DEPARTMENT OF CITY AND REGIONAL PLANNING  
University of North Carolina at Chapel Hill

PLAN 745: Development Impact Assessment

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Fall 2021  
9:05 – 10:20 MW (New East Lab; Room 102)  
Course site: http://sakai.unc.edu  
Course question site: https://pollev.com/bendor

Course approach and objectives
Development impact assessments are used in a variety of ways in public and private planning, including evaluation of land use planning alternatives, assessment of private and public development proposals, and marketing of development proposals.

In this class, you will learn the skills and techniques needed for predicting, evaluating, and mitigating potential adverse impacts of land development projects, particularly as they affect urban infrastructure. You will also develop skills in documenting and reporting impact assessment analyses, findings, and recommendations in a competent, professional manner. By analyzing and discussing various examples of those applications, the course will help you develop an appreciation of the strengths and limitations of various impact assessment approaches in specific applications. You will also learn to critically approach impact assessment and analyze others’ assessments.

The course will meet for two 75 minute sessions each week, during which time we will discuss the lectures, readings, and questions that you, other students, and the instructor have generated. Occasional sessions will consist of field trips and guest speakers. Due to the COVID-19 pandemic, some sessions may be held online via Zoom.

While the lectures and readings are important, an equally critical aspect of learning in this course comes from your preparation of a range of impact assessments for a variety of different types of development projects.

What is this syllabus?
This document is many things: 1) It is a planning document, so you can plan your time commitment for reading and assignments. 2) It is a roadmap through the class that aims to give you bearings for each class. 3) It is also a contract of sorts, telling you the level of effort that I intend to put into course as a teacher, as well as the level of effort that I expect from you as a student.

How can you do well in this class?
To do well in this course, I expect you to spend significant time and effort: 1) working with your group on the impact assessment assignments, and 2) working through the lectures and reading material in advance of class. I also expect you to 3) attend class and participate (defined below). Working with a group during the requires careful scheduling, planning, and division of work and responsibilities; these are all important skills to learn during your time at UNC.

Time Commitment: In this course, you should expect to spend at least 3 hours outside of class for each hour you spend in class. This amounts to at least 7-8 hours per week outside of class. It is likely, however, that during some weeks, this course will require much more time, and in other weeks, it will require much less time.

What is participation? Participation means that you are actively listening and engaging in classroom discussions, as well as engaging the class with your own questions, whether you bring them in class or through the question website for PLAN 745: https://pollev.com/bendor (your name is not public when you submit!). Please contact the instructor or TA if you have any questions, problems with the readings or the course, or any other issues that you wish to discuss. Students in this class are encouraged to speak up and participate during class meetings. Because the class will represent a diversity of individual beliefs, backgrounds, and experiences, every member of this class needs to show respect for every other member.
There is a lot of reading. How do I get through it all? The most important thing to do is planning your time. Some tips:

- If you do not have one, get a calendar! Put all due dates and special class activities (e.g. field trips) on your calendar. Probably the easiest and most flexible is Google Calendar, but you may prefer others.
- There are lots of resources for time management available, here is a good one: [https://students.dartmouth.edu/academic-skills/learning-resources/time-management](https://students.dartmouth.edu/academic-skills/learning-resources/time-management)
- Everyone reads articles differently, you need to figure out how you can effectively read a large volume of material and come away with the main ideas and key points. “Some books should be tasted, some devoured, but only a few should be chewed and digested thoroughly.” – Sir Francis Bacon. Skimming is your friend and an important strategy to keep up with the readings. However, when you see important points, slow down and digest thoroughly.
- Write down questions as you read! Submit those questions to the course’s Poll Everywhere poll: [https://pollev.com/bendor](https://pollev.com/bendor). Asking questions is an important part of participating in your own learning process.
- Why are we doing impact assessments? Bloom’s Taxonomy considers educational learning based on different levels of complexity and specificity. Our goal is to climb this “mountain,” where the peak means creating new knowledge and synthesizing the plethora of ideas that you have learned in this class. Creation of new knowledge is the goal.
Course project and grading

Students will conduct a comprehensive series of assessments for a number of development projects. Your reports will detail your recommendations to the local government for managing the impacts that you identify. To make the impact assessment feasible to conduct in a very short period, much of your assignment material is pre-packaged.

The requirements for this course include:
- Active class participation and attendance 15 %
- Group participation grading 10 %
- Linked-In Learning QGIS Module + GIS assignment (individual) 5 %
- Impact assessment assignments (7 assignments) 70 %
- Total 100 %

Assignments are due on Saturdays by 11:55 pm and can be submitted via Sakai Assignments. Complete all assignments in your groups; discussions with additional classmates are encouraged, but all final work must be entirely your own.

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<thead>
<tr>
<th>Assessment reports</th>
<th>Field trips</th>
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<tbody>
<tr>
<td>Due date</td>
<td>Topic</td>
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<tr>
<td>1 Sept 11</td>
<td>Climate change impacts</td>
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<tr>
<td>GIS Sept 11</td>
<td>LinkedIn Learning GIS module</td>
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<td>2 Sept 18</td>
<td>Fiscal impacts</td>
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<td>GIS Sept 25</td>
<td>GIS mini-assignment</td>
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<td>3 Oct 9</td>
<td>Public services</td>
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<td>4 Oct 16</td>
<td>Transportation</td>
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<td>5 Oct 23</td>
<td>Health</td>
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<tr>
<td>6 Nov 6</td>
<td>Water supply/wastewater impacts</td>
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<td>7 Dec 4</td>
<td>Stormwater</td>
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Course textbook and readings


The course Sakai site ([http://sakai.unc.edu/](http://sakai.unc.edu/)) contains course information, lectures, handouts, data, assignments, and links to relevant websites.

Other academic business

**Policy on Late or Incomplete Work**: In order to be fair to your fellow students, **late assignments will be docked 20% per day**.

**Grading Notes**: Generally, an **H** grade is given for exceptional work that demonstrates a real mastery of course material. **L** or **F** work substantially fails to meet minimum requirements either due to incomplete coverage of required information, incorrect results, or sloppy, unprofessional reporting of results.

**IF YOU HAVE A MEDICAL EMERGENCY, PLEASE INFORM THE INSTRUCTOR AS SOON AS POSSIBLE.** Grades of incomplete may be given in the event of a medical or another emergency. In these cases, a written application for an incomplete on any assignment must state the reasons for the request and propose a new deadline.

**Resources**: Our purpose as professors is to help you to excel in this learning environment. Should you need further assistance beyond the help of the professor, please consult the following on-campus resources:

- The Writing Center: [http://writingcenter.unc.edu](http://writingcenter.unc.edu)
- The Learning Center: [http://learningcenter.unc.edu](http://learningcenter.unc.edu)
- The Learning Center resources for students with learning disabilities (LD) and/or attention-deficit/hyperactivity disorder (ADHD): [https://learningcenter.unc.edu/services/ldadhd-services/](https://learningcenter.unc.edu/services/ldadhd-services/)
- The Center for Student Success and Academic Counseling: [http://cssac.unc.edu](http://cssac.unc.edu)
- Counseling and Wellness Services: [http://campushealth.unc.edu](http://campushealth.unc.edu)

**The University’s Honor Code is in effect**: The University of North Carolina at Chapel Hill has had a student-administered honor systems and judicial system for over 100 years. The Honor Code represents UNC-Chapel Hill students’ commitment to maintain an environment in which all students respect one another and are able to attain their educational goals. As a student at Carolina, you are entering a community in which integrity matters – integrity in the work you submit, and integrity in the manner in which you treat your fellow Carolina community members. Because academic honesty and trustworthiness are important to professional planning, this is a significant University and Departmental tradition. Your attention is called to the Instrument of Student Judicial Governance for policies and procedures pertaining to the honor system. We are committed to treating Honor Code violations seriously and urge all students to become familiar with its terms set out at [https://studentconduct.unc.edu/](https://studentconduct.unc.edu/). If you have questions, it is your responsibility to ask the professor about the Code’s application. Please consult with the instructor if you are uncertain about your responsibilities under that code with respect to this course.

The University of North Carolina – Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities. All accommodations are coordinated through the Accessibility Resources and Service Office. Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately early in the semester to discuss your specific needs. Students with documented disabilities should contact the Department of Disability Services at 919-962-8300 (SASB North, Suite 2126; [https://accessibility.unc.edu](https://accessibility.unc.edu)) to coordinate reasonable accommodations.
Course outline

For each course topic, required readings are provided. A special effort has been made to select relevant, timely and well-written readings. Additional resources are listed that can be examined in detail, depending upon your interest in the subject. The source and style of each reading varies considerably. I recommend downloading all of the materials as they may serve you as useful references during future classes or in your career.

*** Reading comprehension and time management are skills. PLEASE READ ASSIGNED MATERIAL AND VIEW LECTURES BEFORE EACH CLASS***

The professor reserves to right to make changes to the syllabus, including project due dates, when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.

***Please arrive on time and turn off cell phones in class***

Assignment 0: On your own, please complete the Linked-In Learning course, “Learning QGIS” (Gordon Luckett; dated October 2019) at http://linkedin.unc.edu/. This course augments the GIS overview sessions of PLAN 745 and consists of 12 modules scheduled to take approximately 3 hours. At the end of the course, you will receive a PDF certificate, which you can submit via Sakai Assignments feature (due: Sept 11th). Please come to class with any questions you have about GIS or QGIS. If you have already completed this certificate, then you are not required to re-do it (although it may help to refresh).

Additionally, if you have not had previous GIS training (e.g. PLAN 491/591), please enroll in the Linked-In Learning course “ArcGis Essential Training,” which consists of 13 modules scheduled to take approximately 5.5 hours. If you need more basic training (i.e., you have never been exposed to GIS at all), you should also complete the course, “Learning ArcGIS” (3.25 hours) prior to the “ArcGis Essential Training” course.

Aug 18, 23: Course overview, impact assessment history, uses, and key choices

Textbook: Chapter 4 (Institutions of Infrastructure: The Providers) and Chapter 8 (Developing the Public Infrastructure Project)


Additional resources providing an overview of development impact assessment:

- For those new to planning and in need of an overview of planning and infrastructure relationships: Textbook: Chapter 3 (Growth, Demand, and the Need for Infrastructure) and Chapter 5 (Local Plans and Infrastructure)

- Textbook: Chapter 7 (Smart and Sustainable Development Rules) and Chapter 14 (Exactions and Impact fees)


Additional resources on specific aspects of development impact assessment:

Examples of environmental assessments on Sakai:
• Domestic Example: City of Lakewood, CA. 2007. Master Environmental Assessment (MEA) for the City of Lakewood Comprehensive General Plan.

Aug 25, 30: Climate change impacts and lifecycle assessment (Guest Lecture: Session 2 – Prof Noah Kittner, UNC DCRP and Environmental Science and Engineering)
Overview: Textbook: Chapter 27 (Energy and Power)

Additional resources on general climate impact analysis issues:
• Elizabeth Wilson and Jake Piper. 2010 Chapter 2: Climate Change Mitigation and Adaptation: Impacts and Opportunities, pgs. 18-43 in Spatial Planning and Climate Change. Routledge.

Additional resources on lifecycle assessment:

Sept 6: Labor Day – NO CLASS

Sept 1, 8: Fiscal impact assessment
Additional resources:
- **Textbook**: Chapters 9-15 [comprehensive overview of infrastructure financing]
- See zipped file listing several “foundational readings” on fiscal impact assessment on Sakai

**Sept 13, 15, 20: GIS** (Sessions 1-2 – Philip McDaniel, UNC GIS Librarian)


Additional resources
  - This is a tutorial created for QGIS, a free and open-source alternative to ESRI’s ArcGIS hegemony. Great worksheets and information on GIS concepts

Additional resources

**Sept 22, 27: Public service impact assessment**

**Textbook**: Chapter 25 (Public Schools as Public Infrastructure) and 21 (Parks, Recreation, and Open Space)

Additional resources
Sept 29, Oct 4, 6: Transportation impact assessment (Session 3 – Bergen Watterson, Transportation Planning Manager, Town of Chapel Hill)
Class Session 1:
Textbook: Chapter 20 (Streets and Streetscapes) and Chapter 21 (Automobiles and Mass Transit)

Class Session 2:

Class Session 3:

Additional resources
- Numerous Examples of Traffic Impact Assessment Reports are located on Sakai.

Oct 11: Health impact assessment

Additional resources

Oct 13, 18: Water supply impact assessment
Oct 20: Field trip to OWASA water treatment plant

Class Session 1
Textbook: Chapter 16 (Water Supply)

Class Session 2

Additional graywater/water re-use resources

**Additional infrastructure financing resources**


**Additional infrastructure planning resources**


**Oct 25: Planning and Infrastructure at OWASA (Guest Speaker: Mary Tiger, Sustainability Manager)**

**Textbook:** Chapter 16 (Water Supply)

**Oct 27: Wastewater impact assessment**

- **Overview:** Textbook: Chapter 17 (Wastewater and New Paradigms)


**Additional resources**


**Nov 1: Field trip to OWASA wastewater treatment plant**

**Nov 3, 8, 10, 15: Stormwater impact assessment**

- **Class Sessions 1-3 (stormwater quantity/hydrology):**
  - **Overview:** Textbook: Chapter 18 (Stormwater and Flooding)


- **Class Session 4 (stormwater quality):**


**Additional resources**


**Nov 17: Habitat destruction, fragmentation, and offset assessment**


**Additional resources**


Nov 22, 24: No Class (Thanksgiving Break)

Nov 29, Dec 1: Wetland and stream impact assessment, mitigation, and policy

Textbook: Chapter 29 (A New Paradigm for Infrastructure)

Additional resources

Additional resources (policy-focused):