Math 573 50F Geometry for Teachers Summer 2019 (Dates: May6 – May 24, 2019)

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Overview: To explore the content of geometry from multiple perspectives, its place in the school curriculum, and techniques for teaching geometry (exploration, conjecture and proof in a technological environment). The course also includes topics in 2- and 3-dimensional geometry and measurement appropriate for teachers of school mathematics. The Learning Goals for the course are:

1. To gain familiarity and depth with a variety of mathematical presentation and computer software packages that can be used to engage students in geometric investigations to explore, conjecture, and prove mathematical ideas and theorems
2. To develop a facility with measurement problems that relate to real world scenarios.
3. To organize classroom presentations and develop units of instructional material that can be used with their students.

Texts and Resources:
Instructor will provide relevant readings/texts.
The following resource is required for the course:

Geometers Sketchpad, Key Curriculum Press (Student edition available). Please purchase Sketchpad online asap.

Modes of Assessment:

(Sketchpad) Lab Activities	75 points (3 x 25)
1 Project	35 points (1 x 35)
1 Instructional Unit	65 points
Total	175 points

Grading Scale:

90-100 A ; 80-89.9 B ; 70-79.9 C ; 60-69.9 D ; Below 60 F

1. Lab Activities
   Sketchpad Lab assignment activities are to be gathered together (in a folder which will help you with the Instructional Unit). The format for each entry is as follows:
   Description of the assignment: What is the assignment asking you to do?
   Your investigation – the work done on Sketchpad
   Reflection: A summary of what you have found through your Sketchpad investigation.

The lab folder is to be sent as a zip file via email each Friday. It should be labeled LastName_LabWeek1; LastName_LabWeek2 etc…

2. Project
   The project will include investigations of a real world problems and a write up of their solution(s). The project will be due on May 21st, and is to be sent via email in a zip file labeled as follows: Last Name_ProjectWeek3

3. Instructional Unit
   This will be a selection from the material you have gathered together in your folders that can be used by you to sequence 3 weeks of lessons on challenging geometry for school students (Grade of your choice). You can assume there are 12 days of instruction (4 days per week) and each lesson will take 2 days. Therefore, your unit will have 6 lessons in all with specific goals (and related activities) for each lesson on teaching specific geometric topics. There should be some coherence in the 6 lessons, i.e., they should ideally build on each other and provide a challenge to your students.