it be possible for Group Project administrative personnel to intervene and assist in crafting a solution or dispense a penalty. However, administrative involvement is generally limited and occurs only when there are serious issues that remain unresolved after considerable effort by the students and advisors.

4. PROJECT DELIVERABLES

Refer to timeline overview for a summary of the deadlines and deliverables.

A. ESM 401A (Spring Quarter)

Students begin Group Projects in spring quarter of their first year of study and are required to register for ESM 401A (Group Project in Environmental Science and Management). Students earn 4 academic units upon the successful completion of the course. The School expects students to be actively involved with their group throughout the duration of the yearlong project.

1. Project Proposal

During ESM 401A, each group transforms the short, initial proposal for their project into full prospectus that contains the following:

- ▶ Title Page
- ▶ Abstract (not to exceed 200 words)
- ▶ Executive summary (not to exceed two pages)
- ▶ Clearly stated objectives.
- ▶ Significance of project. (Why should your readers and audience be interested?)
- ▶ Background Information/Literature Review
- ▶ Approach. This section lays out the specific technical approach you will take to the problem. Include specific tasks and subtasks necessary to accomplish your objectives.
- ▶ Management Plan (see Section 5B below)
- ▶ Deliverables. Be specific on the nature of what you will produce.
- ▶ Milestones. Include dates when you initiate and complete tasks and subtasks
- ▶ Opportunities for links with outside advisors and professional environmental community
- ▶ Budget (see Section 7 and example in Appendix V)
- ▶ Budget justification
- ▶ References cited

The project proposal is limited to 20 single-spaced pages. This limit does not include the title page, abstract, executive summary, references cited and the budget.

A draft of the project proposal is submitted to each group's faculty advisors during spring quarter (see timeline for date). The final project proposal is due to the faculty advisors and external reviewers before the external review, and should be distributed in advance.

2. Background/Literature Review

One of the most important sections of your proposal will be the background information/literature review. In spring quarter, a considerable amount of the effort on the project should focus on obtaining relevant information, becoming well-informed about the current state of knowledge related to your topic, and preparing a review of the literature as it relates to your project. Your literature review should focus on peer-reviewed literature (journal articles, chapters from edited books, scholarly books) and government reports (which are often not peer-reviewed but are performed by credible scientists).

It is important that your literature review not be too narrowly focused.

For example, if your group is analyzing improvements to transportation infrastructure, you will need to review literature related to that topic. In addition, if you are going to be using scenarios as a tool for projecting future needs, your literature search and review will also need to explore the use of this tool, even if the tool has never been used in transportation infrastructure studies before.

You should focus your literature review on the most recent publications, and you will want to look for specific results whose assumptions match your problem. Your initial search should be general and then narrow to get a manageable number of publications. More than likely you will start your literature review with keyword searches (e.g. general concepts, species of chemical names, region or environment type) of publication databases such as the Web of Knowledge (WoK). You can then use WoK to get a good piece of literature and then look at papers that it cites, as well as looking for more recent papers that cite it. If you are not familiar with these databases, you can take advantage of training that Janet Martorana (martoran@library.ucsb.edu), the UCSB librarian assigned to the Bren School, can provide.

3. Management Plan

The Management Plan outlines a group's management structure and general plan for the form and function of their group. Please see timeline for management plan due date. It should specifically include:

Group structure and management. Includes a definition of the various "jobs" necessary to execute the project (e.g., publications manager, data/computing manager, financial manager, project director, etc.). An organizational chart is useful.

Meeting structure. How will meetings be run? Who calls meetings? Will some meetings include advisors and others not? Will minutes be taken and, if so, by whom?

Responsibilities of group members. Includes duration of positions in the case of rotating roles.

Systems to ensure deadlines are met.

Conflict resolution process. To deal with conflict within the group. A common problem in groups is the problem of the "slacker". It is better to decide on ways to deal with a slacker before anyone becomes a slacker. The starting point for dealing with a slacker is for the group to assume all or some of the responsibility for the problem. If there is a slacker, it is likely that the group is failing in some way to motivate that individual. The group's plan should first focus on motivating the individual. Methods for dealing with this problem include peer review, division of responsibilities, documentation of slacking behavior, and even the "firing" of a person from the group (though this action would need to be taken in concert with the Bren School administration).

Procedures for documenting, cataloging, and archiving information. Documents, contact information, messages, calendar, website, budget projections, and expenditures must be accessible to all Group Project members. This is an important task. If there are delays or failures, the entire project can be adversely affected.

Guidelines for interacting with faculty advisors, external advisors, clients, customers, or consultants. What role will the advisors play? Do they want written progress reports? Do they want drafts of sections of the report? How much time do they require for document review? How frequently will you meet with your client? How will you keep your client informed of your progress? How will you deliver your product to advisors and clients—electronically or in hardcopy?

Overall expectations of group members and faculty advisors. It is strongly recommended that you discuss with your faculty advisors your and their expectations. It will be useful to include in the management plan the expectations of faculty, the expectations of students with regard to faculty involvement, and the grading criteria.

4. Proposal Review

Before the end of spring quarter (see timeline for date), groups are required to schedule, organize, conduct and document a proposal review. The purpose of the review is for groups to gain critical feedback regarding their project's scope, the importance of the project, the proposed plan of work, and the potential implementation implications of the results. This review process will improve the real-world nature of the problems and solutions Group Projects pursue.

The proposal review meeting must include:

- ▶ all group project members
- ▶ the assigned faculty advisor(s)
- ▶ one other Bren School faculty (two preferable)
- ▶ two external reviewers (non-Bren)

External Reviewers

An external reviewer is someone who has knowledge about your project topic and who can provide unbiased feedback. The reviewers can be professionals working in your group's field of study (preferable) or faculty or researchers in other UCSB departments or other Universities. It is expected that external reviewers will:

- ▶ Be available (by appointment) to meet with the group and answer questions
- ▶ Attend the spring proposal review in person or via conference call. If they are not available, they should read the project proposal and provide written feedback.
- ▶ Attend the fall presentations (if convenient)
- ▶ Read and provide feedback on both the final project proposal and the fall progress report.

External reviewers are not expected to provide feedback on the entire final report, though the group may ask for feedback on specific sections if the reviewer has time. Your external reviewers are very busy people and their time should be respected. If you schedule a meeting with them, please be prepared with an agenda and specific questions so the time is valuable for them and for you.

It is important that reviewers are lined up well in advance (at least 2 weeks) since participants are likely to have very full schedules. The group is required to work with the faculty advisors in planning the proposal review; however, the group will conduct the meeting with the advisors as participants and will have primary responsibility for making necessary arrangements. Issues that must be fully addressed and agreed upon by the group and advisors include: attendees, agenda, and schedule.

Groups will submit to the instructor of 401A a one-page summary of the proposal review meeting signed by the faculty advisor (see timeline for due date). The spring quarter performance evaluation will be based in part on how well the students plan, conduct, and document the review meeting. Feedback must be accurately documented so it can be incorporated in the updated proposal fall quarter. Groups should be sure to send a written thank you to all their external reviewers.

5. Website

By the end of spring quarter, each group is required to create and maintain a public website through the Bren School. The weblink should be sent to the Group Project Coordinator by the date specified in the timeline. At a minimum, the following is required to be accessible through this site:

- ▶ Names and email addresses for all group members and group email address
- ▶ Faculty Advisor's names and email

- ▶ Project title and abstract
- ▶ Final project proposal
- ▶ The initial project proposal should be posted until the final project proposal is completed

6. Evaluations

Each individual in the group must complete a self evaluation and peer evaluations and submit them to the Group Project Coordinator by the last day of classes of the quarter. This form is on line at http://www.bren.ucsb.edu/services/student/GP/peer_evaluation.doc.

B. ESM 401B (Fall Quarter)

Students must enroll in ESM 401B (Group Project in Environmental Science and Management) for 4 units, and generate the following products within the published deadlines.

1. Progress Review

In the middle of fall quarter, each group is required to hold a progress review meeting. The purpose of the meeting is to report the group's progress to your advisors, stakeholders, etc. at the mid-point of the project, and provide the group with an opportunity to obtain feedback intended to strengthen their research agenda. The meeting should be scheduled late enough in the quarter so some progress has been made, but early enough so any changes can be made before it is critical.

The progress review meeting should cover the following:

- ▶ Clearly stated project objectives
- ▶ Importance of research
- ▶ Plan for executing research
- ▶ Expected results
- ▶ Progress so far

2. Written Progress Report

At the end of fall quarter, each group submits a written progress report to its faculty advisors. This is not just a revised version of the proposal submitted in spring quarter for ESM 401A. It focuses instead on progress and changes since the end of spring quarter and includes a plan for the final quarter. The progress report should include:

- Current status of work at the end of fall quarter
- Work remaining
- Changes to the goals of the project from the Project Proposal
- Plan for Fall and Winter quarters, including a finalized timeline

3. Evaluations

Each individual in the group must complete a self evaluation and peer evaluations and submit them to the Group Project Coordinator by the last day of classes of the quarter. This form is online and can be found at:
http://www.bren.ucsb.edu/services/student/documents/PeerandSelfEvaluation_001.doc.

C. ESM 401C (Winter Quarter)

During winter quarter of their second year of study, students must enroll in ESM 401C for 4 units. A high quality draft of the final report must be completed by mid-quarter. Groups should expect multiple iterations before their document is finalized, and they must craft a project timeline that takes this into account to ensure that they complete their project and all deliverables (with the exception of the public presentation if it is not held until the

beginning of spring quarter) to the satisfaction of their advisor by the end of winter quarter. Failure to do so will result in a lower grade for the class and assignment of a NG (No Grade) until everything is completed.

Once approved, each group must provide one bound hard copy (spiral bound form is acceptable) and an electronic copy of the final report (in .PDF format) to the Group Project Coordinator.

1. Project Defense

In weeks five and/or six of winter quarter, each group will hold a project defense. The defense will be a critical evaluation of the project much like a thesis or dissertation defense. Groups should expect probing questions and criticism that will likely result in some revisions to their final reports.

The entire Bren School Community will be welcome to attend. The Bren School Group Project Coordinator will make arrangements for this, including arranging rooms and setting the presentation schedule. The Group Project Coordinator will also arrange for there to be a couple of "independent reviewers" at each defense. These people (faculty or others) will likely not have been formally or informally involved in advising the project over the last year and hence can provide a new, fresh perspective. If groups wish to have their external advisors attend, they will need to invite them.

By the defense, groups should have their research completed and preliminary conclusions and recommendations formulated. Groups will prepare a 20-25 minute presentation. The focus should be on content and substance. Fancy visual effects can be reserved for the public presentation. Following the presentation, there will be 10-15 minutes of questions. Independent reviewers are expected to provide written feedback to the group (and cc the group's advisor) summarizing the strengths of the project and recommendations for improvement following the defense. Groups are expected to take into account recommendations for improvement and revise their final deliverables to ensure that they have produced the highest quality work possible.

2. Final Report

A draft of the final report is due to your advisors by the middle of winter quarter. If appropriate, a copy of the final draft should be shared with the client, and the final product should consider client feedback.

By the end of winter quarter, students must submit a final report of their group project, signed by the advisor, and ready for posting on the web. The deadline for the final report is firm. The final report provides a complete discussion of the project's goals, objectives, methodologies, and accomplishments.

Students should keep in mind that it is doubtful that they will be able to complete their reports by the end of winter quarter if they do not present a high quality draft to the advisors by the middle of the quarter. Some advisors will expect drafts earlier and may require longer periods for review and comment than others. In general, students should expect that their advisors will require at least one week, but as many as two weeks, to thoroughly review the report. It is likely that more than one iteration will be necessary before the advisors find the report to be acceptable. Thus, it is critical that students and advisors discuss and agree upon a realistic timeline and have consistent expectations in terms of turn-around time, etc.

The final report should not include information restated from the group's Management Plan. The final report typically includes the following:

- ▶ Abstract (not to exceed 200 words)
- ▶ Executive summary (not to exceed 4 pages)

- ▶ Discussion of project objectives and their significance
- ▶ Background information, including references to similar projects or research
- ▶ Discussion of methods used
- ▶ Results
- ▶ Discussion of results
- ▶ Conclusions
- ▶ Recommendations for future research
- ▶ References

Final reports must not exceed 200 pages, and must be free of typographical, formatting, and other errors. Any deviations from the format guidelines must be approved by the faculty advisors prior to submission of the final report.

3. Quality Standards for Final Report

The final report should reflect that the group has 1) the ability to clearly articulate the problem orally and in writing; 2) the ability to clearly articulate the scope of the work; 3) the ability to clearly articulate how their work is related to larger issue(s); and 4) the creation of original interpretations of the work of others and/or the generation of original data that leads to original interpretations.

Conclusions and recommendations in the report are to be based only on 1) original interpretation and synthesis of the work of others; 2) original data and interpretations of that data; and/or 3) a combination of 1 and 2. The unsupported expression of opinion in the final report is not appropriate.

