Course Number: CIVL 4530
Course Title: Geometric Design
Credit Hours: 3 lecture hours
Prerequisites: CIVL 3510 (Transportation Engg.) and ENGR 1110 (Intro. to Engg.)
Corequisites: None

Reference Materials:


Course Description in Bulletin:

An analysis of the elements affecting the location and design of rural highways, urban highways and arterial streets including design controls and criteria.

Course Objectives:

- Identify and select design controls for a roadway project.
- Establish horizontal and vertical alignments.
- Design intersections and interchanges.
- Design a roadway for all user modes and context settings.

Course Evaluation and Grading:

| Homework and In-Class Assignments | 16% |
| Exam 1 (Units 1, 2, 3, 4) | 16% |
| Exam 2 (Units 5, 6, 7) | 16% |
| Project | 20% |
| Final Exam (Units 8, 9, 10, 11, and cumulative) | 32% |

Notes: Dates of exams will be announced at least two weeks in advance. The final exam will be held on Monday, December 11, at 8:00 – 10:30 a.m. The standard ten-point grading scale will be used. A minimum average score of 60 on the two term exams is required for a passing grade. A minimum score of 60 on the final exam is required for a passing grade.

Accommodations for Students with Disabilities:

Relevant university policy regarding accessibility to the course material and facilities applies to this course. Students requiring accommodations pursuant to the policy should notify the instructor during the first week of classes to ensure that any necessary accommodations can be made.
Class Time/Place: 9:30 – 10:45 a.m., Tuesday and Thursday
314 Ramsay Hall

Instructor: Rod E. Turochy
Phone: 844-6271
E-mail: rodturochy@auburn.edu

Office Hours: 9:00 – 11:00 a.m., Monday and Wednesday, and by appointment
223 Harbert Engineering Center

Class Website: http://www.eng.auburn.edu/users/rturochy/civl4530

Procedural Rules:

1. **General:** Students are responsible for assigned reading and participating in class discussion. During class, cellular telephones must be turned off or otherwise made silent. During exams, cell phones and other communications devices must not be placed on the desks.

2. **Reading:** It is the student’s responsibility to keep pace with class instruction and the attached course outline. Students are responsible for reading the assigned material. Comprehension and the ability to ask questions are increased if the student reads the material prior to class.

3. **In-Class Assignments:** These closed-book, closed-notes assignments will be administered in class during the semester. Missed assignments can be made up in the event of excused absences as agreed upon by the instructor prior to, or within one week after the assignment.

4. **Homework Assignments:** Problems will be assigned in class and posted on the class website. Homework problems will be due at the beginning of class on dates specified. Late homework will be accepted until the beginning of the next class period at a 50% reduction in grade. Homework solutions will be posted, and selected problems will be discussed in class. Students are encouraged to discuss homework assignments; however, the submitted material must be the individual student’s work.

5. **Exams and Calculators:** There will be three exams during the term and a comprehensive final exam; only the supplied reference packet and approved calculators will be allowed as aids on these exams. For review purposes, the packet will be available on the class website at least one week prior to the exam. A clean copy will be provided for use during the exam. Calculators used must be on the approved list for use on the Fundamentals of Engineering Examination. Requests for adjustments to any exam grade must be made within one week of the date the exam is returned.

6. **Make-up exams:** Make-up exams are only allowed according to university policy or as allowed by the instructor. These exams will be different than regularly scheduled exams. Arrangements must be made in advance except in extenuating circumstances.

Course Topics

1. Functional Classification and Design Elements
2. Design Vehicles and Traffic Data
3. Sight Distance for Stopping and Passing
4. Roadside Design
5. Horizontal Curves
6. Superelevation
7. Vertical Curves
8. Bicycle Facilities
9. Pedestrian Facilities
10. Intersection Design
11. Access Management