

ARC 211/611 Structures I

Syllabus

Spring 2024

Contact Information

Instructor: Junho Chun, PhD

Office Location: Slocum Hall 306A

Email: jchun04@syr.edu

Office Phone: 315.443.2808

Office Hours: Mon/Wed 11:30 am - 1:00 pm. If my office door is open, please feel free to drop by anytime.

Course Information

Lecture: Mon/Wed 9:30 am - 10:25 am, Shaffer Shemin Auditorium

Recitation: Mon/Wed 10:35 am - 11:30 am (please refer to MySlice for your recitation time and location.)

Delivery Format: In-person

Prerequisites: ARC 121 and MAT 221/285/295 (or PHY 101)

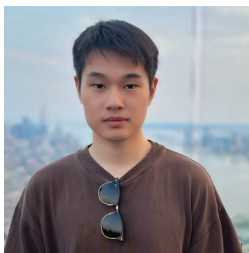
Course Credit: 3

Exam Dates

Midterm Exam: 9:30 - 10:25 am, Wednesday, March 6

Final Exam: 8:00 - 10:00 am, Friday, May 3

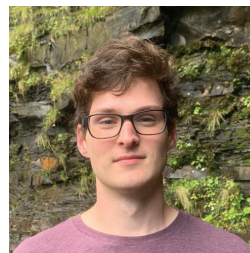
Graduate Teaching Assistants (TAs)



Zhuoer Simon Xu
zxu213@syr.edu



Sanskruti Kakadiya
sjkakadi@syr.edu



Ryan Parks
rparks@syr.edu



Joshua Fellows
jpfellow@syr.edu

Undergraduate Teaching Assistants (UGAs)



Alexandra Grypinich
algrypin@syr.edu



Yuxi Dai
ydai20@syr.edu



Ruqaiyah Bandukwala
rybanduk@syr.edu



Allison Ann Howard
ahowar04@syr.edu

Course Objectives and Emphasis

The course introduces fundamental principals of structural engineering to architecture students from both architectural and structural perspectives. The primary focus of this course will be understanding the mechanical properties of construction materials in relation to structural performance, introduction to structural analysis, and impacts of structural loads on structural behavior and failure. An integration of structural elements and their functions in consideration of the design and construction of buildings will be discussed. The main components of this course are:

- Introduction to the field of structural engineering, the profession, and its applications
- Statics and construction material properties
- Stress, strain, deformation of structures under loads
- Application of essential approaches and methods for structural analysis
- Solving structure analysis problems
- Hand-on activities to test principals of engineering and mathematics in the analysis of building structures

Learning Goals and Shared Competencies

ARC211/611 fosters the **shared-competencies**, Syracuse University's university-wide learning goals for undergraduate students, **Scientific Inquiry and Research Skills (SIRS)**: *Application of scientific inquiry and problem-solving in various contexts. Analysis of theories, replication of procedures, and rethinking existing frameworks. Supporting arguments through research, data, and quantitative and qualitative evidence that can generate new knowledge.* Successful completion of this course will equip students with essential scientific inquiry and research skills vital for investigating and comprehending structural engineering principles in the context of architecture. After taking this course, students will be able to :

- Understand fundamental structural engineering terms, including static loads, dynamic loads, equilibrium, reactions, stress, and strain.
- Establish equilibrium conditions for structures subjected to external forces.

- Comprehend the relationship between internal forces and external loads.
- Demonstrate internal force distributions in simple frame structures and trusses, such as axial force, shear force, and bending moment.
- Understand the characteristics of construction materials and their correlation with strength.
- Apply structural analysis methodologies to discover the effects of loads on structures and their components. *SIRS: LO1&LO2
- Explore performance-based structural truss designs. *SIRS: LO2
- Utilize computational tools to comprehend structural behaviors and performance. *SIRS: LO2
- Evaluate whether the outcomes of computational analyses align with and substantiate conceptualized design ideas. *SIRS: LO2&LO4
- Demonstrate theoretical understanding of principles through physical model construction and testing. *SIRS: LO5

Learning outcomes for Scientific Inquiry and Research Skills

SIRS: LO1 – Identify the context in which research occurs.

