

CEE 505 Integrated Design II

- Catalog data:** 20-CEE-505. Integrated Design II. 2 ug. cr. Integrated Design is a 3 quarter, team driven, multi-disciplinary design experience. Students are guided by a panel of UC CEE faculty members and representatives from industry. Each student will be given a real-world design problem to complete in the 3 quarters allotted.
- Prerequisites:** 20-CEE-504
- Textbook:** None. Handout material provided through quarter.
- References:** None
- Coordinator:** Prof. John C. Niehaus, Adjunct Associate Professor of Civil Engineering; 556-3698, 788 Rhodes Hall, John.Niehaus@uc.edu
- Goals:** The first quarter of the Integrated Design Sequence (IDS) focused on the feasibility and preliminary design elements of the project. The second quarter of IDS will now concentrate on the design phase, or the creation of plans, specifications, and bid documents to carry out the necessary work. The design phase will continue through the spring quarter.
- Lecture or lab topics:**
1. The team organizations and leadership will continue through this and the spring quarter in order to maintain continuity of projects.
 2. The format of this quarter will be comparable to the fall quarter's. Following two introductory classes, the class will normally break out into teams that will work with their respective faculty advisors on the plans and specifications and then later on the report and presentation.
 3. The **primary deliverable** of the project will be a *WORK IN PROCESS bid package* containing plans and specifications describing the work to be completed in constructing a solid waste transfer station on the Rumpke site without disruption to the current operations. The bid package contains the plans, specifications, general and special conditions, a bid list of work to be performed by the contractors together with quantities and any other information needed for competitive bidding. The elements of the bid package will be covered in the various classes. The *WORK IN PROCESS* submittal will contain all elements to the level that they have been completed at the end of the quarter. It provides the client an opportunity to see how the design is going and whether it is on schedule.
 4. While the bid package is the primary product, a report will also be prepared to document the work accomplished, challenges met and addressed, alternatives considered and decisions made. Correspondence and other relevant documents will be included. The report must also include a section identifying, in detail, each team member's contribution to the project, the deliverables and the report.

5. Since working together as interdisciplinary teams is a primary purpose of this course, attendance at classes and participation in team activities are required and will be part of the final grades. An attendance sheet will be circulated for signatures at the beginning of each class or breakout session.
6. Mid-Term Evaluations: Each term will undergo an across-the-table evaluation by the Mentor Team to determine how well the team is performing and to identify and mitigate any problems. This will include some documentation for discussing schedule, procedures, and problems, etc., but is **not** a *WORK IN PROCESS* submittal.
7. Presentations: The final presentations for the winter quarter will be made as “consulting teams” presenting to the client the results of their work. The presentations should include graphics, some of which would come from the deliverables, and handout material, or “leave-behinds”. Since the designs will not be completed until the spring quarter, the presentation will demonstrate to the “client” the design that has been developed at this point, factors considered in the process, any alternatives considered, challenges and unexpected problems encountered, and how the team proposes to complete the design and bid package in the spring quarter. Keep in mind that the presentations explain the design; they do not go into excessive detail beyond what is necessary for the client to understand the design.

Computer usage: Varied

ABET criterion 3: a, c, d, e, f, g, h, i, j, k

ABET criterion 8: a, b, d, e

Date prepared: March 25, 2004 Last Update April 25, 2007