When monetary support has been provided, acknowledgement must be made to individuals and/or organizations for their support of the project. Individuals or organizations that have contributed non-monetary support in the form of time, information or useful advice, should also be acknowledged if the Group Project members and advisors agree it is warranted.

Individuals and organizations have the right to refuse being acknowledged. Prior to finalizing acknowledgements, the group must inform them of its intent to acknowledge them in the report.

Adherence to accepted rules of citation is required. Groups should choose a method of citation and use it consistently, i.e. MLA, APA, Chicago, etc. Only readily retrievable sources are acceptable.

4. File Final Report with the Bren School

Once approved, each group must submit one bound copy of its final report and an electronic copy of the final report (in .PDF format) to the Group Project Coordinator. All final reports must be formatted in compliance with "Bren School Filing Guidelines" (see Appendix II).

5. Project Brief

Each group must prepare a four-page brief summary of the project by the end of winter quarter. This summary is widely distributed, and for many it is the primary visible product of the project. Thus, care should be taken to be sure it is readable, attractive and complete. Pictures and diagrams are encouraged, as is the use of color. The Project Brief should adhere to content and formatting guidelines detailed in Appendix VI and be delivered electronically to the Group Project Coordinator. Groups should make enough copies for distribution at the public group project presentation events. This typically attracts 300-400 people, so groups probably want to have at least 50-100 copies.

D. Community Presentations (Spring Quarter)

1. Invitations

At the beginning of spring quarter of the last year of study, each group participates in a special Bren School event featuring formal public presentations of the Group Projects. The School invites academics from other UCSB departments and other universities, environmental professionals, and the Bren Advisory Board to the event. Groups are also expected to play a role in extending invitations and encourage attendance at the event. Group should personally invite and provide a copy of the Bren School's electronic invitation to external advisors, stakeholders, and other professionals with whom they have interacted over the course of their project or have expressed interest in their project. Students may also extend invitations to personal guests.

2. Presentations

The importance of this event cannot be overstated. Presentations by Bren students have a huge impact on the reputation and prestige of the School and, hence, on the value of the students' degrees. All Bren students attending are expected to dress in business attire. If you have any questions about what is acceptable, please discuss this with the Group Project Coordinator or the Director of Career Development.

Each group's presentation is 35 minutes in total length, which includes at least 10 minutes for questions. No more than two group members will be presenters since speaker transitions are disruptive and generally reduce the effectiveness of the presentation, especially when there is limited time. All members of the group must be in attendance and will be part of a panel seated up front facing the audience and will participate in questions/answers as appropriate.

The audience at the presentation is different than the audience at the defense. Successful presentations must always take into account who the audience is and tailor the presentation appropriately. The presentations need to be understandable by a fairly diverse group (some employers, some experts, some non-experts, and some parents). This does not mean that you "dumb down" the presentation. However, you should prepare a presentation for an audience that is more interested in substance and findings and less interested in the details of methods (which the Group Project defense audience is quite interested in).

Groups will have the opportunity to have a videotaped practice session in advance of the community presentation.

Each project has a page in the Group Projects program. An abstract, along with Group Project title, members, advisor, and acknowledgements must be delivered electronically to the Group Project Coordinator by the beginning of March (see timeline for specific date).

3. Project Poster

Each group must prepare a professional poster that summarizes its project. The posters will be displayed at the public community presentation. The School will keep the posters for future display in Bren Hall. The posters should be at least 4'x3' but no larger than 4'x6', including borders. The poster does not have to be laminated, but groups may want to consider this if they will be presenting their work at conferences or other events. It is expected that the poster will be completed by the end of winter quarter.

Information regarding the Group Project poster is available on the web at:
www.bren.ucsb.edu/services/computing/applications/group_project_info.html - POSTER

5. PROJECT EVALUATION

A. Faculty Evaluation

Students must take ESM 401A, B, & C for a grade. You will receive a letter grade for 401A from the instructor. You will receive an "IP" (In Progress) grade for 401A & B; a letter grade is assigned for 401C at the end of winter quarter. That letter grade automatically applies to 401B. Each student in the group receives a separate grade. If a group performs well together, it is likely that all group members will receive the same grade, but this is not guaranteed.

Student performance in a Group Project is evaluated and graded based on demonstrated depth of understanding, critical thinking, interdisciplinary approach, originality, external development, resourcefulness, professionalism, and communication skills. Specific criteria that faculty advisors will use in assigning project grades include:

1. A working understanding of the published literature and facts immediately relevant to the project. A literature review should be largely completed by the end of spring quarter of the first year.
2. A critical perspective on the quality and shortcomings of prior work relevant to the project. This should include an identification of attempts to answer similar questions in other contexts. This critical review should be at least 50% completed by the end of spring quarter of the first year and fully demonstrated by the fall progress review.
3. A working understanding of the social and natural science dimensions of the issues and an aggressive plan for integration of these dual perspectives into the project. This should be demonstrated at a level of 75% by the end of spring quarter of the first year and 100% by the beginning of winter quarter of the second year.
4. Originality of analysis, problem formulation, and scope of work. This should be demonstrated throughout the project.
5. Formation of working relationships with environmental professionals outside of the Bren School. In some cases, outside advisors will be identified when the Group Project is proposed. In other cases, the students will have to identify stakeholders, sources of information, outside consultants, and/or experts who can provide benefit to the Group Project. This should be demonstrated at least at a 50% level by the end of spring quarter of the first year and 100% by the fall progress review.
6. Resourcefulness. Throughout the project, students are expected to demonstrate initiative in finding information, identifying tools necessary to achieve their scope, seeking outside advisors, acquiring necessary funding, and establishing internships for themselves as appropriate.
7. Punctuality. Students are expected to deliver intermediate and final products on schedule.
8. Communication skills. Oral presentations and written reports are expected to be well organized, scholarly, and well communicated.

9. Participation. Students are expected to participate and actively contribute in meetings, training sessions, and events.

B. Student Evaluation of Faculty Advisors

At the end of the project, all Group Project members should complete an evaluation for each Faculty Advisor and submit it to the Group Project Coordinator (see Appendix I). The Group Project Coordinator types all comments before distribution to the advisors to preserve anonymity.

In the event that there are any serious advisement problems mid-way through the project, this should be brought to the attention of the Group Project Coordinator or the Chair of the Group Project Committee. These individuals understand and are committed to respecting privacy and anonymity in working with students to try to find solutions to problems. If, however, individuals are not comfortable providing feedback that is not anonymous, they are still welcome to submit anonymous memos outlining their concerns.