SIRS: LO2 – Evaluate existing knowledge and theories in relation to one’s research interests.

SIRS: LO4 – Implement a research plan to respond to research question(s) and inform conclusion(s).

SIRS: LO5 – Communicate and engage with relevant audiences about research.

Course Description

Introduces basic concepts of structural system behavior; gravity and lateral loads, analysis of major structural forms, and structural performance of materials.

Course Delivery Format

This course is an in-person course. Lectures and recitations will not be recorded. Lectures are held in Shaffer Shemin Auditorium and recitation are held in respective rooms listed on the MySlice.

Lecture

Lectures will begin promptly at 9:30 am. If you arrive late, please enter as quietly as possible to minimize disruption. No sleeping, no food, no phone use. Students, TAs, UGAs, and Faculty all share the responsibility of upholding a suitable and professional learning environment. If you require special accommodations, please make arrangements with the instructor within the first week of class.

Recitation

TAs and UGAs will lead all undergraduate recitation sections, while the course instructor will lead the graduate recitation section. Each recitation is designed to give students an opportunity to explore basic principles associated with structures and concepts taught in class through hands-on activities and problem solving. Attendance for recitation sections is mandatory.

Attendance

Each student has an educational obligation to attend all classes. Attendance will be checked for every lecture and discussion. If you are more than 5 minutes late for the lecture or discussion, it will be considered a late attendance. Two incidents of tardiness will be considered as one absence. If you are more than 10 minutes late or leave 10 minutes before the end of class, it will be considered an absence. The first three absences, regardless of the reason, will be considered excused. If you have more than three absences, please provide official documentation for ALL of your absences (i.e, a note from your physician or the Dean). Failure to attend all regular classes will reduce student proficiency and negatively affect performance in the course. In case of an absence, it is the student's responsibility to obtain lecture material as well as an in-class announcement for all of the missed lectures. Four or more unexcused absences will be a compelling reason for withdrawal from the course.

Per University policy, Barnes Center at the Arch staff do not provide medical excuse notes for students. If Barnes Center staff determine it is medically necessary to remove a student from classes, they will coordinate with the case management staff directly to provide absence notification to faculty through Orange Success. For absences lasting less than 48 hours, students are encouraged to discuss academic arrangements directly with their faculty. Additional information may be found at [Student Outreach and Retention: Absence Notifications](#)¹.

University Expectation Regarding Attendance

Attendance in classes is expected in all courses at Syracuse University. Students are expected to arrive on campus in time to attend the first meeting of all classes for which they are registered. Students who do not attend classes starting with the first scheduled meeting may be academically withdrawn as not making progress toward degree by failure to attend. Instructors set course-specific policies for absences from scheduled class meetings in their syllabi. Students should also review the university's religious observance policy and make the required arrangements at the beginning of each semester.

Determination of Excused/Non-excused Absence

Whether an absence is considered excused or not-excused is at the discretion of the instructor, based on the review of supporting documents. Official documentations such as doctor's note, Dean's notes, filed police report, and insurance claim from a fender-bender that resulted in absence must be provided to be considered for an excused absence. Screenshots and notes showing doctor's appointments, and visiting Barnes Center are not considered official document. An absence due to illness without supporting documentation will be treated as an unexcused absence. An absence notification through Orange Success does not excuse the absence or replace

¹<https://experience.syracuse.edu/soar/student-support/absence-notifications/>

the absence policy listed on the course syllabus as described in [Student Outreach and Retention: Absence Notifications](#).

Penalty for Unexcused Absences

Each unexcused absence will result in 1.5% decrease from the final grade (equivalent to 1.5 points deduction out of 100 points). For example, if you have four absences, then the first three will be considered "excused," but the next one will negatively impact your overall grade.

