

COURSE SYLLABUS

**CME112 EVOLUTION OF
INFRASTRUCTURE AND SOCIETY**

1. Credit

Undergraduate 3 credits

2. Prerequisites

None.

3. Course Description

This course introduces students to general engineering principles related to infrastructure and to the ethical and societal implications of new and existing infrastructure systems. Infrastructure systems include water, wastewater, transport, electricity, gas, solid waste, and telecommunications. One new system will be covered and discussed per week. Students are expected to read the weekly readings and participate in one of the sessions organized every week—that will serve to generate a discussion between groups of students. The main assessment for the class will be a series of quizzes and short essays. No prior engineering knowledge is required.

4. Course Objectives

This course aims to provide students with a solid understanding of how individual infrastructure systems function and what their ethical and societal implications are. More specifically, at the end of this course, students should be able to:

1. explain the main engineering principles governing how urban infrastructure systems function.
2. detect the function of individual pieces of infrastructure in everyday life.
3. discuss the ethical and societal implications of infrastructure.

In addition, from a pedagogical point of view, students should be able to:

4. learn basic engineering concepts on their own.
5. engage with their peers in a constructive discussion.
6. research and synthesize information in a report.

5. Materials

Required Text

No textbook is required. The students will be given weekly readings through Blackboard.

Other Resources

- Ascher, K., 2007, *The Works: Anatomy of a City*, Penguin
- Penn, M.R., Parker, P., 2011, *Introduction to Infrastructure: An Introduction to Civil and Environmental Engineering*, Wiley
- Derrible, S., 2019, *Urban Engineering for Sustainability*, MIT Press

6. Course Outline and Expectations

WEEK	Topic	Class Activity
1	Water Collection in Rome	Homework: What's that infrastructure?
2	Water Treatment in Tel-Aviv	Essay: Everyday Infra.
3	Water Distribution in Hong Kong	Homework: Land development in Chicago
4	Sanitary Sewers in Paris	Group Discussion – Water Distribution in Hong Kong
5	Stormwater Management in Copenhagen	Group Discussion – Sanitary Sewers in Paris
6	Traffic and Roads in Los Angeles	Homework: Suburban sprawl in Chicago
7	Prepare for Group Presentations	Group Presentations Preparation
8	Active Transport in Amsterdam	Group Presentations
9	Integrated Transport in Shanghai	Group Discussion – Active Transport in Amsterdam
10	Electricity Generation in Cape Town and Chicago	Homework: Solar Power Calculator
11	No Class (Spring Break)	Essay: Movie
12	Natural Gas in Buenos Aires	Homework: Pipelines
13	Solid Waste in Tokyo	Essay: Case Study
14	Analog Telecommunications in New York	Group Discussion – Solid Waste in Tokyo
15	Digital Telecommunications in San Francisco	Group Discussion – Analog Telecommunications in New York
16	No Class (finals week)	Essays: Societ./Ethical + Future

Participation/Attendance

The content is available with in-person instruction. Students must complete assignments based on the due dates provided in Weekly Content.

Attendance will be taken for the following:

- Presentations during **week 8 require presence** both as a presenter and as an audience member.

Other class activities

- Synchronous Lecture: Tuesday/Thursday. The synchronous lectures will be recorded and posted.

All in person attendance rules are subject to change based on UIC policy.

Academic Honesty

Cheating negatively affects the reputation of our University, the morale of our students, and ultimately the public's well-being once we leave school and begin practicing professionally. Therefore, the following policies will be strictly enforced.

Assignments/Presentations. Copying can be detected not only from other students but from previous classes using SafeAssign. If you copy an assignment from a resource such as Chegg or another student, even if it is paraphrased, it will be treated as plagiarism and it will receive zero credit. You will get a zero for the assignment. Any incidence of cheating regarding Assignments or Presentations, will also be reported to the Office of the Dean of Students. For a second offense, in addition to reporting to the Office of the Dean of Students, you will receive a zero for the entire assignment category. For example, two incidences of Assignment cheating will result in a zero for all. Two incidences of Presentation cheating will result in a zero for Presentation, etc. This applies even if grading is delayed for one or more weeks. Your first notification of cheating could be that you have received a zero for the entire assignment category because there are multiple instances of cheating. Should you wish to use the work of others, it should be used sparingly and properly cited.

Accommodations

The University of Illinois at Chicago is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at UIC. Students with disabilities who require accommodations for access to and/or participation in this course are welcome, but must be registered with the Disability Resource Center (DRC). You may contact DRC at 312-413-2183 (v) or 773-649-4535 (VP/Relay) and consult the following: <http://drc.uic.edu/guide-to-accommodations>.

Course Communication Policy

Communication tools will evolve as the class progresses. Communication will be encouraged through Blackboard Discussion sessions, polls on Google Drive, and other means as the course progresses.

Course Communication Guidelines (Netiquette)

Netiquette is a set of rules for behaving properly online. Much of our communication in this course will take place in the forums and through email. Here are some guidelines for online communication in this course:

- Be sensitive to different cultural and linguistic backgrounds, as well as different political and religious beliefs.
- Use good taste when composing your responses. Swearing and profanity should be avoided. Also consider that slang terms can be misunderstood or misinterpreted.
- Don't use all capital letters when composing your responses. This can be considered "shouting" on the Internet and is regarded as impolite or aggressive. It can also be stressful on the eye when trying to read your message.
- Be respectful of others' views and opinions. Avoid "flaming" (publicly attacking or insulting) others.
- Be careful when using acronyms. If you use an acronym it is best to spell out its meaning first, then put the acronym in parentheses afterward, for example: Frequently Asked Questions (FAQs). After that you can use the acronym freely throughout your message.
- Use good grammar and spelling, and avoid using text messaging shortcuts.
- In emails, always identify yourself and what class and section you are in. It is a good practice to put your course and section in the subject line. This helps your instructor identify course related emails.

7. Technology Requirements

Computer/Technology Requirements

Online students will need regular access to a personal computer that runs on a broadband Internet connection.

If needed, you can borrow a laptop from UIC. Follow this link:

<https://teaching.uic.edu/ed-tech/equipment-lending/extended-laptop-loan/>

Blackboard Learning Management System

- Blackboard works best using **Chrome** or **Firefox**. Blackboard often has issues with **Internet Explorer** and sometimes with **Safari**.
- If you are having Blackboard issues that are preventing you from seeing content, submitting content etc., a good first step is to make sure you are using Chrome or Firefox. Then make sure your cache is cleared.
- For all technical questions about Blackboard, email ACCC-Learning Technology Solutions at LTS@uic.edu

Web Conferences/Synchronous sessions

Applicable to the particular course. Language usually comes from the instructor. Should include links to support information for whatever technology is being used for these sessions.

8. Grading and Evaluation

Final Grade Calculation

Assessments	Percentages
Homework, Group Discussion	15%
Weekly Quizzes – Best 10 out of 15	20%
Essays	45%
Presentation	15%
Group Grade	5%
Total Percentage For Course	100%

Assignments are due as described in Weekly Content

Grading

In determining the final course grade, the following scale is used:

$\geq 89.5\%$	A
$\geq 79.5\%$ to $< 89.5\%$	B
$\geq 69.5\%$ to $< 79.5\%$	C
$\geq 59.5\%$ to $< 69.5\%$	D
$< 59.5\%$	F

Feedback on assignments should be expected within seven (7) calendar days of the due

date. Feedback may be delayed in the assignment is turned in late. There will be no rounding or extra credit.

Rubrics

Rubrics will be provided in the Weekly content area.

Late Work Policy

The only late work that will be considered are those instances where the student has communicated with their instructor regarding unavoidable circumstances, such as reporting an illness and submitting a doctor's note to their instructor.

Final Exam

There will be no final exam.

GRIEVANCE PROCEDURES

UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision making at UIC. Students are encouraged to study the University's "[Nondiscrimination Statement](#)". Students are also urged to read the document "[Public Formal Grievance Procedures](#)". Information on these policies and procedures is available on the University web pages of the Office of Access and Equity: <http://oae.uic.edu/>.

9. Course Evaluation

Student evaluations of teaching play a fundamental role in improving course content, format, and delivery (teaching) at UIC. The Office for Faculty Affairs offers all Colleges and Departments the opportunity to participate in an online course evaluation system.

Students receive an email invitation in their 'uic.edu' inbox with the following title in the subject line: "UIC Student Evaluation of Teaching [Course Name] [Instructor Name] [Semester, Year]." The body of the email will reiterate the course name, instructor name, and semester. It will contain a link and a unique student password for the online evaluation for that course. Students will need an electronic device with Internet access to complete the evaluation online. **Submitted course evaluations cannot be removed from the system** so it is vital that students pay attention to the *instructor name* and *course name* when completing their evaluations. **Students must complete the online evaluations before 12 am on the first day of finals.** No exceptions are made if the evaluation is not submitted before 12 am on the first day of finals.

For more information about the program and timelines for when the system is open to students to complete the evaluations, please visit:

<https://faculty.uic.edu/development/teachingandlearning/evaluations/>

10. UIC Resources

If you find yourself having difficulty with the course material or any other difficulties in your student life, don't hesitate to ask for help! Come to me, or if it is about an issue beyond this class, please contact your college advisors, or get help from any number of other support services on campus. You can get a referral to the right place, or help on the spot, from a concerned advisor in the Undergraduate Success Center (USC) at usc@uic.edu.

