Donald Bren School of
Environmental Science & Management

University of California, Santa Barbara

Group Project Guidelines
Class of 2007

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1. 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 entities (industry, government, NGO’s) that have a problem that can be successfully addressed and solved by the group project.

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.

2. General Information

The number of Group Projects depends on the number of students in each incoming class. Generally there are 12 groups per class. The product of each group and how well it serves the environmental problem at hand should be the focus—not competition among groups.

A. Group Project Timeline
Students begin their Group Project in the spring quarter of their first year of study and complete their project just after the beginning of spring quarter of their second year of study. A detailed timetable is provided in Appendix I. 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 & D to obtain the necessary 12 units. Grading is on an “in progress” basis, i.e., the grade given in the final quarter automatically applies to all previous quarters. (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 spring and fall quarters, the faculty advisors will prepare written evaluations on the performance of the students on the Group Project. At the discretion of the advisors, this can be one report for the group as a whole or reports on individual group members. These are unofficial evaluations, and they do not appear on the UCSB transcript; however, they provide valuable feedback on student performance. Furthermore, they reflect advisors' assessment of performance and thus may be reflected in the grade ultimately given at the end of the project.
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. Progress on Group Projects should be evenly allocated over the four quarters to avoid excess workload during winter and spring quarters.

D. Summer Group Project Work
Students are encouraged, but not required, to continue some level of work on their Group Projects during the summer. Groups should consult with their faculty advisors during spring quarter to develop a summer work plan. In addition, some Group Projects have summer internships associated with them.

E. Deliverables
The major deliverables for the Group Project are
- a proposal
- a thorough literature review
- a progress report
- a final report
- a 4-page summary 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, sometimes extensive revision.
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 (HRC). "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 HRC 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.

3. Composition of the Group Projects

A. Group Members
Each group is normally composed of 4 to 5 students with complementary interests, skills, and backgrounds.

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. Each group should discuss with their advisors during the first quarter to clarify how the advisors will interact with them. It is recommended that groups include this information in the management plan.

C. MESM Committee
The Group Project process is overseen by the MESM 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 MESM 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 MESM Committee to assist all parties in facilitating the Group Project process. The Group Project Coordinator for the Class of 2007 is yet to be determined since Jill Richardson’s position has not been filled yet. In the interim, Betsy Bertero will serve as the Acting Group Project Coordinator.
E. Outside Advisor
Interacting and networking with the professional community are critical components of the Group Project process. Groups are expected to obtain the counsel of outside 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 outside 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.

4. 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. Contact the Course Support Assistant (roomrequest@bren.ucsb.edu) to schedule a meeting room.

B. 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 Assistant Dean, who will consult with the MESM Committee. Students may also wish to contact the UCSB Mediation Program at 893-8571 for assistance. 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.

5. Project Deliverables
Refer to Appendix I 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 3 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. Be concise regarding the specific objectives. The objectives presented in the initial proposal are generally too general and/or vague. It is very important that the specific research question(s) are clearly articulated in the proposal not broad objectives. If the research questions are vague, it will be difficult for the group to know what they need to do and to use their time and energy efficiently.
- Significance of project. Why does anyone care?
- 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 VI)
- 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 by mid-May. The final project proposal is due to the faculty advisors and external reviewers before the external review.

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 extremely knowledgeable 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 data bases, you can take advantage of training that Janet Martorana, the UCSB librarian assigned to the Bren School, can provide. martoran@library.ucsb.edu

3. Management Plan

The Management Plan outlines a group’s management structure and general plan for the form and function of their group. Ideally, the management plan will be completed within the first two weeks of the quarter. 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 organization 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" -- someone who does not carry his or her share of the workload. 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. 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
4. Proposal Review

By early June (refer to Appendix I), 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 participants
- The assigned faculty advisor(s)
- One other Bren School faculty (two preferable)
- Two external reviewers

**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 winter 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.

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. 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 Advisors names and email
Project title and abstract
Final project proposal
The initial project proposal should be posted until the final project proposal is completed

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.

C. ESM 401C (Winter Quarter)

During winter quarter of their second year of study, students must enroll in ESM 401C for 4 units. At the end of this quarter, each group must complete its project and all deliverables—with the exception of the final oral and poster presentation, which occur at the beginning of spring quarter. If the group has not completed a final report by the end of winter quarter that is satisfactory to the advisors, their grade will likely be compromised, and faculty will withhold signature until the report is acceptable.

Advisors have no deadline for approving final reports; the only criterion is whether the report is satisfactory to the advisors. 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 six and/or seven 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 administrative staff will make arrangements for this, including arranging rooms and setting the presentation schedule. The Group Project Coordinator will arrange for there to be a couple of "independent reviewers" at each defense. These people (faculty or others) will 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 to 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 15-20 minutes of questions. Advisors and independent reviewers will be encouraged to provide written feedback 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 February. 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. The deadline for the final report is firm, and there will be potentially serious consequences if a group fails to meet this deadline. The final report provides a complete discussion of the project's goals, objectives, methodologies, and accomplishments, and must be approved by the group's faculty advisors.

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 complete a review. 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 related 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. 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 III).

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 VII 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.

6. Contact List

Each group should provide the Group Project Coordinator names, titles, affiliations, and email addresses of all stakeholders or other professionals that should receive an invitation from the School to attend the spring group project event and so these individuals can be added to our contact database so they receive invitations to all future events.
D. ESM 401D (Spring Quarter)

1. Community Presentations
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 Committee to the event. Students may invite personal guests if they wish. Students will be provided a copy of the electronic invitation for distribution to personal guests. If students want to personally invite stakeholders and other professional to the event that is fine as long as they provide the contact information to the Group Project Coordinator for entry to the Bren School database so these individuals can be invited by the School to future events.

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 a professional manner.

The Bren School is akin to a professional society. Meetings of professional societies are conducted such that oral presentations are brief and usually made by one representative, no matter how large the project or the number of participants. Organizers of the society set the schedule and location of presentations, and presenters are expected to accept the schedule.

Each group’s presentation is 25 minutes in total length, which includes at least 7 minutes for questions. No more than two group members will be presenters since speaker transitions are disruptive, especially when there is limited time, and generally reduce the effectiveness of presentation. 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 always must take into account that 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).

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

2. Project Poster
Each group must prepare a professional poster that summarizes its project. The posters will be displayed at the public oral presentation in spring quarter. 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. It is expected that the poster will be completed by the beginning of spring quarter. See the Computing Section (9J) for more information on how to create and print the poster.
6. Project Evaluation

A. Faculty Evaluation

Students must take ESM 401A, B, C & D for a grade. You will receive an “IP” (In Progress) grade for 401A, B & C; a letter grade is assigned for 401D at the end of spring quarter*. That letter grade automatically applies to 401A, B & C. 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 each quarter, all Group Project members submit evaluations for each Faculty Advisor to the Group Project Coordinator (see Appendix II). Except for responses to the question, “Is there any feedback you would like shared with your advisor before the end of the project?”, the Coordinator summarizes the groups’ assessments and distributes anonymous comments to each Faculty Advisor at the end of the project, after all Group Project grades have been recorded.

These evaluations will be reviewed by the Group Project Coordinator, and if they reveal any serious advisement problems, this will be brought to the attention of the Assistant Dean. Administration will respect privacy and anonymity in working with students to try to find solutions to problems.

7. Creating a Project Budget

Each Group Project is allotted $1,100 as a base budget, and up to $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): $200

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 conform 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 others 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
8. Group Project Budgets

A. Financial Managers

Each group must designate one person to serve as the group’s Financial Manager. Mike Best (mbest@bren.ucsb.edu) is the primary contact for budget matters related to Group Projects. Financial Managers must meet with Mike at the beginning of spring quarter to provide necessary training and go over policies and procedures.

B. 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.

C. Expense Reports

The Financial Manager will receive a monthly expense report 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.

D. 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. To transfer funds, the Financial Manager sends email to the Bren School’s Purchasing Coordinator, Connie Meza (cmeza@bren.ucsb.edu). If groups require more than $200 of printing, then groups can send email to Connie requesting a transfer of some of their $1100 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.

E. Copy Machine Code

Each Group Project receives a 5-digit copy code for the copy machine in the Bren School Student Mail Room (Bren Hall, Rm. 2406). 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.

F. 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 (mbest@bren.ucsb.edu). A monthly fee of $22 is applied to the group’s account for the voicemail.
G. 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.

H. Instructions for making Group Project Phone Calls
(Please use the phone in the Bren School Commons).

- 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

I. 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 roomrequest@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.

J. 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 Assistant Connie at cmeza@bren.ucsb.edu or ext. 7979.

K. 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 Instructional/Scheduling Assistant (roomrequest@bren.ucsb.edu) at least 72 hours before your visitor’s arrival, and give her 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 $7.00 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 $19.00 per space per day for reserved parking.

L. 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 Assistant (x7979 or cmeza@bren.ucsb.edu) in Bren Hall Rm. 2512. Financial Managers should understand purchasing policies and procedures.
M. Reimbursement

If a vendor does not accept a purchase order, group members may use personal funds and then submit a receipt to the Purchasing Office (room 2512) 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
- Cost Center
- Name of person to be reimbursed
- Original Signature

N. 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 Development Officer, Jennifer Deacon (Jennifer@bren.ucs.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 can not 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 we will set up a special cost center for the group to access these funds. If, at the end of the project, there are funds remaining, they return to the Bren School general pot.

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 grants. A contract or grant is money 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 Mike Best. Proposals can not be submitted directly to funding agencies!!! First, they must be processed...
approved by the Bren School (this usually take 3-5 days) and then they must be processed by the Office of Research (this takes an additional 5 days). Proposals can not 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 budget, budget justification, clearly articulated deliverables, start and end date. In addition, students can not 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 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) Contract or grant money is subject to overhead. The overhead rate is 47%. This means that for every $100 that the funding agency provides, the University will take $47 and there will only $53 left to fund the project.

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.

9. Computer Resources

The following describes computer resources available to each Group Project and recommended information management practices for Bren School Group Projects. 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
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.

B. Project Nickname
Each group should select a short nickname (approximately 8 alphanumeric characters; no spaces or other special characters; dashes and underlines are o.k.). 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\GroupProjects2007\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-writeable 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. 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.
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. Current information is available on the web at

www.bren.ucsb.edu/services/computing/applications/group_project_info.html - 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, minimum of 4 feet x 3 feet but no larger than 4 feet x 6 feet (including borders).

K. Oral Presentation
The multi-media format for the oral presentation recommended and supported by Bren Computing is Microsoft PowerPoint. The group must submit a final copy of this presentation on a CD-R, which the group provides.

L. Public Web Site
Each group will be able to create a public web site. The Bren Compute Team supports Microsoft FrontPage, though you may create the site using another web design application if you prefer. However, it is critical that you edit it only with the same program used to create it. If you create a web page with FrontPage, and open it with FrontPage Express elsewhere, it will almost certainly be altered. Any modifications to a web page created in unsupported software should be edited with that same software, then copied again into your web directory. The Bren Compute Team will place a template home page for each Group Project in the Data Manager’s Unix directory 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 Data 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://www2.bren.ucsb.edu/~nickname

You can also advertise your group project site as www instead of www2

http://www.bren.ucsb.edu/~nickname

The www location will be redirected to www2.

The School requests that only one or two group members be responsible for maintaining the Group Project web site 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.
Appendix I

Timetable 2006-2007

Spring Quarter 2006

Wed. May 17
...But earlier if advised
Draft of Project Proposal due to Faculty Advisors

Before Proposal Review
Final Project Proposal must be completed before holding the Proposal Review (distribute to participants in advance)

Fri. June 2
Proposal Reviews must be completed

Fri. June 2
Website created and up-to-date

Wed. June 7
Report on proposal review due to advisors

Wed. June 7
Faculty Advisors & Peer Evaluations due to Group Project Coordinator

Fall Quarter 2006

Fri. Nov. 17
Progress Reviews must be completed

Fri. Dec. 1
Draft progress report due

Fri. Dec. 1
Faculty Advisors & Peer Evaluations due to Group Project Coordinator

Winter Quarter 2007

Wed. Feb. 14 – Thu Feb. 22
Project Defense Presentations

No later than...
Mon. Feb. 12
...But earlier if advised
Draft of final report due to Faculty Advisor(s)
This should be a high-quality document, presumably preceded by earlier drafts, that only requires minor editing

Mon. Mar 2
Submit information for group project presentation program: project title, 200 word abstract, names of individuals to be acknowledged, and invitation list to Group Project Coordinator

Mon. April 2
Final report must be completed, signed by advisor(s) and submitted and archived in the Bren School. Submit final copy in .PDF format via email and one bound hard copy to the Group Project Coordinator
<table>
<thead>
<tr>
<th>Date</th>
<th>Event and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon. April 2</td>
<td>Project brief must be completed and submitted to the Group Project Coordinator in .PDF format via email.</td>
</tr>
<tr>
<td><strong>Spring Quarter 2007</strong></td>
<td></td>
</tr>
<tr>
<td>One week before presentations</td>
<td>It is recommended that the poster be completed and a draft PowerPoint Presentation be submitted to the Faculty Advisors by this date (some advisors may require this).</td>
</tr>
<tr>
<td>Few days before presentations</td>
<td>Videotaping of practice presentations.</td>
</tr>
<tr>
<td>TBD</td>
<td>Group project public presentations and poster display.</td>
</tr>
<tr>
<td>One week after presentations</td>
<td>Faculty Advisor &amp; Peer Evaluations due to Group Project Coordinator</td>
</tr>
</tbody>
</table>
Appendix II
Quarterly Faculty Advisor Evaluation

http://www.bren.ucsb.edu/services/student/GP/fac_evaluation_qtr.doc
Appendix III
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
1) all preliminary pages or front matter (e.g., the preface, dedication,
acknowledgements, etc.)
2) the main body of text (including charts or other inserted matter)
3) 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 of the group participants and faculty advisor. In addition, the title
page must have the following:

1) title of the group project
2) names of group participants and faculty advisors
3) Master of Environmental Science and Management as the students’ degree
   objective
4) Donald Bren School of Environmental Science & Management
5) University of California Santa Barbara

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

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 V.