6. CREATING A PROJECT BUDGET

Each Group Project is allotted \$1,300 as a base budget, and up to an additional \$200 of printing. Each group must create a budget for its project, estimating expenses to the best of their ability and accounting for the following costs:

- Phone calls: (\$10 set-up; \$1/month for 12 months, plus calls)
- Final poster printing (approximate, unlaminated): \$55.00-200.00

In addition to the above costs, each group must consider appropriate additional expenses such as travel, software, laboratory fees, business cards, reference books, poster production, presentation materials, photocopying, and publication expenses when preparing the budget. Furthermore, the funds are for reasonable expenses related to your group project.

Group Project funds provided by the School CANNOT be used to pay for gifts, awards, and donations. Also, these funds CANNOT be used for food and beverages unless they are associated with travel that conforms to UC travel policies (www.bren.ucsb.edu/services/admin/travel_regulations.asp). These funds can only be used for food and beverages associated with entertainment if 1) advance approval is obtained from the Bren School's Financial Manager, Mike Best (mbest@bren.ucsb.edu); and 2) the entertainment is associated with a meeting that includes stakeholders or other people that are not associated with the University. The funds absolutely can not be used to provide food and beverages for meetings that include only UC personnel and/or students. There are NO exceptions to this UC policy.

Bren School Purchasing Procedures:

www.bren.ucsb.edu/services/admin/purchasing_procedures.asp

7. GROUP PROJECT BUDGETS

Bren School Financial Unit

Group project members will likely have to interact with some or all of the Bren School's Financial Unit staff over the course of their project.

Mike Best, Bren School's Business Officer

-primary contact for budget matters related to Group Projects

- mbest@bren.ucsb.edu; x6114; BH 2516

Connie Fourqurean, Bren School Purchasing Coordinator

-processes paperwork for purchasing related to group projects

- connie@bren.ucsb.edu; x6114; BH 2512

Frank Soares, Bren School's Personnel/Payroll & Travel Coordinator

-processes paperwork related to travel associated with group projects

- fsoares@bren.ucsb.edu; x6114; BH 2400C

Group Project Financial Managers

Each group must designate one person to serve as the group's Financial Manager. Each Financial Manager must send the Bren School's Business Office email identifying him/herself as the group's financial manager and arrange to meet at the beginning of spring quarter to gain necessary training and go over policies and procedures.

A. Cost Centers

Each Group Project is assigned a Cost Center. A Cost Center is an account number in the School's internal accounting system designated to track expenses. Each Cost Center number looks something like ES600/7/MIS. Group members must use this Cost Center to identify charges (Purchase Orders [PO], faxes, phone calls, petty cash receipts, lab fees, etc.) for appropriate allocation and/or reimbursement.

B. Expense Reports

The Financial Manager will receive a monthly expense report from the Bren School's Business Officer, which indicates the budgetary activity within the group's cost center. This member will be responsible for tracking, managing, communicating, and updating the group's budget. If expenses (phone, copies, travel, etc.) are incurred exceeding the budgeted amount, the reimbursement requests will be returned, and the group will be responsible for funding the activity. After receiving the monthly expense report, the group should reevaluate the budget to ensure that the project can be successfully completed within the given budgetary constraints.

C. Printing Fund Transfers

Each group receives up to \$200 of printing. These funds must be transferred to the individual printing accounts of group project members. Past groups found it is easiest to transfer funds to just one member. To transfer funds, the Financial Manager sends an email to the Bren School's Purchasing Coordinator. If groups require more than \$200 of printing, then groups can send an email to Connie requesting a transfer of some of their project funds to printing accounts. If there are not adequate funds remaining and groups require more printing, they will have to pay for it themselves and the charge will be billed to students' BARC account.

D. Copy Machine Code

Each Group Project receives a 5-digit copy code for the copy machines in the Bren School Student Mail Room (Bren Hall, Rm. 2406) or the Student Commons. To make copies for

research and/or group meetings, group members must enter the code into the copier. Copy expenses are automatically allocated to each group's Cost Center.

E. Optional Voicemail

An optional voice mailbox for each group can be installed on the Bren Commons telephone. Students may access this voice mailbox from home. Groups may request voicemail through Mike Best (mbest@bren.ucsb.edu). A monthly fee of \$22 is applied to the group's account for the voicemail.

F. Phone Authorization Code

Each Group Project also receives a 5-digit phone authorization code, which allows members to make phone calls from the Bren School Commons. Again, all phone expenses are automatically allocated to each group's Cost Center. All phone calls must be made from the Commons; the telephones in the administrative offices are not available for student use.

G. Instructions for making Group Project Phone Calls:

- Pick up the phone handset
- Dial #55
- Dial your 5 digit phone authorization code
- Dial 9 (to get outside dial tone)
- Dial the number you wish to call

H. Conference Calls

The Bren School has a special phone for conference calling. This phone, along with a specific meeting room that has as an outside phone line, can be scheduled by contacting the Instructional/Scheduling Assistant at scheduling@bren.ucsb.edu. When dialing the number, please use the phone call instructions above to ensure the calls you make on this phone will be charged to the appropriate group account. Incoming phone calls to the specific phone line will not be charged to the group's Cost Center.

I. Library Copy Card

Each Group Project can purchase a library copy card to use at the Davidson Library. The expense for this card is automatically charged to each group's Cost Center. Library Copy Cards are charged to the appropriate cost center and can be requested through the Bren School's Purchasing Coordinator.

J. Visitor Parking Permits

Parking permits are available for your stakeholders, external reviewers, etc. for parking on the UCSB campus to attend Group Project meetings. To obtain a permit, contact the Business Officer at least 72 hours before your visitor's arrival, and provide the: 1) name of your Group Project; 2) Group Project budget number; 3) name of your visitor and his/her affiliation; 4) date and time of arrival; and 5) location of your meeting (building and room number). Each permit costs \$8.00 and is charged to your Group Project budget. Reserved parking (where a parking spot is designated for the visitor near Bren Hall) is more expensive and should be used only when the visitor is an extremely important individual with a time constraint. Your group budget will be charged \$32.00 per space per day for reserved parking.

K. Purchase Orders

Groups must use a Purchase Order (PO) for purchasing group project supplies and services, as opposed to paying out-of-pocket and being reimbursed (see below) if the vendor accepts purchase orders. PO's may be obtained from the Purchasing Coordinator. Group Project Financial Managers should understand purchasing policies and procedures

(http://www.bren.ucsb.edu/services/admin/purchasing_procedures.asp) and ensure that their group abides by these rules.