Homework Assignments

Homework assignments and grades will be posted on Blackboard. All assignments must be done individually and submitted by the due date and time. All answers must be legible. Please upload an electronic copy of the assignment on Blackboard and make sure that you receive a confirmation message of submission from Blackboard. If the assignment is submitted after the deadline, 10% of the grade for that assignment will be deducted. There will be no credit given to the assignment if submitted more than 24 hours after the deadline. Please note that incomplete submission will be considered as non-submission. No exceptions. One lowest homework grade will be dropped. All assignments will be graded by the instructor and teaching assistants. Any answers and explanations suspicious for plagiarism or being identical will be reported with the same rules as discussed in the [Academic Integrity Policy](#)².

Homework Assignments Submission Format and Requirement

Homework assignments must be completed on one side of the page, with each new problem on a different page, scanned, and then uploaded to Blackboard. It is crucial that homework assignments are always presented in a neat, legible manner and clearly marked with the student's name. Please adhere to the submission format and requirements to ensure full credit for your work. Your TA and instructor reserve the right to refuse grading for assignments that are not presented appropriately.

- Submit a digital copy of your homework assignment on Blackboard
- Use letter size papers (8.5" x 11")
- Write your name, section number and your section TA's name on the first page
- Solve each problem on a separate sheet of paper
- Create a separate PDF file for each problem, labeled **Lastname_Firstname_HW1_Prob1.pdf**
- Ensure that all PDF files are uploaded; late submissions for missing files will not be accepted after the deadline
- Verify that the resolution of your digital copy is sufficient for printing if needed
- Number all pages
- Use pencil and pen only (please do not use markers or highlighters)
- Clearly identify the final answer

²<https://answers.syr.edu/display/arch/School+of+Architecture+-+Policies+and+Rules+Handbook>

Midterm and Final Exams

The midterm and final exams are in-person exams. A 55-minute in-class midterm exam is scheduled on Wednesday, March 6. This will be held during regular class time in Shemin Auditorium. A 120-minute comprehensive final exam is scheduled on Friday, May 3, 8:00 am to 10:00 am. This is during the University final examination week. The final examination date and time are not subject to change. Students will not get to make up exams for travel, so please DO NOT book a trip that could interfere with taking exams.

Exam Policy

All exams are closed-book and closed-notes. A one-sided sheet (8.5" x 11") of hand-written notes will be allowed for each midterm examination, and a two-sided sheet (8.5" x 11") of hand-written notes will be allowed for the final examination. The final exam is comprehensive. Make-up exams will be given only under special circumstances, and requests must be submitted to the instructor at least one week prior to the exam date. Last-minute notices of common illness (cold, flu) will not be considered an emergency.

Project

The course project on structural analysis, design, model construction, and testing involves a comprehensive exploration of designing and analyzing truss bridges through both analytical and numerical approaches. Students are required to collaborate on a semester-long group project. This project presents an opportunity for students to apply the theoretical knowledge gained in class to the analysis and physical testing of truss bridge structures. Students will be tasked with applying their understanding of engineering mechanics, material science, and structural analysis to design and construct a truss model capable of withstanding specific loads and conditions. Further information about the semester project, grading rubric, and supplementary materials will be provided as the course progresses.

Office Hours

Office hours will be held in person on Mondays and Wednesdays from 11:30 am - 1:00 pm. For students having schedule conflicts during regular office hours, a sign-up sheet will be available on my office door (306A) to request additional office hours.

Blackboard Learning Management System

This class will use the Blackboard Learning Management for all materials relevant to the course including handouts, homework assignments, homework solutions, links to external materials and grades. Blackboard should frequently be visited to obtain the latest versions of class notes, homework assignments, and their solutions, exam solutions, reference materials, and tools. The University's Blackboard Learning Management System is on Eastern Time.

Course Expectations

The following guidelines are designed to facilitate a comfortable and productive learning environment.

Student Expectations		Instructor Expectations	
a.	Be punctual for all classes	a.	Listen and respect students' views
b.	Read and review class notes prior to lesson	b.	Be available for questions at least 5 minutes before and after class
c.	Be active and engaged in class discussions	c.	Do not go beyond allotted lecture time
d.	Listen and respect others	d.	Accommodate differences in students' learning
e.	Refrain from using laptops, cell phone and other electronic devices during class	e.	Be active and enthusiastic to facilitate student learning
f.	Complete all assignments	f.	Reply to e-mails within 36 hours on weekdays and 48 hours on weekends
g.	Submit all assignments before deadline	g.	Give exams that accurately reflect the material covered in class and assigned in homework
h.	If unable to meet above expectations, contact the instructor ahead of time		

Structural Analysis Programs and Tools

Structural analysis programs developed for this course will be available for in-class activities, discussion, and assignments. Links to download programs for installation on machine will be provided on Blackboard.

Grades

The course involves several homework assignments, project, midterm and final exams. There is also a participation component given towards your final grade. All homework assignments must be submitted at the beginning of class. Please refer to the "Homework" section for more details. The grade breakdown is below:

ARC 211		ARC 611	
Midterm exam	25 %	Midterm exam	25 %
Homework assignments	25 %	Homework assignments	25 %
Project	25 %	Project	25 %
Final exam	25 %	Final exam	25 %

Grade Scale

A grade "A" merits work that pushes to levels of excellence beyond the expectations of the class. A grade "B" merits very good work that fulfills the expectations of the class. A grade "C" merits work that fulfills the minimum requirement for the class. Work that does not fulfill the expectations of the class will receive a grade "D" or "F," depending on the degree of its deficiencies. Numerical Scale (all numbers round to nearest whole, e.g. 79.52 = 80 = B- while 79.33 = 79 = C+):

Percentage grade	Letter grade	Percentage Grade	Letter grade
>92	A	77–79	C+
89–91	A–	74–76	C
86–88	B+	70–73	C–
83–85	B	60–69	D
80–82	B–	<60	F

Required Textbooks and Materials

There is no required textbook for this course. In addition to class notes, selected chapters from the references below will be supplemental.

References

Statics and numerical examples

- R. C. Hibbeler (2015). Engineering mechanics: statics, 14th edition. Pearson Prentice Hall, New Jersey. ISBN-10: 0133918920.
- R. C. Hibbeler (2011). Structural analysis, 8th edition. Pearson Prentice Hall, New Jersey.
- J. M. Gere and B. J. Goodno (2013). Mechanics of materials, 8th edition. Cengage Learning.
- D. Andrea (2005). Constructing architecture materials, processes, structures, a handbook. Basel: Birkhäuser.

Other useful resources (e-books available online. Check [Syracuse University library](#))

- [Structural Competency for Architects](#). H. H. Becker (2014), New York, Routledge.
- [Structural engineering for architects: a handbook](#). P. Silver, W. McLean, and P. Evans (2013), Laurence King Publishing.
- [Engineering Statics](#). A.S Hall, F.E. Archer, and R. I. Gilbert (1999), New South Publishing.
- [An introduction to structural mechanics for architects](#). E. Cueto, D. Gonzalez (2018), Springer International Publishing.
- [Structure as architecture: a source book for architects and structural engineers](#). A. Charleson (2014), London, UK, Routledge.

Core Class Requirement

ARC 211/611 is a required course for completion of B. Arch/M. Arch program. Please note that this class is offered once a year in the Spring semester and not offered in the Fall or Summer semesters.

Course Contents

1. Introduction and preliminary concept
 - Structural engineering
 - Structural design principles
 - Review of vectors for structures
 - Mathematical preliminaries
2. Statics: force
 - Composition and resolution of forces
 - Concurrent/Non-concurrent forces
 - Equilibrium of forces
3. Statics: states of stress and strain
 - Mechanical properties of materials
 - Responses of materials to compression, tension, shear and bending
 - Analysis of stress and strain
4. Structural materials
 - Concrete and reinforced concrete
 - Structural steel
 - Theoretical background and mechanical properties of materials
 - Steel construction and reinforced concrete construction
5. Structural loads
 - Gravity loads: Dead, super-imposed dead and live loads
 - Lateral loads
6. Structural beam
 - Free-body diagram
 - Internal forces in response to an external load
 - Load path
 - Deflection
7. Structural column
 - Load path
 - Stability and buckling
 - Effects of boundary conditions on buckling loads
8. Structural slab
 - One-way / two-way slabs
 - Beam-slab system / flat slab system
 - Structural framing plans and diaphragm
9. Truss structure

