MATH 4090
Teaching Mathematics in the Secondary School
Spring 2018, TH 7:30-8:50 a.m., LCB 121

Instructor: Amanda Cangelosi  cangelosi@math.utah.edu (note the missing i)
Office Hours: JWB 217, Mon & Fri 1:30-2:30, Tues 12:30-1:30, or by appointment

Course webpage via Canvas: utah.instructure.com

Textbooks:

   —Available at the UofU bookstore

   —Available at www.nctm.org for $4.99 ($3.99 for NCTM members)

About this course:

Math 4090 is an invitation to the academic culture of the mathematics teaching profession. You will learn research-based techniques and strategies that encourage grades 6-12 students to discover, create, appreciate, and engage in mathematics. You will learn how to create and implement lessons and units, support student engagement with an assets-orientation, and comprehend the vision of the Utah Core State Standards mathematics curriculum. You will learn that teaching is a complex and chaotic art form, for which there is no panacea, yet this course will help you navigate your strengths and experiment with best practices. This course is co-requisite with Math 4095, *Practicum for Secondary Mathematics Teachers*.

Assessment:

- **Reading and Written Reflections (25%)**
  You will be assigned to read and reflect upon not only your textbooks, but also numerous articles and excerpts. Writing prompts will be posted on Canvas, where you can submit your written reflections. You should expect one or two of these assignments per week.

- **Lesson Writing (20%)**
  You will be expected to write three lesson plans for this class, using the College of Education’s lesson plan template. You will be provided with optional curricula from which you can derive lesson plans.

- **Lesson Demonstrations (25%)**
  You will be expected to implement each of your three lesson plans during class, during which you will be assessed on your ability to engage students, orchestrate discussion, practice assertive communication, and demonstrate mathematical competency.

- **Unit Plan (15%)**
  You will be expected to create a unit plan based upon the Utah Core State Standards for an assigned secondary mathematics course. Optional curriculum will be provided from which you can build your unit.

- **Attendance, Engagement, Punctuality, Professionalism (15%)**
  This course might be thought of as a professional development opportunity (i.e., vocational training), like an extended and more intense version of those you’ll experience throughout your teaching careers. Because much depth and wisdom is gained from your colleagues during class discussion, your attendance and engagement are a crucial part in defining this class. As secondary teachers’ contract time often begins at 7:30 a.m. (often earlier), and as high school classes commonly commence at 7:45 a.m., punctuality in Math 4090 should be considered job training. Not only is it important to arrive to class on time, it is also
important to arrive ready to fully engage. Regarding professionalism, this course is an opportunity to practice professional interactions with colleagues as you will do with future faculty members, administrators, parents, and students (e.g., professional learning communities; parent-teacher-student conferences). You are invited to approach this course as a mock secondary school setting.

**Expected Grade Breakdown by Percent:**
A (100-93); A- (92-90); B+ (89-87); B (86-83); B- (82-80); C+ (79-77); C (76-73); C- (72-70); D+ (69-67); D (66-63); D- (62-60); E (59-0).

**Relevant Entertainment:**

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Mouseover: “The only things you HAVE to know are how to make enough of a living to stay alive and how to get your taxes done. All of the fun parts of life are optional.” – xkcd.com/1050

Another great Randall Munroe quote (How is this relevant to teaching secondary math?): “I never trust anyone who’s more excited about success than about doing the thing they want to be successful at.”

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**ADA Statement:**
The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning, and psychiatric disabilities. The student needs to have such a disability approved by the Disability Service Office (162 Union, 581-5020) in order to have the accommodations provided. The instructors need to be informed about such a disability and approved accommodations at the beginning of the semester.

**Disclaimer:** The instructor reserves the right to modify this syllabus to better suit class needs at any time during this semester. Any changes that are made will be immediately communicated during class and via Canvas.

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1 subject to change, should there be natural breaks/clusters in score distributions