See also:

The Writing Center offers friendly and supportive tutors who can help you with reading and writing in any of your courses, not just English. Tutors are ready to help other writing as well, such as job applications, personal statements, and resumes. The tutor and you will work together to decide how to improve your writing. If you have not started your assignment, that is OK. A tutor can help you brainstorm or make an outline. Tutors understand that you might be using the Writing Center for the first time. They are ready to guide you through your first session. You can choose to work with a tutor in real time using chat and a white board, or submit up to 5 pages of text and receive written feedback within 48 hours. To schedule an appointment, visit <https://uic.mywconline.com/>. For more information, visit the Writing Center website at <https://writingcenter.uic.edu/>.

The Math and Science Learning Center, located in the Science and Engineering South Building (SES) at 845 W. Taylor St. 3rd Floor, Room 247, is a meeting place for students in Math, Biological Sciences, Chemistry, Earth and Environmental Sciences, and Physics. At the MSLC, students can meet with graduate teaching assistants for tutoring in 100-level courses, arrange informal group study sessions with other students, or meet up with friends to attend one of the workshops, seminars, or other activities sponsored by the SLC during the semester. Visit the website at <https://mslc.uic.edu/>, call 312-355-4900 or email at mslc@uic.edu.

The UIC Library

The library is located both on east and west campus, provides access to resources, study rooms, and research support both online via chat and in person. At Daley Library on the

east side of campus, stop by the reference desk in the IDEA Commons, or make an appointment for research help on either side of campus. Learn more about library policies at <http://library.uic.edu/>. To find research materials in specific subject areas view the Research Guides at <http://researchguides.uic.edu/>.

The Academic Center for Excellence can help if you feel you need more individualized instruction in reading and/or writing, study skills, time management, etc. Phone: (312) 413-0031.

Counseling Services are available for all UIC students. You may seek free and confidential services from the Counseling Center www.counseling.uic.edu. The Counseling Center is located in the Student Services Building; you may contact them at (312) 996-3490. In addition to offering counseling services, the Counseling Center also operates the InTouch Crisis Hotline from 6:00 p.m.-10:30 p.m. They offer support and referrals to callers, as well as telephone crisis interventions; please call (312) 996-5535.

Campus Advocacy Network

Under the Title IX law you have the right to an education that is free from any form of gender-based violence and discrimination. Crimes of sexual assault, domestic violence, sexual harassment, and stalking are against the law and can be prevented. For more information or for confidential victim-services and advocacy contact UIC's Campus Advocacy Network at 312-413-1025 or visit <http://can.uic.edu>. To make a report to UIC's Title IX office, email TitleIX@uic.edu or (312) 996-5657.

CAMPUS SECURITY

You may wish to include the following section on security issues at UIC:

As a UIC student, you've chosen to live in one of the nation's largest cities. But, as at any university, crime is a reality. At UIC, we are strongly committed to our public safety programs, and we encourage students to be proactive in learning what programs and services are available in case of an emergency. You are DISCOURAGED from staying in university buildings alone, including lab rooms, after hours and are ENCOURAGED to use the POLICE/STUDENT patrol escort if you are uncomfortable traveling anywhere on campus. You may request an escort to accompany you to your campus destination on foot by calling 312-996-2830, and between 11:00 pm and 7:00 am you can dial the Red Car service (312-996-6800) if you are alone and need to leave the building. Through Red Car, the university has established a safe evening transportation service for university employees, students, visitors, and other authorized individuals. The car travels between university facilities within the following general boundaries: Clinton Street on the east; Western Avenue on the west; Jackson Boulevard on the north; and, 16th on the south. This service is available only to individuals possessing a valid UIC i-card. The i-card is required to ensure the safety of the driver and other passengers. Consult the following for more information: <http://www.uic.edu/uic/studentlife/campus/safety.shtml>

Also you can subscribe your cell phone to receive text message alerts. An immediate SMS text alert will be sent in case of a serious crime in progress, a weather emergency, or other urgent situation.

(https://accountportal.uic.edu/auth/manage?dispatch=set_sms_panel).

Finally, by dialing 5-5555 from a campus phone, you can summon Police or Fire for any on-campus emergency. You may also set up the complete number, 1-312-355-5555, on speed-dial on your cell phone. For more information contact:

<http://www.uic.edu/uic/studentlife/campus/emergency-information.shtml>

Emergency Response Recommendations

You may wish to include the following section on emergency response systems at UIC:

The emergency response guide can be found at the following website:

<https://ready.uic.edu/>. Please review and acquaint yourself with the guide and recommendations for various emergency situations.