Guidelines for a Successful Directed Teaching Experience
as part of the Ph.D. in Mathematics
(February 23, 2016)

The Directed Teaching (DT) requirement is designed to provide Ph.D. students with an in-depth experience thinking about, planning, and teaching an upper level mathematics course. Depending on the student's prior experience with the course material and teaching, differing levels of “directing” may be appropriate. In particular, for many students, a semester (or more) of "shadow teaching" should be considered. Here the student attends the course when it is taught by a faculty member prior to the DT semester, and assists with the teaching, grading, and planning involved in the course. In the case of formal shadow teaching, the student will register and receive credit for a number of Math 7120 credits. In the Mathematics Education Doctoral Program, shadow teaching is required. Details for the requirement (Math 7120) are given below, and may provide ideas for helping students in mathematics prepare for their DT. For doctoral students in mathematics, it is the Instruction Committee's responsibility to determine in each case whether, and what type of, shadow teaching is needed.

International students with weak English speaking and listening skills may be asked to complete A-S 3610 Developing Proficiency in English: Emphasis on Speaking and Listening prior to the DT semester.

The actual DT experience will depend on the student's background, needs, interests, and the faculty member's view of how the student should be guided. Here are some guidelines for what is necessary in most cases. For some students, additional direction will be needed.

**Before the DT semester starts**, the student, together with the faculty member, should:

- Discuss how to plan the semester: material covered, pace, grading (exams/homework/other).
- If there are special course requirements, such as the use of technology, or a writing component, discuss what is required, and how these requirements will be met.
- Write a syllabus based on the discussion in the two bullets above.
- Talk about the necessity to read the textbook for the course so that the student understands the author’s approach to the material, including the notation.
- Practice planning a class or more.

**During the DT semester**, the faculty member should:

- Visit the student at least twice during the first two weeks to guide the student on board work and other issues associated with classroom instruction. If appropriate, the observation might be preceded by a class planning session, and should be followed by a debriefing session.
- Visit the student at least one more time to confirm that the instruction is on schedule for covering the required course material, and that there are no other issues that need to be addressed.
- If technology or writing requirements exist, confirm that they are met.
- Guide the student on writing the first test.
• Guide the student on grading the test (e.g., look at and discuss the student’s first attempt).
• Guide the student on assigning final grades.

**Timeline for setting up the DT and choice of faculty member:** In order to plan a successful DT experience, it is necessary to determine the course, the semester, and the faculty member who is to guide the student, sufficiently early. The student’s advisor must inform the Associate Chairs before the end of the corresponding semester of the previous year of the student’s intention to complete the DT requirement (e.g., for Fall 2017 Directed Teaching, the course and the student/faculty team should be determined by the end of Fall 2016). In general, the faculty member who is to guide the student should not be the thesis advisor. This setup may provide the student with an additional person to write a meaningful reference letter.

**Math 7120 Professional Field Experience**
**Updated 9/2011**

The goal of 7120 is to provide you with an in-depth experience with the thinking, planning, and reflecting involved in teaching an upper level course. In the mathematics education program, this involves working with a faculty member who is teaching an upper level mathematics course for pre-service teachers or a methods course. You are expected to participate with the instructor(s) in all aspects of the course. Specific expectations are:

• Attend all sessions of the course and complete reading assignments that students in the course are assigned
• Read additional literature/research related to the course
• Participate in weekly planning sessions
• Participate in weekly debriefing sessions
• Participate in grading (and creating/revising, if needed) assignments and in giving ongoing feedback to the students
• Participate in teaching selected class sessions at the discretion of the instructor (and videotape your instruction of at least one class session)
• Analyze portions of videotaped instruction and meet with instructor to reflect upon your teaching by discussing findings from your analysis (focusing on strengths and areas in need of improvement)

In all of these areas, it is expected that you will fully engage in the process and demonstrate continued growth in your understanding of and ability to teach. Failure to do so will result in a lower grade for the experience. As is the case of most field experiences, the more you put into it, the more you will get out of it. The two weekly sessions have been identified as a minimum number of meeting times – you are encouraged to engage in additional conversations with the instructor(s) of the course, as well as with others who may be enrolled in 7120 at the same time.