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

Student: Complete shaded areas only

Student:	Date:
U#:	Email:
Concentration Area: Structures & Material ◯ Water Resources ◯ Transportation ◯ Geotechnical ◯ Environmental ◯ Note that your portfolio will be evaluated by a faculty member in the concentration area indicated	

The graduate assessment committee will rate the student's portfolio on a scale of 1-5 according to the attached assessment instrument.

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:** According to ABET (www.abet.org), "complex engineering problems include 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." Note that the complex problem you present may be a team project but you must come to the oral examination prepared to answer questions regarding the background, methodology, major findings and conclusions of your project.

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.

Student Name: **Date:**
U-Number: **Committee Member:**

Non-Thesis Master's Degree Assessment Instrument

Criteria	1: Poor	2: Fair	3: Good	4: Very Good	5: Excellent
Oral communication skills	☐ 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.	☐	☐ 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.	☐	☐ 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	☐ Writing problems may include organization, transitions between topics, non-professional language and/or non-relevant topics. Frequent grammar, punctuation, and/or word choice errors.	☐	☐ Report was fairly well organized and follows a logical progression with good transitions between topics. Minor grammatical, punctuation, syntax and/or word choice errors.	☐	☐ Report was very well organized. Engaging introduction. Professional language. Clear and smooth transitions between topics Correct grammar, punctuation, and syntax.
Background	☐ The review of the background information is not drawn from reliable and up to date sources or standards. Important information is missing.	☐	☐ 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.	☐	☐ 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	☐ 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.	☐	☐ 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.	☐	☐ 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	☐ 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.	☐	☐ 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.	☐	☐ 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: