Course Syllabus

Course Information
CS/SE 6301-008: **Special Topics in Computer Science - Computational Geometry**, Spring 2018
Tue & Thu 11:30am–12:45pm, FO 1.502
Website: https://utdallas.edu/~kyle.fox/courses/cs6301.008.18s/

Professor Contact Information
Kyle Fox, Assistant Professor
Phone: (972) 883-4168
Office : ECSS 2.701
Office Hours : Mondays 2:00pm–3:00pm. Additional office hours by request.

Course Pre-requisites, Co-requisites, and/or Other Restrictions
CS 5343 (or equivalent) required
CS 6363 highly recommened

Course Description
Specific topics will include basic computational geometry topics like computing convex hulls, computing Voronoi diagrams and Delaunay triangulations, motion planning, and the main methods for developing geometric algorithms. We will also discuss various geometric data structures for point location, range searching, and so on, some geometric approximation algorithms, and possibly some topics from computational topology if time permits.

Required Textbooks and Materials
Mark de Berg, Otfried Cheong, Marc van Kreveld, Mark Overmars: **Computational Geometry— Algorithms and Applications—Third Edition.** Springer 2008

Suggested Course Materials
David M. Mount: CMSC 754—Computational Geometry. Available at
http://www.cs.umd.edu/class/fall2016/cmsc754/Lects/cmsc754-fall16-lects.pdf.

Assignments
I will assign homework every few weeks. Students will also participate in some sort of project involving a short survey, implementation, or research. Students will propose their project midway through the semester via a two page paper. They will then submit a longer paper on their results and give a roughly 20 minute long presentation on their work at the end of the semester. Exact assignments given are subject to change.

Grading Policy
Students grades will be determined by weighing each kind of work in the following manner.
Homework: 60%   Project Proposal: 10%   Final Report and Presentation: 30%

There is no fixed scoring rubric as your final grade will be determined by how the rest of the class performs and how difficult the assignments are. This is a special topics course, so most students should get a good grade as long as they put in an honest effort.

Course & Instructor Policies
Late homework is not accepted.

It is the Computer Science Department's policy that absence in three consecutive lectures will result in the course grade being lowered by one letter and absence in four consecutive lectures will automatically result in a failing grade (F) in the course.

Small groups of at most three students may work together and return their homework as a single submission. Project proposals should be done individually, but you may again form a group of up to three students for the final report and presentation if others' proposals interest you.

You are expected not to use outside sources while solving homework problems. However, if you do use outside sources (or write solutions in close collaboration with other students outside your group on the assignment) then you may cite that source and still receive full credit for the solution. Material from the lecture, the required textbook, or prerequisite courses need not be cited. **Failure to cite other sources or failure to provide solutions in your own words, even if quoting a source, is considered an act of academic dishonesty.**

Requests for regrades must be made within one week of the homework assignment being returned. The problem in question will be completely regraded, so your score may actually go down.

UT Dallas Syllabus Policies and Procedures
The University maintains a standard policies and procedures segment for course syllabi. Please refer to http://go.utdallas.edu/syllabus-policies for this segment.

These descriptions and timelines are subject to change at the discretion of the Professor.