

BC6070 Construction X

Course Policy, Procedures, and Syllabus

School of Building Construction, Georgia Institute of Technology

Course Title:	Construction X
Course No:	BC 6070
Time and Location:	Monday and Wednesdays 11am to 12:15pm, DM Smith Room 24
Prerequisites:	None
Semester/Year:	<i>Spring 2026</i>
Instructor(s):	Javier Irizarry, Ph.D., P.E.
Assistant (if any):	None
Office:	Architecture East Room 266B
Office Phone:	404-385-7609
E-mail Address:	javier.irizarry@gatech.edu
Office Hours:	An appointment is required to make sure we have adequate time to meet.
Required Textbooks:	Anil Sawhney, Mike Riley and Javier Irizarry (eds.) (2020) Construction 4.0: An Innovation Platform for the Built Environment. Abingdon, Oxon: Routledge, ISBN 9780367027308 Available from GT Barnes & Noble, Amazon, and Routledge.
Recommended Readings and References:	• Various reference papers and web sources may be provided for topics explored in the course. • Mehdi Nourbakhsh (2022) Augment It: How AEC Leaders Leverage Data and Artificial Intelligence to Build a Sustainable Future. Grammar Factory
Course Description, Goal, and Objectives:	This course will provide an exploration of the Construction 4.0 framework and the various present and future technologies that contribute to the framework and can be applied in all stages of a facilities' life-cycle. The goal of the course is to provide a broad background and general knowledge through the following objectives: • Describe the Construction 4.0 Framework and its importance for the Architecture, Engineering, and Construction (AEC) industry. • Describe the various Construction 4.0 technologies and identify their use cases individually and in coordination with each other. • Describe the implications of Construction 4.0 technologies for the safety and security of infrastructure assets. • Articulate impediments to adoption of the Construction 4.0 framework as well as strategies to encourage adoption of related technologies on the construction enterprise. • Propose a creative use of technology in the construction environment consistent with the Construction 4.0 framework using an entrepreneurship approach. There may be several class sessions featuring guest speakers to present industry perspectives.

	Workshop and International Field Trip in Seoul: March 22–29, 2026 (Optional) The Spring 2026 offering of Construction X includes an intensive one-week workshop during March 22-29, 2026 in Seoul, South Korea. Students taking the course will have opportunities to participate in the field trip for direct observation of technological development at leading laboratories in industry such as the Hyundai Corporation and the Korea Rural Community Corporation Rural Research Institute as well as leading academic institutions in the Seoul. Students will integrate the experience to the course project aimed at developing a product or service to solve a problem in the construction industry. Students enrolled in the course are encouraged to participate in the international field trip. The international field trip will be from March 22, 2026 to March 29, 2026 in Seoul, South Korea with the proposed tentative schedule • 3/21 Flight from Atlanta • 3/22 Arrive in Seoul; accommodation location to be determined. • 3/23 Visit Korea University Technology Research Lab and cultural sites in Seoul. • 3/24 Visit Yonsei University Technology Research Lab and cultural sites in Seoul. • 3/25 Visit Hyundai Construction Division, Korea Rural Community Corporation Rural Research Institute, and cultural sites. • 3/26 Visit Hanbat National University Technology Research Lab and cultural sites in Daejeon. • 3/27 Visit Incheon National University Technology Research Lab and cultural sites in Incheon. • 3/28 Final presentation meeting and cultural site visit. • 3/29 Flight from Seoul to Atlanta.
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Course Modality Information

The course will meet in person unless otherwise directed.

Assignment and Evaluation

Final grades will be based on an aggregate point total of all assessment items. Course grading is as follows:

A	B	C	D	F
90% and above	80%-89%	70%-79%	60%-69%	<60%

Points: The following table summarizes the points for this course. Make-up quizzes would follow institute guidelines and may be possible when a medical reason exists. Documentation would be required. **All grades will become final one week after they are returned in class or made available in Canvas.**

Assessment Item	Percentage of Grade*
Class Participation (must be present in class)	10
In-class demos and guest speaker presentations	10
Exam 1	25
Exam 2	25
South Korea Visit or alternative assignment	20 (bonus)
Construction 4.0 Team Project	30
TOTAL	100

Course Policies

In the following policies, ‘you’ indicates the ‘student’ and ‘instructor’ means ‘faculty’ or ‘professor.’

Policies and Expectations: The success of this course will require that we all contribute by following the course policies.

Assignment Deadlines: All assignments given are due on the date indicated. All students are expected to complete all assignments given. The instructor reserves the right to modify assignments as necessary. **Late assignments (homework, projects, readings, and others) will not be accepted without prior approval of the instructor.** However, the instructor will accept and correct these assignments, to provide you with feedback that will be beneficial in the learning process. If the instructor accepts a late assignment there will be a penalty of 10 percent per day late.

Class Attendance Policies: All students gain better learning outcomes when the entire class is in attendance and participates. For this reason attendance is mandatory for all class lectures, activities, and on site exams, unless you are ill, officially excused by the instructor as the result of participation in a university function, or in the case of other extreme emergencies. There are no “free cuts” permitted and absences **will** affect the participation portion of your course grade. In the case of unavoidable absences, you are responsible for making up the work done in class. It is your responsibility to obtain any missed information or handouts given in class from a classmate if not on CANVAS. No companions, friends, family, or pets (other than registered support animals) are permitted in class.

Modified Operations Policies:

With developments and improvements to digital instruction over the past few years, the Institute has developed policies to leverage digital learning as much as reasonably possible. The policy sets forth requirements, procedures, and responsibilities related to the scheduling of digital instruction and/or make-up classes due to the modification of campus operations, closing of campus, or the necessary closing of instructional spaces for any reason (including but not limited to emergencies, such as inclement weather, power outages, or other infrastructure failures). Students should await communications from their instructors regarding delivery of their classes during that period based upon the [Digital Learning Days for Modified Campus Operations Policy](#). Students should follow guidance and/or directions provided by the Office of the Vice President for Student Engagement and Well-Being regarding student activities, events, programs and services.

Student Services: The [CARE Center](#) and the [Counseling Center](#), Stamps Health Services, and the Dean of Students Office will offer both in-person and virtual appointments. Student Center services and operations are available on the [Student Center](#) website. For more information on these and other student services, contact the Dean of Students or the [Division of Student Life](#).

Recordings of Class Sessions and Required Permissions: Classes may not be recorded by students without the express consent of the instructor unless it is pursuant to an accommodation granted by the Office of Disability services. Class recordings, lectures, presentations, and other materials posted on Canvas are for the sole purpose of educating the students currently enrolled in the course. Students may not record or share the materials or recordings, including screen capturing or automated bots, unless the instructor gives permission. Digitally proctored exams may require students to engage the video camera, but those recordings will not be shared with or disclosed to others without consent unless legally

permitted.

Methods of Communicating: You can submit all written work to the instructor in class, in hard copy or by e-mail, if allowed by the instructor (the assignment must be received by the deadline given). Delivery mode for assignments may be adjusted. You can also ask questions and ask for clarification by e-mail, in class, or by visiting the instructor by appointment.

Method of Instruction: The course may consist of a combination of lectures, discussion, guest speakers, presentations by industry professionals, demonstrations, and hands-on work individually or in teams.

Readings, Preparation and Participation: The reading assignments, problems cases and discussion forums are an integral element of the course. Students are expected to complete readings and other assigned work prior to each class, to fully participate in the discussion. Learning is approached as a participatory process, which benefits from student/teacher and student/student interaction. The lectures may not explicitly follow the assigned book reading but are designed to bring together diverse information from various sources.

Laptop/Handheld Computer Use: Laptop/handheld computers may be used in class to take notes and for designated in-class activities, but not for other purposes, such as e-mail, Web site searches, chat, or other personal uses. Students using computers during class for work not related to that class must leave the classroom for the remainder of the class period. Abuse of this policy will result in the prohibition of laptop use by this student.

Make-up Exams: There will be no make-up exams under any circumstances, except medical reasons or request from the provost. Make up exams would not be of the same format as the original exam and the student might find the make-up exam to be more difficult.

Food and Drink in the Classroom: Students are not allowed to bring food into the classroom unless approved by the instructor.

Class Discussions: Your active and productive participation in class discussions is encouraged. Various viewpoints and opinions are encouraged and welcome. Questioning the ideas of others, including the instructor, is similarly welcome. However, the instructor will exercise his/her responsibility to manage the discussions so that ideas and argument can proceed in an orderly fashion. If your conduct during class discussions seriously disrupts the atmosphere of mutual respect, you will not be permitted to participate further.

Instructor's Absence or Tardiness: If the instructor is late in arriving to class, you must wait a full 20 minutes after the start of class before you may leave without being counted absent, or you must follow any written instructions the instructor may give you about an anticipated absence or tardiness.

Plagiarism and use of AI for academic work: Students are expected to do their own work in this course. To use another writer's or speaker's ideas without giving proper credit by means of standard documentation is plagiarism. All course papers, notes, homework, and projects submitted to the instructor are subject to textual similarity review for the detection of plagiarism. All submitted papers will be included as source documents in the reference database for the purpose of detecting plagiarism of such papers. The instructor will follow the Institute's policy for plagiarism.

Academic Misconduct/Honor Code: Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical

standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Disabilities: If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail the instructor as soon as possible in order to set up a time to discuss your learning needs.

Policy Changes: Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Grade Revision Requests: Any request for grade revision must be made in writing (typed and using formal language written like a business letter) and delivered to the course instructor electronically before the one-week deadline. After the one-week deadline, students waive their rights for appeals. The request for grade revision must include the name of the student, the assignment or test in question, description of the item in question, and the reasons for requesting the revision. Students must present their argument clearly and substantiate with evidence. The course instructor will evaluate the request and take appropriate action.