**Northeastern University**

**Department of Civil and Environmental Engineering**

Instructor’s Assessment

CIVE 4765 Senior Design Project (Environmental)

**Semester / Year:** Spring / 2013 **Instructor:** Hellweger **Date:** 5/13/2013

Expectations regarding this course assessment:

1. Before the start of the course, review the most recent instructor assessment for recommendations on how to improve the course.
2. For this course, grade summaries are based on graded project components.
3. *Questions to be asked on the in-class evaluation:*  None.
4. This assessment form is based on the set of topics and learning outcomes listed in the course syllabus. Do not change this part of the syllabus without action from the discipline group. If there is a change, notify the Undergraduate Studies Committee so that this form can be modified.
5. Complete the form and save it as a Word document with filename like this: IAssess\_4765 \_2013\_Fall

**1. What course improvements did you make? How successful were they? Relate them to recommendations made in previous course assessments.** *Expand the table as necessary.*

|  |  |
| --- | --- |
| 1. | For the projects, I used a common theme, but different specific projects. Overall, this was well received and I think this is the most effective system. Past capstones that used completely different projects, or the same exact project were not received well. |
| 2. | I moved the dry run presentation to after the due date of the final report. This was successful. Students were more prepared for the dry run presentations. |
| 3. |  |

**2. Your response to student comments and/or TRACE evaluation:** *Respond to serious criticisms and suggestions. Expand table as necessary.*

**Comments were generally positive. A few suggestions were provided, which are listed below. None occurred more than once.**

|  |  |  |
| --- | --- | --- |
|  | **Student Comment** | **Your Comment(s)** |
| 1. | Some team members not contributing, grading individually | There always seem to be a couple of freeloaders in one of the teams. Often times, as was the case here, assigning individual grades helps. |
| 2. | Instructor to spend more time in lab with teams | Yes, I agree and will schedule more of that next year. |
| 3. | The schedule should be clearer | A time line with dates for deliverables and lectures was provided. Some changes occur during the semester. Not sure how to improve it. |
| 4. | The involvement of the mentors varies | Not sure what to do about that. Try to pick them more carefully? |
| 5. | Instructor should be more available | My door is always open and I welcome students. |

**3. Grade Summary. Number of teams = \_\_4\_\_\_\_\_\_\_\_**

*Provide a frequency distribution of the grades given to the various teams, based on the standard capstone grading rubric. Replace items in italics with term appropriate to your projects.*

**Grading rubric:** 4 = attains and well exceeds learning goal; 3 = attains and exceeds learning goal;2 = just attains learning goal; 1 = does not attain learning goal ; 0 = failed to include required component

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Number of teams with score of:** | **0** | **1** | **2** | **3 or 4** |
| **Part A: Formulating and Comparing Alternatives** | | | | |
| 1.     Conception / design of alternatives shows application of engineering knowledge, creativity and responsiveness to constraints |  |  | 1 | 3 |
| 2.       Alternatives were evaluated and compared critically and using appropriate methodologies |  |  | 1 | 3 |
| **Part B: Effective Writing** | | | | |
| 3.       Effective use of tables and graphs |  |  |  | 4 |
| 4.        Effective use of plans, maps, sketches, and other graphics |  |  |  | 4 |
| 5.        Good composition (grammar, sentence & paragraph structure) |  |  | 1 | 3 |
| 6.       Report organization is effective for communicating |  |  | 1 | 3 |
| 7.         Report contains all the components it should |  |  |  | 4 |
| **Part C: Application of Engineering Tools & Techniques (name & grade at least one)** | | | | |
| *8.         Tool / technique name: Runoff calc* |  |  |  | 4 |
| *9.         Tool / technique name:* |  |  |  |  |
| *10.     Tool / technique name:* |  |  |  |  |
| **Part D: Application of Engineering Standards (name & grade at least one)** | | | | |
| *11.      Standard or reference name: TMDL* |  |  |  | 4 |
| *12.       Standard or reference name:* |  |  |  |  |
| **Part E: Ability to Learn Independently (at least one)** | | | | |
| *13.      Research topic: Site conditions* |  |  |  | 4 |
| *14.     Research topic:* |  |  |  |  |
| **Part F: Teamwork** | | | | |
| 15.       Displays an ability to work effectively as a team |  |  | 1 | 3 |
| **Part G: Ability to Incorporate Multiple Disciplines\* (name at least two)** | | | | |
| *16.       Discipline: Hydrology* |  |  |  | 4 |
| *17.       Discipline: Environmental* |  |  |  | 4 |
| *18.       Discipline:* |  |  |  |  |
| **Part H: Incorporation of Realistic Constraints\*\* (at least 5, including responsiveness to client; cost and constructability are optional. Name the additional constraints that are graded.)** | | | | |
| 19.      Cost |  |  |  | 4 |
| 20.      Constructability |  |  |  | 4 |
| 21.     Responsiveness to client need |  |  |  | 4 |
| *22.     Description: Environmental Impact* |  |  |  | 4 |
| *23.     Description: Sustainability* |  |  | 1 | 3 |
| *24.     Description:* |  |  |  |  |
| **Part I: Overall** | | | | |
| 25.    Design shows proper application of engineering knowledge |  |  |  |  |

\* Example disciplines include structural engineering, materials engineering, construction management, transportation planning, traffic engineering, hydrology / hydraulics, environmental engineering, finance, architecture, urban planning

\*\* Example constraints besides those listed include social context, political context, environmental impact, esthetics, traffic impact, health & safety, and sustainability

**Grading Summary for Final Presentation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Number of teams with score of:** | **0** | **1** | **2** | **3 or 4** |
| 101.    Appearance and conduct were professional |  |  |  | 4 |
| 102.     Speech was clear, confident, and appealing |  |  |  | 4 |
| 103.     Showed an understanding of the client’s need and of the audience |  |  |  | 4 |
| 104.     Visuals make effective use of text |  |  |  | 4 |
| 105.    Visuals make effective use of graphics |  |  |  | 4 |
| 106.    Organization of the presentation was effective (appropriate amount of attention to different points, logical flow, handoff) |  |  |  | 4 |
| 107.    Effective response to audience questions |  |  |  | 4 |
| 108.    Displayed effective teamwork |  |  |  | 4 |
| 109.    Overall presentation was effective and persuasive |  |  |  | 4 |

**4. Comments on the grade summary:** *Based on the performance recorded in the capstone grade sheet, check student learning objectives that need improvement and comment on them.*

|  |  |  |
| --- | --- | --- |
|  | **Needs improvement?** | **Comment** |
| Formulating and Comparing Alternatives | N |  |
| Effective Writing | N |  |
| Application of Engineering Tools & Techniques | N |  |
| Application of Engineering Standards | N |  |
| Ability to Learn Independently | N |  |
| Ability to work on multidisciplinary teams | N |  |
| Incorporation of Realistic Constraints | N |  |
| Overall application of engineering knowledge*:* | N |  |
| Effective oral communication | N |  |

**5. Recommendations for improving this course.** Expand the table as needed.

|  |  |
| --- | --- |
| 1. | See student comments. The design studio sessions were well-received and there should be more of those. |
| 2. |  |
| 3. |  |