CRP 6400  
Site Planning and Development  
Autumn 2012  
Syllabus

Course Information
Credit hours: 4
Room: Lecture: Knowlton 175 Tu, 12:45 – 2:10PM  
Evans Lab 2003 Th 12:45 – 2:10PM  
Laboratory: Knowlton 430 Tu or Th 3:55 – 5:20 PM

Instructors:
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Lab Assistant
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Course Description
Effective site planning can lead to the development of a strong community. In this class, you will learn how the design, infrastructure, and environmental elements are evaluated to generate a feasible and environmentally sound development project. To accomplish this, the course is divided into five, interrelated sections:

1. Assessment of natural systems and site services  
2. Circulation systems and their impacts  
3. Site design approaches for residential, commercial, and industrial development  
4. Measuring and regulating the impacts of development on environmental quality  
5. Perception, lifestyle, and market interactions

The learning outcomes for this course include:
• an understanding of the critical elements affecting the physical form and spatial structure of urban areas;  
• an extensive knowledge base of design/planning criteria with the emphasis on performance criteria for the essential elements underlying the physical form and spatial structure of urban areas;  
• training in operational skills and tools required to develop solutions and to prepare and evaluate physical planning proposals.  
• an understanding of the impacts of human development on natural systems and processes  
• an understanding of the impacts of the built environment on the psychological and social functioning of neighborhoods and cities  
• an ability to identify and describe limitations that site characteristics place upon development;
- methods to analyze alternative potentials for land/use development of a variety of different kinds of areas and which range in size from medium to large scale;
- an ability to evaluate and develop well-considered planning proposals for such areas that respect their relative contexts, are sensitive to their surroundings, and which are responsive to relevant environmental constraints;

**Method**
The course is divided into four parts:
- Part I: Introduction to Site Analysis and Site Influences
- Part II: Circulation Systems
- Part III: Land Use and Site Design and Environmental Quality
- Part IV: Perception, Market Biases, and Future Development

The class will meet twice per week for lecture on Tuesdays and Thursday from 12:45 – 2:10PM. Each student will then attend one laboratory session per week on Tuesday or Thursday from 3:55 – 5:20 PM. The lecture sessions will be on topics from the readings but will expand on them and also be used for discussions. The laboratory exercises will allow students to apply the design and environmental principles discussed in class while learning how to use several tools and methods. The final laboratory assignment will produce a final site plan conceptual design and environmental assessment.

**Evaluation**
Three one hour exams will be given during the semester covering one portion of the class. Each exam will be worth 10% of the final grade. Class attendance is required as students will be required to participate in classroom discussions. Some class lectures will be provided online and students will be required to participate in online discussions as well. Lab exercises will be worth 30% of the final grade. The final design and environmental review exercise will be due during final exam week and will be worth 15% of the final grade. In lieu of a final exam, there will be a site review staff report worth 15% of the final grade. Lab quizzes and participation in class discussions will comprise the remaining 10% of the grade.

Each lab will be graded on the basis of a 10 point total. Lab exercises not completed within the assigned time period will be assessed a penalty of 1.0 points off per day to a maximum reduction of 2.0 points. After two days following the assigned due date, labs not yet turned in will receive 0 points, unless a prior arrangement has been made with the instructor. A total of only two labs will be accepted late during the quarter. After two labs have been submitted late, any subsequent labs not received by the assigned due date will receive 0 points.

The format and submission methods for the labs, the staff report and the final project will be outlined in additional course material distributed throughout the semester.

A course grade of “Incomplete” will only be granted for a valid reason and with the permission of the instructor.

All students are held responsible for knowing and abiding by the Department's policies on plagiarism and the University's policies on academic misconduct. These have been distributed to all C&RP students. If you have not received a copy, please obtain them from the school staff on the main floor of Knowlton
Hall. Students may share ideas on their lab assignments but their final products are expected to reflect individual work and not group output.

**Text and Reading Materials**

Suggested readings include book excerpts and articles relevant to current planning practices. These will include designated pages from the books below, and other readings will be provided online for review. For further information, suggested reading lists may be distributed with additional materials on reserve in the Knowlton Library. Further information will be distributed that coordinates class sessions with designated readings from the following texts:

R. Gene Brooks and David W. Lestage  
Before Building: Site Planning in the Digital Age  
2nd Edition  
Boston: Prentice Hall 2012  

Available through the American Planning Association  
122 S. Michigan, Suite 1600  
Chicago, IL 60603  
www.planning.org  
ISBN 1-884829-71-6

Omura, George: MASTERING AUTOCAD 2012+AUTOCAD LT-W/DVD  
Wiley Publishing Inc. 2012  
ISBN: 9780470952887

**Materials for Lab**

The following materials will be necessary to satisfactorily complete the lab and class exercises. Students should acquire:

- Engineer’s scale marked in tenths of an inch
- Jump drive with a minimum 2GB storage capacity
Topics:

Part 1 - Assess Site Natural and Services Conditions (3 weeks)
   Lecture 1 – Introduction to Site and Environmental Planning
       The regional context and the site
       Site services and ecological services
       Roles of the planner in site and environmental planning
   Course overview
   Lecture 2 – Assessing the land
       Geology and natural hazards
       Soils conditions and capabilities
   Lecture 3 and 4 – Water you want and water you don’t want
       Providing water for drinking and processing
       Stormwater runoff and flooding
   Lecture 5 – Climate and energy
       Assessing climate and microclimate
       Renewable energy and site design
   Lecture 6 – Other site services
       Sewage disposal
       Open space and recreation
       Other utilities

Part 2 - Circulation systems, mode choice, and impacts (3 weeks)
   Lecture 7 – Planning for Circulation Systems
       The transportation planning process
       Models of transportation behavior
   Lecture 8 – Street design standards
       Street hierarchy and basic design standards
       Intersections, traffic controls, and capacities
   Lecture 9 – Mode Choice and Transit Services
       Traditional transit services
       Transit innovations
       Determinates of modal split
   Lecture 10 - Complete streets and sustainable sites
       Designing streets to improve sustainability
   Lecture 11 – Parking design and parking policy
       Parking standards
       Surface and parking garages
       Parking policy and social costs
   Lecture 12 – Standards and their impacts
       Highway and freeway design standards
       Street standards and functionality
       Linking transportation, site, and environmental standards

Part 3 - Land Use and Design (3 weeks)
   Lecture 13 – Land use interactions
       Land market and development
       Market interactions with land use and environmental policy
Models of land use change
Lecture 14 - Residential land use design
   Neighborhood models
   Relationships to complete streets
Lecture 15 - Commercial and industrial land uses
   Commercial site requirements
   Industrial site requirements
Lecture 16 Land use and development controls
   Basic land use controls for development
   Land use studies
   Zoning, subdivision, and related planning regulations
   Special codes and development contracts
Lecture 17 – Mixed land use
   New urbanism and other approaches
Part 4 - Relationships between development and environmental regulations (3 weeks)
Lecture 18 – Preserving Water Quality
   Stormwater management and best management practices
Lecture 19 – Preserving air quality
   Air quality, transportation, and energy use
Lecture 20 – Siting hazardous and noxious facilities
   Environmental justice
Lecture 21 – Solid waste management
   Solid waste disposal
   Recycling and reuse
Lecture 21 and 22 – Perception of built and natural environment
   Psychological functions of urban design
   Sociological functions of urban design
   Urban form and public health
Lecture 24 – The future development market
   Impacts of energy costs, climate change on planning standards
   Possible market changes
Lecture 25 – Integrated evaluation of site and site development impacts

**Course Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Lab</th>
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<tbody>
<tr>
<td>8/23/2012</td>
<td>Introduction to site and environmental planning</td>
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<tr>
<td>8/28/2012</td>
<td>Assessing the land</td>
<td>First lab-section 1 (Autocad Basics)</td>
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<td>8/30/2012</td>
<td>Water and stormwater</td>
<td>First lab-section 2</td>
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<td>9/4/2012</td>
<td>Climate and energy</td>
<td>Lab 1 review</td>
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<td>9/6/2012</td>
<td>Sewage and other site services</td>
<td>Lab 1 review</td>
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<td>9/11/2012</td>
<td>Exam 1</td>
<td>Lab 1 due; Start lab 2 (Slope)</td>
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<td>9/13/2012</td>
<td>Transportation planning overview</td>
<td>Lab 1 due; Start lab 2</td>
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<tr>
<td>9/18/2012</td>
<td>Street design standards</td>
<td>Lab 2 due; Start lab 3 (Soils)</td>
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<td>Date</td>
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<td>9/20/2012</td>
<td>Mode choice and transit</td>
<td>Lab 2 due; start lab 3</td>
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<td>9/25/2012</td>
<td>Complete streets</td>
<td>Lab 3 due; start lab 4 (stormwater)</td>
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<td>Parking</td>
<td>Lab 3 due; start lab 4</td>
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<td>Standards and impacts</td>
<td>Lab 4 due; start lab 5 (conceptualization)</td>
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<td>Lab 4 due; start lab 5</td>
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<td>Land use, market, environment</td>
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<td>10/11/2012</td>
<td>Residential land use design</td>
<td>Lab 5 review</td>
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<td>10/16/2012</td>
<td>Commercial and industrial sites</td>
<td>Lab 5 due; start lab 6 (Phase I)</td>
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<td>Land use and development controls</td>
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<td>Mixed land use</td>
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<td>10/25/2012</td>
<td>Preserving water quality</td>
<td>Lab 6 review</td>
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<tr>
<td>10/30/2012</td>
<td>Preserving air quality</td>
<td>Lab 6 due; start lab 7 (Phase II)</td>
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<td>11/1/2012</td>
<td>Hazardous and noxious facilities</td>
<td>Lab 6 due; start lab 7</td>
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<td>Solid wastes</td>
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<td>11/29/2012</td>
<td>Future development market</td>
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<td>12/4/2012</td>
<td>Integrating multiple factors/Conclusions</td>
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<td>12/10/2012</td>
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<td>Final project and staff report due</td>
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