

GEORGE MASON UNIVERSITY
SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING
CIVIL, ENVIRONMENTAL, AND INFRASTRUCTURE ENGINEERING
FALL 2008

CEIE 400 URBAN SYSTEMS PLANNING/MGT I

Instructor:

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If you have a documented learning disability or other condition that may affect academic performance you should:
1) make sure this documentation is on file with the Office of Disability Services (SUB I, Rm. 222; 993-2474;
www.gmu.edu/student/drc) to determine the accommodations you need; and 2) talk with me to discuss your
accommodation needs.

Prerequisite and Corerequisite Courses:

Engr 290 (Some assignments will require AutoCadd) **CEIE 440 Water Supply Distribution**
CEIE 340 Water Resources Engr. **CEIE 455 Intro. To Environ. Engr.**
CEIE 360 Intro. To Transp. Engr.

Primary Course Objective:

- 1) To develop an understanding of the planning and design process of a typical urban development project in the technical, social and political context,
- 2) To provide a practical application of the engineering theories learned in prior courses;
- 3) To provide the analysis and design framework for CEIE 490 - Senior Project Design.

Course Description:

A quantitative and qualitative analysis in planning, design, construction and management of engineering systems and facilities relating to urban development projects. The course entails the study of the public and private sector urban development industry including terminology, analytical techniques, evaluation techniques, and information sources at each phase of the design process.

Course Conduct/Homework:

The GMU Honor Code is in effect in this course. Please review the Honor Code statement in the GMU catalog to ensure your understanding of it.

“Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.”

Students are expected to prepare ahead and participate in class discussions. The instructor will provide the necessary theoretical and practical background through lectures (and possibly guest lecturers).

Homework will be assigned weekly and **will be collected at the beginning of class one week later - NO LATE HOMEWORK WILL BE ACCEPTED --NO EXCEPTIONS (unless prior arrangements with the instructor have been made)**! You may freely discuss homework among yourselves, however it is expected that the assignments are done individually and **NEATLY**. Numerical problems should be systematically organized and presented. When applicable, assumptions should be appropriately stated.

All assignments are to be prepared as if they were required as part of your professional employment, and were to be submitted to the person who sets your salary. All written material should be lettered or preferably typed and should consist of complete sentences and paragraphs. Organization and presentation is a key component of the assignments. Engineering paper should be used whenever appropriate (almost always). Drawings should be neat, made with appropriate drawing implements or done with the aid of a computer, and be completely labeled. Solutions should consist not only of the final answer but also an explanation of how that answer was obtained, a description of any necessary intermediate steps as well as an explanation of any discrepancies (when appropriate). Use of a spreadsheet and/or word processor is encouraged.

Neatness counts – Spelling counts – Grammar counts – a minimum of 50% loss of credit will result from sloppy submissions.

Homework will be returned not later than the week before the midterm and final exam.

Two class projects will be assigned throughout the semester. Their due-date will be announced at the time of assignment. A group presentation may be included as one of the HW assignments. Writing assignments shall include appropriate source references to avoid plagiarizing.

Exams are closed book.

Text:

Land Development Handbook Planning, Engineering, and Surveying, 2nd ed. by The Dewberry Companies

Supplemental Reading:

Crabgrass Frontier The Suburbanization of the United States, Kenneth Jackson. Oxford University Press
Suburban Sprawl Culture, Theory, and Politics, Ed. By M.J. Lindstrom and H. Bartling. Rowman and Littlefield

Land Development for Civil Engineers, Thomas Dion. John Wiley & Sons

Practical Manual of Site Development, 3 ed., B.C. Colley. McGraw Hill

Note: Each student is required to have an engineer's scale, a 30-60-90 triangle, and a 45-90 triangle. **Bring drafting equipment to each exam.**

Grading:

Weekly Homework/Class Participation	18%
(Instructors Discretionary Points)	2%
2 Class Projects (15% each)	30%
Mid-Term Exam	25%
Final Exam	25%

COURSE SCHEDULE CEIE 400

(This schedule is subject to modifications according to student interest):

Date	Topic
8/28/08	Course Introduction Overview of the Land Development Process (Chapter 1)
9/4/08	Feasibility & Site Analysis (Part II) / Grading/Contours Review Comprehensive Planning and Zoning (Chapter 7) Site Plan Ordinances, Subdivision Regulations and Building Codes (Chapter 8)
9/11/08	The Rezoning Process (Chapter 9)
9/18/08	Environmental Site Feasibility and Assessments (Chapter 3) Engineering Feasibility (Chapter 5) Project #1 Handout
9/25/08	Exactions, Infrastructure Enhancement & Fees, (Chapt. 10) Development Patterns and Principles (Chapter 11) Preliminary Engineering
10/2//08	Environmental and Natural Resources (Chapter 15) Exactions, Infrastructure Enhancements and Fees (Chapter 10) Project #1 Due
10/10/08	Mid-Term Exam
10/16/08	Grading and Earthwork (Chapter 23)
10/23/08	Grading and Earthwork (Chapter 23)
10/30/08	Storm Drain Design (Chapter 21) Project #1 Handout
11/06/08	Storm Drain Design (Chapter 21)
11/13/08	Stormwater Management (Chapter 22)
11/20/08	Suburban Street Design (Chapter 20) Project #2 Due
12/4/08	Erosion and Sediment Control (Chapter 27)
12/11/08	Final Exam 4:30 - 7:15