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 4 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:

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

2) 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 (required for dissertations).

3) 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 (GPC) by the end of the first week of spring quarter (or when the faculty advisors approve the final paper, but no later than the last day of the spring quarter). An electronic PDF version of the report must also be sent to the GPC at projects@bren.ucsb.edu. This is the version that will be linked on the Bren School web site.

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

<table>
<thead>
<tr>
<th>CHECKLIST AREA</th>
<th>BREN REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legibility</td>
<td>Clear and legible font used.</td>
</tr>
<tr>
<td>Appearance</td>
<td>No streaks, smudges, or extraneous marks. No whiteout or correction tape.</td>
</tr>
<tr>
<td>Paper</td>
<td>White, 8.5 x 11 inch paper (exceptions made for oversize or special materials).</td>
</tr>
<tr>
<td>Number of copies</td>
<td>Two copies of entire manuscript for Bren School (one hard copy, one electronic PDF version)</td>
</tr>
<tr>
<td>Margins</td>
<td>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.</td>
</tr>
<tr>
<td>Page Number Placement</td>
<td>Page numbers placed .75 inches from bottom edge of pages and consistently placed throughout the manuscript.</td>
</tr>
<tr>
<td>Pagination Standards</td>
<td>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.</td>
</tr>
<tr>
<td>Numbering of Preliminary Pages</td>
<td>Title and approval pages counted but not numbered. Subsequent pages (e.g. the abstract) numbered beginning with Roman numeral iii.</td>
</tr>
<tr>
<td>One-sided Printing</td>
<td>One-sided printing of all pages of the manuscript is optional.</td>
</tr>
<tr>
<td>Spacing Between Lines</td>
<td>Text single or double-spaced, except where conventional usage calls for only single-spacing (title page, long quotations, etc.).</td>
</tr>
<tr>
<td>Fonts &amp; Font Sizes</td>
<td>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.</td>
</tr>
<tr>
<td>Dates Used On Approval and Title Pages</td>
<td>Month and year the faculty members will sign on approval and title page.</td>
</tr>
<tr>
<td>Abstract</td>
<td>Abstract does not exceed 200 words.</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>No more than 4 pages. More detailed than the abstract.</td>
</tr>
</tbody>
</table>
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 IV
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 Donald Bren School of Environmental Science & Management

by

MEMBER NAME
MEMBER NAME
MEMBER NAME
MEMBER NAME
MEMBER NAME

Committee in charge:
ADVISOR NAME
ADVISOR NAME

DATE
As authors of this Group Project report, we are proud to archive it on the Bren School’s web site 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 Donald Bren School of Environmental Science & Management.

MEMBER NAME

MEMBER NAME

MEMBER NAME

MEMBER NAME

MEMBER NAME

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

The mission of the Donald 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 four-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

DEAN

DATE
Appendix VI  
Sample Group Project Budget

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

* Indicates fixed costs.
Appendix VII
Group Project Brief Guidelines

The importance of communicating the results of work is difficult to overstate. After a full year of work on your group project, you are understandably exhausted and perhaps tired of the effort. But 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. This is not a book report. Although it is short, it should not be superficial.

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

4) Problem statement and goals
5) Significance
6) Background information
7) Approach to your analysis
8) Results and discussion of results
9) 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. Think of yourself as having about 10 seconds to sell a potential reader on your project—10 seconds in which your goal is to get the person to spend five minutes reading and digesting the entire brief.

Carefully edit every sentence and paragraph of your brief. Ask of each sentence, “What does this add to my brief?” and “Can it be written more concisely?” Ask of the layout and flow of your brief, “Is this the easiest and most logical way to take the reader through our project?”
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.

For the body of the text, single space, using 11 point Garamond type, 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 advisors.1 The length is four pages, 8.5” x 11”.

Examples

It can be very instructive to examine how others have constructed briefs on a variety of topics. Please review briefs from past group projects on the web.

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1 Try not to use too many footnotes.