Senior Project - Construction Management
Best Practices

Overall:

- **DESCRIPTION:** A senior project shall consist of a comprehensive project (research based or project based) chosen to challenge the technical, creative and organizational abilities of a student. The student will perform a unique and individually determined senior project which will be the solely responsibility of the student for its successful execution.

- **THE WORK:** The senior project (research based or project based) must be of a nature that enables students to investigate and explore issues and concepts in depth and to produce a rigorous piece of academic work. There must be a clear rationale for the choice of research area or project choice and the project must be coherent, thorough, and complete.

- **SUCCESS:** SP (Senior Projects) are heavily influenced by how much advising, supervision, and guidance is provided by the SPD (Senior Project Director) and the SME (Subject Matter Expert). This critical input is the responsibility of the student’s to obtain and secure.

- **FINAL DELIVERABLES:** At the completion of CM462 all students will submit a binder containing the following:
  - ASC – Style Proceedings Paper (hard copy and electronic)
  - Literature review material used in paper
  - Back-up Material also relied upon and utilized (including journal)
  - Reflection write-up and student evaluation form
  - ASC – Poster Board (presentation as required)

It is NOT RECOMMENDED that you wait till the last day of the quarter to submit these deliverables for the first time, as they will likely need to be altered and corrected based on input from the SPD and SME.

**Topic Selection:**

- **TOPIC SELECTION DO’S:** There are as many ways to select a topic as there are topics to select. Ideas generally initiate and generate from some very typical sources which include:
  - Students own interests related to the construction industry.
  - Student topic curiosity where more depth of knowledge is desired.
  - Work experience connection with previous industry employer.
  - Construction industry problem identified and solution investigated.
  - Faculty interests which align with student interests.
  - Construction industry articles which were found to be of interest.
  - Showcase student talent in a certain construction related area.
• **TOPIC SELECTION DO NOT'S:** There are also common obstacles or pitfalls which a student must avoid, so time and resources are not wasted chasing unfruitful topics. Make sure the topic chosen:
  - CAN be completed in the time available. A minimum of 90 hours of work for a 3 unit workload is typical, but students should always plan on more hours being dedicated to an endeavor such as senior project.
  - HAS be thoroughly researched (if it is research based) and there is a body of literature to pull from. This is to ensure that the student is not working “without a net” and there is a body of knowledge that can be built from.
  - HAS accessible data (if it is research based) meaning the student is certain that surveys, interviews, case study materials, etc. are truly available. This is to ensure that the student’s entire senior project does not come to a complete stop and start completely over if access is not granted.

**Logistics:**

• **RESOURCES:** Students are encouraged to utilize the facilities of the University such as the library and the experimental, demonstration, and production facilities of the University and the College. However, the purchase of any materials or ancillary equipment is the responsibility of the student. Unless it can be demonstrated that these materials directly benefit the University and the costs are agreed to by the department in advance of purchase.

• **INDIVIDUAL VERSUS GROUP:** SP are encouraged to be an individual exercise; particularly if they are “researched based” versus “project based”. Group activities are extremely prevalent in the CM Program and are thus discouraged for senior projects. Group or team projects are encouraged when the project necessitates it or the group is interdisciplinary.

• **SELECTION OF SME:** Subject Matter Expert (SME) selection shall be based on the type of project and the willingness and availability of the faculty member to serve. More than one faculty member may participate in a project but only one shall assume the duties and responsibilities of a SME.

• **REGULAR MEETINGS:** The student should report to the SME on their progress at pre-determined and regular intervals. A daily journal should be kept that can be submitted to the SME at each meeting.

**Paper:**

• **PAPER FORMAT:** Formatting of the student’s final paper may be complicated, but it is detailed in EXACT terms on the ASC (Associated Schools of Construction) website under ASC – Publications – Proceedings – Authors Instructions. The four links on the left of this web-page which should be thoroughly reviewed by
students include: General Requirements, Paper Structure, ASC Proceedings Style Guide, and Author Checklist.

- **LIBRARY SUBMISSION:** If the SME requires the project to be sent to the library for deposit and electronic submission, the fee and completing the steps for submission are the responsibility of the student. All paperwork shall conform to university requirements which must be met by the student before a grade is assigned. Please refer to the Library website at: http://lib.calpoly.edu/seniorprojects/guidelines.html

**Grading:**

- **LETTER GRADE:** Construction Management Senior Projects are NOT to be taken as credit/no credit. A letter grade will be given for CM462 by the SME. At the SME’s discretion, he/she may award an RP (Report in Progress) grade if a student’s senior project is NOT complete. Upon completion a letter grade will be issued and, if necessary, a change of grade form for CM 462 will be completed; changing the RP to a letter grade.

- **GRADING BASIS:** The basis for grading will rest on the appropriateness of the project chosen and the quality of its execution by the student as determined by the SME (Subject Matter Expert).

**Senior Project Student Learning Outcomes:**

- Ability to apply skills acquired in classes to the successful completion of a specific project.
- Ability to obtain information necessary to the solution of a problem by library study, experimentation, and/or correspondence and personal contact with men/women who have had experience in the field.
- Ability to follow a work outline without overlooking any major points or specific details.
- Ability to reduce a general problem to specific points of analysis.
- Ability to organize points of analysis into a logical sequence.
- Ability to estimate hours of labor and cost of materials necessary to complete a project.
- Ability to work in a group (if part of the project).
- Ability to organize, illustrate, and write a clear, concise, and correct paper.
- Recognition of the fact that completion of a project on schedule is an essential element of successful work.
- Ability to work for a supervisor who desires quality performance with a minimum of supervision.