

## **Recommended Protocols for PhD Degree Program Examinations**

### **Department of Civil & Environmental Engineering (CEE)**

**Approved by CEE Faculty on December 11, 2014**

All these examinations must be administered under the leadership of the Major Professor (MP). In the case of a Committee that has a Co-Major Professor, the Co-Major Professor should equally share responsibility in the administration of the examinations. Communication amongst the MP and the Committee and between the MP and the student should be documented for future reference. These protocols have been approved by the Department of Civil & Environmental Engineering (CEE) Graduate Program Advisory Committee (GPAC) and are strongly recommended for implementation by all CEE full-time regular faculty members in their role as Major Professors or Graduate Faculty serving on dissertation committees. The protocols supplement all applicable University Graduate School (UGS) policies and procedures; they focus on operational aspects of the qualifying exam, proposal defense and dissertation defense.

#### ***Qualifying Exam (“breadth of knowledge”)***

##### **1. Timing**

An official day in both November (fall term) and March (spring term), for all eligible doctoral students to take the qualifying exam, will be announced at the start of each term by the CEE department. The examination is not offered during the summer term. The MP and PhD student should timely decide on taking the exam either in the fall term or spring term.

##### **2. Exam Planning**

The MP should report the list of students, who are scheduled to take the examination, to the CEE main office on the last day of the second week of classes of each fall and spring term.

The MP and the Student’s Supervisory Committee select the core courses to then develop eight problems. The Committee should meet, under the leadership of the MP, to determine the core courses and the eight problems that will effectively test *the breadth of knowledge* of the student. The courses must be coursework that has been approved by the MP and student’s supervisory committee and fully completed, including the course requirements defined for the MS degree programs. The MP then informs the student about the courses (by official code and title) and materials that he/she must prepare for.

### 3. Exam Format

#### 3.1 Identification of coursework

Given preference to those faculty members, who instructed or instruct the selected courses and are also Committee members, the MP requests 6-7 problems; the MP may prepare 2 or 1 problem(s) in connection with 2 course(s) or 1 course that he/she was or is the instructor for. Problems should aim at assessing the ability of the student to synthesize and evaluate knowledge, under predictable and unpredictable situations for real processes and systems. The exam questions should not be problems to test basic background knowledge, comprehension or simple applications that should have been mastered at the BS degree level. Each problem should be drafted, so that the student is able to complete it in 50 minutes.

#### 3.2 Exam packet

On the day prior to the examination day, each MP will turn in a sealed package with 8 envelopes to the designated *Lead Proctor* of the examination; each envelope should contain one problem statement.

#### 3.3. Administering the exam

The *Lead Proctor* will be a CEE tenured faculty member. The *Lead Proctor* will be fully responsible for administering the open-book examination, managing time and collecting the exam back in the envelopes and packages, which should be returned to each MP at the end of the examination. The examination schedule will cover 4 problems in the morning (8AM – 12M), 1 hour for lunch (12M-1PM) and 4 problems in the afternoon (1PM-5PM). Unless otherwise directed by the MP and the Student's Supervisory Committee, students should bring their texts and notes (these in a binder; no loose material allowed), an approved calculator by the National Council of Examiners for Engineering and Surveying (NCEES) and needed supplies (e.g., pencils No. 2, eraser, and ruler).

### 4. Grading

The MP will coordinate the grading of the exam by those instructors, who provided problems, using FIU letter grading criteria (A, A-, B+, B, B-, etc.). The MP averages the grade using the number of points of each letter grade and provides a final average grade. A passing grade should be minimum B and no more than two problems should be graded lower than C; otherwise, the student fails the exam.

The MP should then report the final result to the student, instructors who provided problems, and the Committee members. Results should be available as promptly as possible but within two weeks of the date of the exam.

## 5. D-2 Form

If the student has completed all coursework requirements, the student should be able to prepare and process the D-2 form; if course requirements are still pending, the student must meet the requirements before processing the D-2 form, as it is required by the University Graduate School.

### ***Proposal Defense (“depth of knowledge”)***

Once the PhD student has processed the D-2 form, he/she can enroll in dissertation credits, but can take any additional needed coursework in support of his/her research and dissertation. The MP and the PhD student should plan to hold the proposal defense on a day, at least, one year prior to the expected graduation date. The student should then prepare a detailed proposal, which should once approved by the MP be the basis to prepare a quality MS Power Point presentation or equivalent, as needed. The proposal should then be submitted to each one of the committee members, at least, two weeks in advance to the scheduled day of the defense.

Based on the approved detailed proposal, the PhD student should then produce a 5-page proposal to be also shared with the Committee members for their input; this proposal is required by the UGS and is presented with the D-3 form.

The PhD student should make a room reservation, with equipment that supports the audio-visual needs of the presentation, and rehearse the presentation a number of times (2-3 minimum). The presentation should be scheduled for a two-hour period (or else depending of MP’s or Committee’s expectations).

The presentation should be announced, at least, throughout the FIU Engineering Center, and open to anyone interested. Faculty and students are specially welcome and encouraged to attend it.

The following protocol should be, at a minimum, followed during the defense:

1. MP introduces the PhD student and asks audience and the Committee to hold all questions until the student ends the presentation
2. PhD student makes the presentation and ends it welcoming questions.
3. MP coordinates a question/answer (Q/A) interaction with the student, starting with 3-5 questions from the audience and then with each one of the Committee members.
4. Once the Q/A interaction ends, the MP thanks the audience for attending and asks everyone, including the candidate, to leave the room and the Committee to stay. The MP asks the PhD candidate to be within close proximity to the presentation room.
5. The Committee members will assess and then discuss the defense and decide on whether the student passes (i.e., becoming a candidate) or fails the exam. The decision should also include feedback on the proposal and oral presentation.
6. The MP and Committee members will complete and sign the *PhD Dissertation Proposal Defense Survey*.
7. The MP will then request the PhD student to return to the presentation room.

8. Upon the return of the student to the presentation room, the MP, on behalf of the Committee, announces the decision to the student, highlighting the Committee's feedback.
9. If the student passes the defense, the MP, followed by each committee member, congratulates the candidate (e.g., a hand shake is appropriate). If the student fails, the MP should instruct the student on a 2<sup>nd</sup> but last opportunity to defend, which is at the discretion of the MP.
10. The MP collects all the *PhD Proposal Dissertation Proposal Surveys* from all Committee members and after keeping copies for him/herself, turn them in to the departmental office for proper documentation (i.e., SACS).

## ***Dissertation Defense***

In full compliance with all requirements and deadlines that are defined by the UGS, the Major Professor and the PhD candidate, with input by all Committee Members, should agree on a month, day and time to hold the dissertation defense. The PhD candidate must then choose a day (i.e., six weeks prior to the date of the defense), when he/she will provide a draft of the dissertation to all the Committee members. The PhD candidate will also have to submit the D-5 form to the UGS earlier than 3 weeks before the date of the defense or by the official UGS deadline (if any).

The PhD candidate should prepare an oral presentation of excellent quality to be made within 40 to 50 minutes. The defense is an open event but FIU students and faculty should be particularly welcome and encouraged to attend. The following protocol is recommended to conduct the defense:

1. MP introduces the PhD candidate and asks audience and Committee to hold all questions until the student ends the presentation
2. PhD candidate makes the presentation and ends it welcoming questions.
3. MP coordinates a question/answer (Q/A) interaction with the candidate, starting with 3-5 questions from the audience and then with each one of the Committee members.
4. Once the Q/A interaction ends, the MP thanks the audience for attending and asks everyone, including the candidate to leave the room and the Committee to stay. The MP asks the PhD candidate to be within close proximity to the presentation room.
5. The Committee members will then assess and discuss the defense and decide on whether the candidate passes or fails the exam. The decision should also include the Committee feedback on the dissertation write-up and oral presentation.
6. The MP and committee members will complete and sign the *PhD Dissertation Defense Survey*.
7. The MP will then call the PhD candidate to return to the conference room.
8. Upon the return of the candidate to the presentation room, the MP, on behalf of the Committee, announces the decision to the candidate, highlighting the Committee's feedback.
9. If the candidate passes the defense, the MP, followed by each committee member, congratulates the candidate (e.g., a hand shake is appropriate).
10. The MP collects all the *PhD Dissertation Defense Surveys* and, after keeping copies for him/herself, turn them in to the departmental office for proper documentation (i.e., SACS).

## **Grievances**

*All grievances will be processed under Policy 380.947 "Graduate Student Academic Grievance Guidelines and Procedure" of May 1, 2010.*

### **Record of Approval:**

***The CEE Graduate Advisory Committee (GPAC) unanimous approval of the Recommended Protocols took place on November 10, 2014, by attending voting members Drs. L. David Shen (Chair), B. Tansel, M. Hadi and K. Lau. Dr. H. R. Fuentes represented, as non-voting member, Dr. A. Azizinamini, Chairperson of the Department of Civil & Environmental Engineering.***

***The GPAC-approved Recommended Protocols were presented as a motion in the CEE Regular faculty meeting of December 11, 2014. The motion was moved by Dr. B. Tansel and seconded by Dr. K. Lau. The motion was unanimously approved.***