L. Reimbursement

If a vendor does not accept a purchase order, group members may use personal funds and then submit a receipt to the Purchasing Coordinator to be reimbursed. When submitting receipts for reimbursement, please include the following information:

- Original receipt with name of vendor, date, and description of what was purchased
- Name of person to be reimbursed
- Original Signature

M. Outside Funding

It is possible for groups to obtain additional funding for their projects from extramural organizations (outside the University) in the form of gifts or contracts/grants. While obtaining additional funding may be desirable, we generally do not pick projects that can not be done on the base budget provided by the School plus any funding originally promised by client. You are not encouraged to spend a lot of time trying to raise funds at the expense of doing the project!

Gifts

Gifts are the best way to receive additional funding for group projects. If at all possible, obtain extra support for group projects in the form of a gift. All gifts MUST be coordinated with the Bren School's Assistant Dean for Development, Jennifer Deacon (jennifer@bren.ucsb.edu). It is imperative that organizations are not solicited for a gift unless this is discussed with Jennifer in advance. Active fundraising by students (or faculty for that matter) without Jennifer's guidance is not appropriate.

A gift cannot have deliverables of any kind. If there are deliverables, or if there is paperwork to be signed, it is highly unlikely that it is a gift. No one in the Bren School has the authority to sign paperwork related to acceptance of money. The donor can make certain stipulations such as "to be used to support research on explorations of water on the moon." They can also request a report on how the money was spent.

If a gift is received to support a particular group project, then the creation of a special cost center for the group to access these funds will occur. If, at the end of the project, there are funds remaining, they return to the Bren School general fund.

Bear in mind, however, that federal agencies and many other governmental agencies can not give money in the form of a gift. In this case, we will most likely have to process it as a contract or grant.

Grants/Contracts

The other way that the University receives outside sources of funding is through grants and contracts. A contract or grant provides money to the University for a specific deliverable(s).

To receive contract/grant funding, the group must first write a funding proposal. This must be coordinated by the Bren School's Business Officer, Mike Best. Proposals CANNOT be submitted directly to funding agencies. First, they must be processed and approved by the Bren School (this usually takes 3-5 days) and then they must be processed by the Office of Research (this takes an additional 5 days). Proposals cannot be submitted to a funding agency until they have been approved by UCSB's Office of Research. The Bren School and the Office of Research ensure that the group's documents are properly prepared to meet the guidelines of both the agency and the

University. A proposal must have a budget, budget justification, clearly articulated deliverables, and start and end dates. In addition, students cannot submit proposals on their own; there has to be a faculty Principal Investigator (PI). If funding is received, the PI is ultimately responsible for ensuring that the funding is used properly and that deliverables are provided by deadlines.

There are two very important things to remember about contracts and grants: 1) ONLY the Office of Research can accept contract and grant money, and they will not accept it if they can not agree on terms; 2) Most contracts and grant money is subject to Indirect Cost (Overhead). This rate can potentially be over 50% meaning out of every \$100 spent the University will take \$50 in addition making the actual cost \$150. To determine the appropriate overhead rate and coordinate Office of Research (OR) approval please see the Bren Financial Team prior to proposal submission.

Given the complexities of submitting proposals for contract and grant funding, the length of time it tends to take to process proposals and ultimately receive funds, and the high overhead rate, it is far better if we can receive funding to support group projects in the form of a gift.

8. COMPUTER RESOURCES

The following describes computer resources available to each Group Project and recommended management practices. Most of these suggestions do not require any special privileges; those that require the intervention of the Bren School Compute Team are clearly noted.

A. Data Manager and Web Manager

Each group should designate a Data Manager who will have primary responsibility for maintaining the group's shared online information. Designating a single manager ensures that a group's information is consistent by allowing only the manager to modify it (except as specifically described below). The Data Manager should also be responsible for briefing group members on the use of directory and file permissions and managing information within the group's information architecture. The Data Manager will also be authorized to install software on the group's computer. Each group should also designate a Web Manager. This person will have primary responsibility for maintaining the group's website (see section 8L for more information).

B. Project Nickname

Each group is given a short nickname. The nickname is used to identify the project's online artifacts (directories, mailing lists, etc.). The term nickname, wherever it appears in the remainder of this document, refers to this project nickname.

C. Group Email Alias

The Bren School Compute Team will create an email alias, named `nickname@bren.ucsb.edu`, for each group. The recipients of each alias will be the group's student members and faculty advisors. Each group's email traffic will be post-processed (e.g., by "mailman") into threaded HTML files. Group members may access the threaded mailing list log by following the "Nickname Archives" link from <http://www.list.bren.ucsb.edu/mailman/listinfo/nickname>.

D. Shared Directory

The Bren School Compute Team will create a "shared directory" for each Group Project. The shared directory will be named `nickname`, and will be housed on a Bren School Windows server, probably Babylon. This shared directory will be accessible from all Windows systems in the ESM domain via `\\babylon\GroupProjects2009\nickname`. For group project members, this will be mapped to `G:\nickname`. The pathname `\nickname\` in the remainder of this document refers to this shared directory.

E. Group Access Permissions

The Bren School Compute Team will create a Windows group for each Group Project, named `nickname`. The members of these Windows groups will be the student members of each group and their faculty advisors. Unless otherwise specified, all files and directories discussed in these Guidelines will be owned by the group's Data Manager. The Data Manager should assign, read, and execute permissions to the members of the group. The Data Manager and all group members are responsible for ensuring that the Windows group "ESM - System Admins" have "full control" permissions on all directories within the Group Project's directory structure that the group wishes to be backed up. Without appropriate permission, regular backups of a group's electronic files will not occur, and files may be lost. You can access the permissions for a folder or files by right-clicking on it -> Properties -> Security.

F. Working Documents (Recommended)

Each group's Data Manager may create a group-writable directory `G:\nickname\workdocs`, under which each project member may create their own subdirectory `G:\nickname\workdocs\member`. These subdirectories should be readable by a group's

Windows group, but writeable only by the owner and the Data Manager. The protocol for collaborating on a document should be as follows: Each collaboratively authored document should be assigned a lead author who is responsible for maintaining the master copy. Each collaborator should be free to place components or edited versions in their own \nickname\workdocs\member\document subdirectory, where document is a unique name for the document, assigned by the document's lead author. It should be the lead author's responsibility to synthesize the final version of the document for submission to the Data Manager to post for the group members to read.

G. Library (Recommended)

Each group's Data Manager may create a group-writeable directory \nickname\library, in which group members can place static (i.e. read-only) documents for the project to share. Group members should give the Data Manager their files that they would like to house in the Library. This directory should be "read only" for all group members with the exception of the Data Manager.

H. Calendar (Optional)

Each group's Data Manager, and/or other specified group members, may maintain a project calendar for project events and deadlines using Microsoft Project, Google Calendar, etc. Each student has an individual Corporate Time account which can be used to propose group project meetings, etc. Please remember that when using individual accounts, only the person proposing a meeting and inviting others to it may make changes to the meeting. Therefore it may be useful to make one person in charge of scheduling meetings. Corporate Time can be used to easily create a group by going to Tools -> Manage Groups. For more Corporate Time information, visit:

http://www.bren.ucsb.edu/services/computing/applications/corporate_time.html

I. References (Optional)

Each group's Data Manager may maintain a shared file of bibliographic references that will be incorporated into project reports, papers, etc. The Bren School currently supports EndNote bibliographic software, which is installed on each Group Project computer.

J. Project Poster

Each group will create a Poster Presentation of their project. When designing the poster, please CHECK THE VENDOR'S INFORMATION about acceptable software, formats, and file types BEFORE beginning the poster. Resolution should be from 100-300 dpi, where poster size is a minimum of 4'x3' but no larger than 4'x6' (including borders).

Information regarding the Group Project poster is available on the web at:

www.bren.ucsb.edu/services/computing/applications/group_project_info.html - POSTER

K. Defense and Community Presentations

The multi-media format for the oral presentation recommended and supported by Bren Computing is Microsoft PowerPoint.

L. Public Website

Each group will be required to create a public website. The Group Project computers will all have Dreamweaver installed, though you may create the site using another application if you prefer. The compute team can help you with issues related to Dreamweaver but the scope is limited to support of the application not web design and creation. Instructional computing provided course on Dreamweaver and there are many useful online resources.

Web managers will be able to access their web share at:

U:\nickname_html

The index or home page must be named default.htm and will display at <http://www.bren.ucsb.edu/~nickname>. The group's Web Manager is free to modify this page and additional content, subject to any formal Bren School policies regulating Bren School public web formats and content.

The web content will be publicly viewable at:
<http://fiesta.bren.ucsb.edu/~nickname>

You can also advertise your group project site as www instead of fiesta:
<http://www.bren.ucsb.edu/~nickname>

The School requests that only one or two group members be responsible for maintaining the Group Project website to eliminate confusion, ensure timely posting of information, and facilitate training efforts. Be sure to verify all links on your web pages when editing or adding information to them.

Website links must be sent to the Group Project Coordinator as soon as they are available.

9. LOGISTICS: PREPARING FOR THE GROUP PROJECT FINAL PRESENTATION

Group Project Members must remember to:

- Submit completed Presentation Program Abstract (doc attached). Submit electronically ONLY to the GP Coordinator
- Submit final report, completed and signed. Submit electronically AND one bound copy to the GP Coordinator
- Submit Project brief electronically AND one hard copy to the GP Coordinator
- Submit Self/Peer Evaluations to the GP Coordinator
- Submit Faculty Advisor Evaluation Form to the GP Coordinator (not faculty advisor). Form located on web
- Last day to submit alcohol form, mic and table info, sign-up forms to BJ (sign-up form will be on her door)
- The GP Coordinator sends Final Presentation Proof to students to review
- Last days for students to return Final Presentation Proof to the GP Coordinator

Emails to Students from Bren Staff Members

BJ:	Will send all students an email regarding taping of practice presentation Will go over logistics of final presentations during presentation practice session
James:	Will send a "Save the Date" email to Bren Community and all subscribers to BrenAlerts Will send invite to the Bren Community and all subscribers to BrenAlerts, and will place outside ads for members of the Santa Barbara Community Will send a reminder a few days before event
Connie:	Will send information regarding funding for GP materials
Mike:	Will send information about wrapping up GP accounts
Jason/Brad:	Will email the class the last day to turn in PowerPoint presentations to load onto laptops

Frequently Asked Questions:

1) Can we change the template for the brief?

Yes, yet it is required that the Bren Logo, Bren School of Environmental Science and Management, UCSB, Group Project Members, Faculty Advisor, and Client name are at the top of each brief in a very clear and easy to read format. If you would like the brief approved, please email the brief to the GP Coordinator before the due date (above). Remember, you may be presenting these briefs to prospective employers, so please make the brief as professional and legible as possible.

2) How long do we have access to our GP funding?

Groups have access to GP funding until the end of the academic school year/graduation. If TMP groups need an extension, please contact Connie Fourqurean at connie@bren.ucsb.edu.

3) What kind of paper should I use for my brief?

Print the brief on tabloid paper (11x17), so you are not worrying about staples...inform the printer that you need the pages ordered appropriately for printing on this type of paper.

4) Should my poster be laminated?

It is highly recommended that you laminate your posters for future use.

5) After the presentation, what should I do with my poster?

You should give your poster to the GP Coordinator after the poster session on the night of final presentations. Posters will be brought back to Bren and displayed in the building.

6) Should my advisor get a copy of the final report?

The advisor will be signing the hard copy for you to give to the GP Coordinator. The advisor may request the report if he/she would like one for their records.

7) When will I get an e-invitation to send?

The Bren Staff will send you an electronic invitation 3-4 weeks before the final presentation; students should send this invitation to their external reviewers, friends, and family.

Appendix I

Evaluations

Peer & Self Evaluations (completed quarterly), and the Faculty Evaluation (completed at the end of Winter Quarter) are available online at:

Peer & Self Evaluation:

http://www.bren.ucsb.edu/services/student/documents/PeerandSelfEvaluation_001.doc

Faculty Evaluation:

http://www.bren.ucsb.edu/services/student/GP/fac_evaluation_final.doc

Appendix II

Formatting & Filing Requirements for MESM Group Projects

Responsibility for the Content of the Manuscript

The group members and faculty advisors are responsible for everything contained in the manuscript; the faculty advisors must review the entire manuscript before giving final approval. This review includes:

- All preliminary pages or front matter (e.g., the preface, dedication, acknowledgements, etc.)
- The main body of text (including charts or other inserted matter)
- The back matter (e.g., the notes and bibliography, appendices, etc.)

Nothing can be added to the manuscript once the faculty advisors have signed the approval page.

The organization, presentation, and documentation of each Group Project must meet the standards set by the faculty advisors and the Bren School. For general information, students may consult a standard style guide; The University of Chicago Manual of Style is recommended as an authoritative source. Students who have discipline-specific questions should consult their faculty advisors.

Group Project title and signature page requirements

Title page requirements

Each group project report must include a title page with an alphabetical listing (recommended) of the group participants and faculty advisor. In addition, the title page must have the following:

- Title of the group project
- Names of group participants and faculty advisors
- Master of Environmental Science and Management as the students' degree objective
- The Bren School of Environmental Science & Management, University of California, Santa Barbara

The Bren School will link each group research project on the Bren School website by graduating year, with the authors of each project listed alphabetically. See Appendix III.

Approval (signature) page requirements

Group Project faculty advisors and project members must sign the signature page. The signature page includes a separate set of lines for the signatures of the students and a set of lines for the signatures of the faculty advisors listed alphabetically. In all cases, the name of the person signing must appear in printed form immediately to the right of or below the signature.

"The group project is approved by:" must appear immediately above the faculty supervisors' signature lines.

All signatures must be in black or blue ink; no other color ink is acceptable. See Appendix IV.

Standards for group project titles

The group project title should use specific, unambiguous descriptive words that will ensure electronic retrieval. Do not use formulae, symbols, superscripts, Greek letters, or other non-

alphabetical symbols in the title. Group project titles should represent a summary of the research and not be lengthy. Titles that contain more than 50 words are considered wordy. Subtitles should be used only when necessary.

Dates on title and signature pages

The approval/signature page and the title page must have the month and year the project is signed by the faculty advisors.

Abstract required; preliminary page requirements

An abstract is required. It should provide a brief synopsis of the research and be succinct—(200 words).

Other preliminary pages such as those for acknowledgements, a table of contents, or list of figures and charts are optional.

The abstract and preliminary pages must meet all formatting requirements delineated below. All preliminary pages, with the exception of the title page and approval (signature) pages, must be numbered with lower case Roman numerals beginning with Roman numeral iii for the abstract; see below for additional information on pagination and placement of page numbers.

The abstract should be placed following any optional preliminary pages (i.e., acknowledgements or a table of contents). See samples of preliminary pages at the end of this document.

Executive Summary

The executive summary has more detail than the abstract and should be no longer than four pages. Since most people will read the summary rather than the entire report, it should include, at a minimum, background information and recommendations. The executive summary should be text only—do not include graphs or photos.

Legibility and appearance

The original manuscript must be produced using a font that is highly legible and dark enough to reproduce clearly. The document must be free of streaks, smudges, or any extraneous marks. Whiteout and correction tape are not allowed, and interlineations and hand corrections are not acceptable.

Paper

Group members must produce one copy of the manuscript, including the title page, approval (signature) page, and abstract, on white, letter-size paper (8 1/2 x 11 inches). Photocopies are acceptable if they do not have copier or printer streaks. For information on handling oversize materials such as maps, please consult the Group Project Coordinator.

Margins

NOTE: Copy machines may shift text on a page. Therefore, the following are minimum margins. The group may set larger margins but must be sure that the final text lies well within these guidelines.

LEFT = 1.5" (this margin is wide for binding requirements)

TOP LINE OF TYPE = 1.25" from top of paper

RIGHT = 1.25"

BOTTOM LINE OF TYPE = 1.25" from bottom of paper

Aside from page numbers, nothing must intrude into the margins. These minimum specifications also apply to all figures, charts, graphs, illustrations and appendices. When oversize pages are used, the same margin measurements must be maintained.

Page Numbers

Page numbers should be centered on the page .75 inches from the bottom of the edge of the page. Placement of page numbers must be consistent throughout the manuscript. Be careful to provide space between the text and the page numbers.

Pagination

Every page must be numbered consecutively. Except where noted below, each page of the entire manuscript must be numbered in accord with the following standards:

Neither the title page nor the approval (signature) page is to be numbered; however, these two pages are counted when numbering the following preliminary pages even though they are not numbered.

The preliminary pages following the title and approval pages must be numbered sequentially beginning with lower case Roman numeral "iii." All preliminary pages are to be numbered using lower case Roman numerals (iii, iv, v, vi, etc.). This includes the abstract, dedications, tables of contents, lists of figures, tables, symbols, illustrations, photographs, prefaces, introductions, acknowledgments, and vitae.

The main body of the text and any back matter must be consecutively numbered with Arabic numerals (1, 2, 3, etc.), including text, illustrative materials, bibliography, notes, and appendices.

Correct pagination—no missing pages, blank pages, or duplicate numbers or pages— is required for the manuscript to be acceptable.

One-sided Printing Optional

We encourage groups to double-side the final reports; however the manuscript may be printed one sided if your group prefers.

Line Spacing

The manuscript may be single- or double-spaced depending on group preference.

Single spacing should be used in those places where conventional usage calls for it, i.e., the title page; figure, table, and photo captions; footnotes; indented quotations; and the bibliography. When individual footnote or bibliographic entries are single-spaced, there must be double spacing between entries.

Fonts and Font Sizes for the Text and Notes

A font size of at least 12 must be used for the basic manuscript text. Standard fonts such as Arial, Century Gothic, Helvetica, Verdana, Tahoma, or Times are recommended.

A font size of at least 10 must be used for footnotes and captions. Script, calligraphy, italics, and specialized art fonts are not acceptable for the main body of the text.

Italics may be used for quotations, headings, labels, book titles, foreign words, or occasional emphasis. Fonts used for appendices, charts, drawings, graphs, and tables may differ from that used for the text. The print should be letter quality with dark black characters that are consistently clear and dense.

Please note: Any deviations from the above guidelines must be approved by your faculty advisor in advance.

Filing the Group Project

Once the faculty advisors sign off on a group's project, no changes can be made to the final report. The final report, including the original signature page, must be submitted to the Group Project Coordinator by the end of winter quarter (or when the faculty advisor(s) approve the final paper). An electronic PDF version of the report must also be sent to the Group Project Coordinator. This is the version that will be linked on the Bren School website.

The Group Project Coordinator will review each final report to verify that it meets the filing standards and will notify each group if it is acceptable or not.

