

Assessment Instrument for Non-Thesis Option Masters Programs in Civil & Environmental Engineering

The graduate assessment committee will rate the student's portfolio on a scale of 1-5 according to the attached assessment instrument. Poor performance based on the judgment of the committee may result in the student failing the portfolio assessment. Students receiving a grade below 3 will not pass. If a student does not pass on the first attempt, he/she may request in writing to repeat the assessment. Students who fail the second time will be dismissed by the program.

OUTCOMES

Outcome 1: The department's master's graduates will demonstrate an ability to plan, compose and integrate verbal, written, virtual and graphical communication of a project to technical and non-technical audiences.

Component A: Oral Communication Skills

Component B: Written Communication Skills

Outcome 2: The department's master's graduates will demonstrate an ability to formulate and solve complex problems in an appropriate sub-discipline of Civil and Environmental Engineering using relevant data and techniques

Component A: Background

Component B: Methods

Component C: Findings and Conclusions

SUBMISSIONS

- 1) **Complex problem:** Upload a report to Canvas: This may be a team project, but it must show the solution of a complex engineering problem in an appropriate sub-discipline of Civil & Environmental Engineering using relevant data and techniques. According to ABET, a complex engineering problem includes one or more of the following characteristics: involving wide-ranging or conflicting technical issues, having no obvious solution, addressing problems not encompassed by current standards and codes, involving diverse groups of stakeholders, including many component parts or sub-problems, involving multiple disciplines, or having significant consequences in a range of contexts. The complex problem will be graded on the background, methods and findings according to the attached rubric.
- 2) **Writing sample:** Upload a writing sample that is between 3-5 double spaced pages in 12-point font with 1-inch margins. The writing sample may be drawn from a report or paper that you submitted for a class or other professional writing but it must be individually authored. References should be provided in ASCE format. Please be sure to review the assessment criteria described in the attached assessment instrument and update your writing sample accordingly.
- 3) **Comprehensive exam:** Prepare a 15-minute oral presentation (with slides) on the complex project you submitted. Be sure to include information on the background, methodology, major findings and conclusions. Prepare for your oral comprehensive exam. Sign up for a time slot (30 min) to give your presentation. During the exam faculty members will ask you to describe your role in the project (if it was a group project) and to answer questions about problem addressed, methodology used and to defend your findings and conclusions.
- 4) **Plagiarism:** The USF Academic Integrity Code (<https://www.usf.edu/ethics/policies/>) states that, "Plagiarism is intentionally or carelessly presenting the work of another as one's own. It includes submitting an assignment purporting to be the Student's original work which has wholly or in part been created by another person." Turnitin.com will be used to compare comprehensive exam submissions with billions of web sites, as well as an enormous database of student papers. After the submissions are processed, the graduate assessment committee will review the report from turnitin.com. Any student found to have violated the academic integrity code is subject to immediate dismissal from USF and will not be eligible to apply to any Graduate program at USF.

Student Name:

Date:

U-Number:

Committee Member:

Concentration Area: Structures Materials Water Resources Transportation Geotechnical Environmental

Non-Thesis Master's Degree Assessment Instrument

| Criteria | 1: Poor | 2: Fair | 3: Good | 4: Very Good | 5: Excellent |
|------------------------------|--|--------------------------|--|--------------------------|---|
| Oral communication skills | <input type="checkbox"/> The student has not demonstrated an acceptable level of oral communication. Inadequate delivery. Disorganized presentation Poor slides/ visual aids. Poor transitions between topics. Difficulty in communicating answers to questions posed by audience. | <input type="checkbox"/> | <input type="checkbox"/> The student demonstrated a good level of oral communication. Adequate delivery. Organized and easy to follow. Fair slides / visual aids. Good transitions. Answered most questions posed by audience. | <input type="checkbox"/> | <input type="checkbox"/> The student did an excellent job in presenting his or her project in a public forum open to the faculty of the University. Excellent delivery. Organized and easy to follow. Clear slides / visual aids. Answers demonstrated in-depth knowledge. |
| Written communication skills | <input type="checkbox"/> Writing problems may include organization, transitions between topics, non-professional language and/or non-relevant topics. Frequent grammar, punctuation, and/or word choice errors. | <input type="checkbox"/> | <input type="checkbox"/> Report was fairly well organized and follows a logical progression with good transitions between topics. Minor grammatical, punctuation, syntax and/or word choice errors. | <input type="checkbox"/> | <input type="checkbox"/> Report was very well organized. Engaging introduction. Professional language. Clear and smooth transitions between topics Correct grammar, punctuation, and syntax. |
| Background | <input type="checkbox"/> The review of the background information is not drawn from reliable and up to date sources or standards. Important information is missing. | <input type="checkbox"/> | <input type="checkbox"/> The review of the background information is drawn from acceptable and up to date sources or standards. The background section presents a good understanding of the problem. | <input type="checkbox"/> | <input type="checkbox"/> The review of the background information is comprehensive and drawn from reliable and up to date sources or standards. The background section presents an excellent rationale for the project |
| Methods | <input type="checkbox"/> The project design doesn't follow logically from the objectives. The process by which the data were generated, gathered, recorded, and analyzed is inadequate. For theoretical projects, model development, calibration and verification is not provided and/or is not based on an accurate description of the most important mechanisms and processes. | <input type="checkbox"/> | <input type="checkbox"/> The project design follows logically from the objectives. The process by which the data were generated, gathered, recorded and analyzed is adequate. For theoretical projects, model development, calibration and verification is provided and is based on a fair understanding of the most important mechanisms and processes. | <input type="checkbox"/> | <input type="checkbox"/> The project design follows logically from the objectives. The process by which the data were generated, gathered, recorded and analyzed is appropriate and clearly described. For theoretical projects, model development, calibration and verification is provided and is based on a sophisticated understanding of the underlying mechanisms of the most important mechanisms and processes. |
| Findings and conclusions | <input type="checkbox"/> The findings don't build logically from the problem statement, objectives and methods. Salient data and/or model results are not accounted for. The interpretations and conclusions are not justified by the results. | <input type="checkbox"/> | <input type="checkbox"/> Most of the findings build logically from the problem statement, objectives and methods. Salient data and/or model results are accounted for. The interpretations and conclusions are justified by the results. | <input type="checkbox"/> | <input type="checkbox"/> Findings build logically from the problem statement, objectives and methods. Salient data and/or model results are accounted for. The interpretations and conclusions are strongly supported by the results. Clear presentation of the implications on public health, the environment, and/or society. |

Comments: