CE 594  PHYSICAL PLANNING AND MUNICIPAL ENGINEERING
Tuesday/Thursday, Room EMS 170, 11AM-12:15PM
(Alternate class time Tues./Thurs. 5:30-6:45 p.m.)
1st Class, Sept. 4, last Class Dec.13, 2007

Instructors for Fall, 2007  Russell Knetzger, AICP  John Sigwart, PE
City & Town Plans since 1960  Miller Consulting Engrs. & Scientists
Shorewood, WI 414-962-5108  Sheboygan, WI  920-458-6164
rknetzger@execpc.com  jsigwart@startwithmiller.com

Course Description:

This course will examine physical planning and municipal engineering practice with emphasis on how they might be performed in a small urban or suburban community. The course will focus on the development of land and discuss such topics as neighborhood planning, subdivision layout, mapping and platting, street layout and design, provision of utilities--electricity, water storm sewer, sanitary sewer, drainage and flooding--interaction with local government, organization and structure of local government and general public works activities.

Course Objective:

Broad Objectives
● The objective of this course is to provide an understanding of the interface between urban planning and civil engineering as it affects the development process of land and the provision of urban infrastructure.

Learning Outcomes
Upon completion of the course, students should have an understanding of:
● The nature of physical planning and municipal engineering practice with emphasis on how they might be performed in a small urban or suburban community.
● The process used for the development of land as it considers issues in neighborhood planning, subdivision layout, mapping and platting, street layout and design, provision of utilities -- electricity, water storm sewer, sanitary sewer, drainage and flooding.
● How engineers and planners interact with local government, organization and structure of local government and general public works activities.
● Knowledge of data required for land use planning and design.
● Knowledge of how physical factors affect project economics and feasibility.
● Knowledge of how land use tradeoffs are made in local governments.
● Ability to make tradeoffs with multiple factors in project planning and design.

Course Outline:

I. Organization of Local Government, Role of Planner, Municipal Engineer (2 weeks)

II. Land Development Process (6 weeks)
   A. Regional Context
   B. Preparation and Content of Neighborhood Plans
   C. Subdivision of Land
      - principles, street and block patterns, sites, development of maps and plats, zoning restrictions, local approval process, financial feasibility
         (Midterm Exam)
III. Provision of Government Services (7 weeks)

A. Transportation
- street layout and design
- transit services
- parking facilities
- street lighting
- snow plowing and street maintenance

B. Public Utilities
- drainage system and storm sewers, effects of urbanization, principles of layout and design
- sanitary sewer systems
- water supply system

C. Solid Waste and Recycling

**Final Exam:** December 22, 3:00-5:00 p.m.

**Textbooks:**

**Prerequisites by Topic:**
- Understanding of spatial analysis and geography of cities.
- Graphical skills.
- Ability to do complex calculations on spreadsheets.
- College level algebra.
- Elements of engineering economics.

**Requirements:**
There will be a midterm exam and a final exam. The midterm will cover parts I and II of the course, and the final will cover part III. In addition, there will be four project assignments.

The neighborhood planning project and subdivision design projects are major components of the course. This is a semester long effort which is the primary focus of the course lectures and schedule. The following steps are involved:
- Identify a site.
- Work in groups to gather data on the site soils, drainage, topography, property ownership, zoning and local government regulations
- Develop goals for design which provides mixed land uses and considers social, economic and political factors as well as site characteristics.
- Develop a neighborhood plan for the site following the goals and document it in a written report.
- Develop a spreadsheet to be used to conduct an economic feasibility analysis of a subdivision.
- Develop plan and profile diagrams for a selection of streets in the subdivision.
- Develop a storm water drainage plan for the site.
- Apply the spreadsheet to estimate development costs and to determine if the design or site is feasible economically.
- Document the subdivision plan in a written report including recommendations for implementation.
Grading:
Grades will be based on the tests (20% for midterm, 10% for final) and the projects (2% for site suggestion, 2% for meeting report, 33% for the neighborhood design project, 33% for the subdivision project). Grades for late assignments will be reduced by two points per school day. Incomplete projects will be treated as late. Projects more than 10 school days late will not be reviewed. Grading will be based on relative scores and rank in class. No fixed grading scale is used. Experience in prior semesters has been that a student in the middle rankings would have a grade average of about 2.8 out of 4.0.

The class projects require a lot of effort to do a good job. You should have a regular schedule of time devoted to the projects throughout the semester. Projects done at the last minute seldom are done well or do well.

Note due dates:
- Project A, Site Selection Memo: September 13
- Project B, Local Meeting Observe and write-up: October 4, 2007
- Neighborhood: Thursday, October 25, 2007 at 4:00 p.m.
- Spreadsheet: November 8, 2005 (not handed in) Tuesday, November 6, 2007
- Design Review: November 17, 2005 (discussion with instructor) Thursday, November 15 2007
- Subdivision: Thursday, December 13 at 4:00 p.m.

Undergraduate/Graduate Differentiation: A graduate student taking this course will be required to do a class presentation and to do more advanced versions of the class projects.

Course Web Site, E-mail Address: A web site for the course has the latest information and links to other relevant sites. It is at http://www.uwm.edu/dept/cuts/CE594.

E-mail can be sent to everyone enrolled in the class. The address is ppme@uwm.edu. If you have questions for one of the instructors, send these directly to them (rknetzger@execpc.com) or to jsigwart@startwithmiller.com. If these are of general interest, they will be forwarded to the class list.

Project A:
Provide a memo that identifies possible sites for the neighborhood design. The site should be about one square mile and have a considerable area that is potentially developable (not wetlands). Include a map of the location and a brief description. If you have no preference, hand in a memo that indicates that. Due September 13.

Project B:
Pick a community and attend a meeting of an advisory or legislative group such as a zoning board, planning commission, or city council. Observe what goes on with particular attention to the role of the staff (i.e., city engineer, planner or administrator) at the meeting. Also note who else attends the meeting and why they are there. Don’t wait to do this, finding a location and time that works with your schedule takes time. Document what happened in a brief report (1-2 pages) by October 6.
UWM POLICIES THAT AFFECT THE CONDUCT OF A COURSE

Participation by Students with Disabilities: If you need special accommodations in order to meet any of the requirements of this course, please contact me as soon as possible.

Accommodation for Religious Observances: Students will be allowed to complete examinations or other requirements that are missed because of a religious observance.

Academic Misconduct: The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors.

A more detailed description of Student Academic Disciplinary Procedures may be found in Regents Policy Statements, UWS Chapter 14 and UWM Faculty Document #1686.

Complaint Procedures: Students may direct complaints to the head of the academic unit or department in which the complaint occurs. If the complaint allegedly violates a specific university policy, it may be directed to the head of the department or academic unit in which the complaint occurred or to the appropriate university office responsible for enforcing the policy.

Grade Appeal Procedures: A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow the established procedures adopted by the department, college, or school in which the course resides. These procedures are available in writing from the respective department chairperson or the Academic Dean of the College/School.

A more detailed description of the grade appeal policy may be found in UWM Selected Academic and Administrative Policies, Policy #S-28 and UWM Faculty Document #1243.

Sexual Harassment: Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the careers, educational experience, and well being of students, faculty, and staff. The University will not tolerate behavior between or among members of the University community that creates an unacceptable working environment.

Attendance: Incompletes. A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the student's control, has been unable to take or complete the final examination or to complete some limited amount of term work. An incomplete is not given unless you prove to the instructor that you were prevented from completing course requirements for just cause as indicated above.

A more detailed description of the Incomplete Policy may be found in UWM Selected Academic and Administrative Policies, Policy #S-31 and UWM Faculty Documents #1558 and #1602. Also, a description of this policy may be found in the UWM Schedule of Classes.

Financial Obligation. The submission on your registration form and your subsequent assignment to classes obligates you to pay the fee-tuition for those classes or to withdraw your registration in writing no later than January 15. It is important to both you and the University that you make payment on time. A complete description of UWM fee policies may be found in the Schedule of Classes.