FORMATTING & FILING CHECKLIST

CHECKLIST AREA	BREN REQUIREMENT
Legibility	Clear and legible font used.
Appearance	No streaks, smudges, or extraneous marks. No whiteout or correction tape.
Paper	White, 8.5 x 11 inch paper (exceptions made for oversize or special materials).
Number of copies	Two copies of entire manuscript for Bren School (one hard copy, one electronic .PDF version).
Margins	Left margin at least 1.5" inches from edge of paper; top line of type, right margin, and bottom line of type at least 1.25 from edge of paper. Other than page numbers, nothing intrudes into margins.
Page Number Placement	Page numbers placed .75 inches from bottom edge of pages and consistently placed throughout the manuscript.
Pagination Standards	Each page of manuscript numbered (except title and approval pages). No missing, blank, or duplicate numbers or pages. Lower case Roman numerals used on preliminary pages. Arabic numerals used to number text and back matter.
Numbering of Preliminary Pages	Title and approval pages counted but not numbered. Subsequent pages (e.g. the abstract) numbered beginning with Roman numeral iii.
One-sided Printing	One-sided printing of all pages of the manuscript is optional.
Spacing Between Lines	Text single or double-spaced, except where conventional usage calls for only single-spacing (title page, long quotations, etc.).
Fonts & Font Sizes	A font size of at least 12 for preliminary pages and text. A font size of at least 10 for footnotes and captions. Use of standard font recommended.
Dates Used On Approval and Title Pages	Month and year the faculty members will sign on approval and title page.
Abstract	Abstract does not exceed 200 words.
Executive Summary	No more than 4 pages. More detailed than the abstract.
Standards Governing Manuscript Titles	Concise manuscript titles (not to exceed 50 words). Easily identifiable keywords that summarize research. Word substitutes replace non-alphabetical symbols in scientific titles.
Faculty Signatures on Approval Pages	Faculty advisor(s) signatures in black or blue ink.
Responsibility for Content	Students and faculty advisor(s) responsible for everything in the manuscript. Faculty advisor(s) review entire manuscript before signing.

Appendix III

Sample Final Report Title Page

UNIVERSITY OF CALIFORNIA
Santa Barbara

PROJECT TITLE

A Group Project submitted in partial satisfaction of the requirements for the degree of
Master's in Environmental Science and Management
for the
Bren School of Environmental Science & Management

by

MEMBER NAME
MEMBER NAME
MEMBER NAME
MEMBER NAME
MEMBER NAME

Committee in charge:
ADVISOR NAME
ADVISOR NAME
(if more than one)

DATE

Appendix IV

Sample Final Report Signature Page

PROJECT TITLE

As authors of this Group Project report, we are proud to archive this report on the Bren School's website such that the results of our research are available for all to read. Our signatures on the document signify our joint responsibility to fulfill the archiving standards set by the Bren School of Environmental Science & Management.

MEMBER NAME

MEMBER NAME

MEMBER NAME

MEMBER NAME

(The faculty advisor may change this statement prior to submitting this report).

The mission of the Bren School of Environmental Science & Management is to produce professionals with unrivaled training in environmental science and management who will devote their unique skills to the diagnosis, assessment, mitigation, prevention, and remedy of the environmental problems of today and the future. A guiding principal of the School is that the analysis of environmental problems requires quantitative training in more than one discipline and an awareness of the physical, biological, social, political, and economic consequences that arise from scientific or technological decisions.

The Group Project is required of all students in the Master's of Environmental Science and Management (MESM) Program. It is a three-quarter activity in which small groups of students conduct focused, interdisciplinary research on the scientific, management, and policy dimensions of a specific environmental issue. This Final Group Project Report is authored by MESM students and has been reviewed and approved by:

ADVISOR

ADVISOR

DATE

Appendix V

Sample Group Project Budget

Telephone (\$1/mo, 12 months) \$10 set up fee Voicemail has an additional charge	\$22
Estimated calls per month \$15 for 9 months)	\$135
Photocopies	\$93
Copy Card	\$20
Printing*	\$200
Software	\$100
Presentation expenses	\$50
Final poster production	\$240
Conference attendance	\$160
Administrative Supplies	\$20
Business Cards	\$60
Field Trips	\$200
TOTAL	\$1300

* Indicates fixed costs.

Appendix VI

Group Project Brief Guidelines

The importance of communicating the results of work is difficult to overstate. One of the most important phases occurs at the end: preparing your report, oral presentation, poster and brief. The brief, a short synopsis of your work, is particularly important since it is likely to be the one product of your work that is widely read and accessible.

Content of the Brief

The brief is intended to be a concise summary of your project, accessible to an intelligent general audience. It is important that the brief be polished, eye-catching, self-supporting (not requiring the full report), substantive, technically impressive, easy to read at multiple levels (a skim, a casual read, a careful read).

Use graphics, tables, summary boxes, headings and whatever works to convey the sense of the importance of your group project, the problem you tackled, and the solutions you are recommending. Color is appropriate, although keep in mind that some people may print the brief in black and white; color must be readable and intelligible when rendered in black and white.

A successful brief is one where some readers are tempted to read the full report and most come away impressed with the effort and with a better understanding of the problem and its solution. Keep in mind that it is important to not only convey a sense of what your group project entailed but also to impress the reader with the importance, significance and accomplishment of your group activities.

In composing a brief, be cognizant of conveying the main points of your group project:

- Problem statement and goals
- Significance
- Background information
- Approach to your analysis
- Results and discussion of results
- Conclusions and findings

It is also advisable to “wrap” your brief with an introduction that conveys the sense of the problem, its importance, and your results. The conclusion repeats much of this information. Keep in mind that some people first skim the brief very quickly. Catchy figures or boxes that quickly summarize main points help lure the reader into carefully reading the entire brief.

Technical Guidelines

Briefs should be prepared in Word, using the template on the web at <http://www.bren.ucsb.edu/services/student/index.asp>. The template basically contains Bren banner material on the first page and provides a consistent look to all of the briefs.

The length of the brief is four pages, 8.5” x 11”. Print the brief on tabloid paper (11x17), so you are not worrying about staples...inform the printer that you need the pages ordered appropriately for printing on this type of paper. For the body of the text use single spacing and it is recommended to use 11 point Garamond type (or something comparable), double columns, 0.75” margins, flush left and right, and 0.5” between columns. Section headings may be in larger type. References and footnotes are 8-point type and occur at the end of the brief. For references and footnotes, use the style found in Science Magazine. On the title page, identify the student authors; in a footnote, indicate the faculty advisor(s).

You can change the template for the brief, but it is required that the Bren Logo, Bren School of Environmental Science and Management, UCSB, Group Project Members, Faculty Advisor, and Client name are at the top of each brief in a very clear and easy to read format. If you would like the brief approved, please email the brief to the GP Coordinator before the due date (above). Remember, you may be presenting these briefs to prospective employers, so please make the brief as professional and legible as possible.