- Principles of the truss design
- Truss behavior
- Truss analysis

10. Structural analysis using computational tools

- 1D frame
- 2D frame structure
- 2D truss structure

11. Cable structure

- Principles of the cable structure
- Cable structure behavior
- Cable structure examples

Academic Drop Deadline

The academic/financial deadline to drop the course is on Tuesday, February 6 for the spring semester. Students may still withdraw from courses after these deadlines; this would result in a 'WD' grade on their transcripts.

Tutoring Service

The School of Architecture offers free individual and small-group tutoring for students enrolled in ARC 211. Students can request tutoring by scanning the QR code on the tutoring flyers across Slocum or by emailing Karen Baris at (kebaris@syr.edu) or Gus Nascimento at (ghnascim@syr.edu). There is no minimum grade requirement for this service. Whether you are looking to improve your grade, receive additional help understanding the course content, or improve your studying and academic skills, tutoring is an excellent resource and is strongly encouraged. Tutors for ARC 211 are advanced students who have excelled in a previous ARC 211 course. If you have questions, please email your academic advisor.

Syracuse University Policies

Students should review the University's policies regarding: [Accessibility and Diversity](#)³ ; the [Religious Observances Notification and Policy](#)⁴ and [Orange SUccess](#)⁵.

Disability-related Accommodations

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. There may be aspects of the instruction or design of this course that result in barriers to your inclusion and full participation in this course. I invite any student to contact me to discuss strategies and/or accommodations (academic adjustments) that may

³<https://www.syracuse.edu/life/accessibility-diversity/>

⁴<https://chapel.syracuse.edu/spiritual-life/religious-observances-policy/>

⁵<http://orangesuccess.syr.edu/getting-started-2/>

be essential to your success and to collaborate with the Center for Disability Resources (CDR) in this process.

If you would like to discuss disability-accommodations or register with CDR, please visit Center for Disability Resources. Please call (315) 443-4498 or email disabilityresources@syr.edu for more detailed information. The CDR is responsible for coordinating disability-related academic accommodations and will work with the student to develop an access plan. Since academic accommodations may require early planning and generally are not provided retroactively, please contact CDR as soon as possible to begin this process.

Academic Integrity Policy

Syracuse University's [Academic Integrity Policy](#)⁶ reflects the high value that we, as a university community, place on honesty in academic work. The policy holds students accountable for the integrity of all work they submit and for upholding course-specific, as well as university-wide, academic integrity expectations. The policy governs citation and use of sources, the integrity of work submitted in exams and assignments, and truthfulness in all academic matters, including course attendance and participation. The policy also prohibits students from: 1) submitting the same work in more than one class without receiving advance written authorization from both instructors and, 2) using websites that charge fees or require uploading of course materials to obtain exam solutions or assignments completed by others and presenting the work as their own. Under the policy, instructors who seek to penalize a student for a suspected violation must first report the violation to the Center for Learning and Student Success (CLASS). Students may not drop or withdraw from courses in which they face a suspected violation. Instructors must wait to assign a final course grade until a suspected violation is reviewed and upheld or overturned. Upholding Academic Integrity includes abiding by instructors' individual course expectations, which may include the protection of their intellectual property. Students should not upload, distribute, or otherwise share instructors' course materials without permission. Students found in violation of the policy are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered, as outlined in the Violation and Sanction Classification Rubric. Students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice.

Faith Tradition Observances

[Syracuse University's Religious Observances Policy](#) recognizes the diversity of faiths represented in the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their traditions. Under the policy, students are given an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance, provided they notify their instructors no later than the academic drop deadline. For observances occurring before the drop deadline, notification is required at least two academic days in advance. Students may enter their observances in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification.

⁶https://class.syr.edu/wp-content/uploads/2022/02/Academic-Integrity-Policy_adopted-05.24.21.pdf

Discrimination or Harassment

Federal and state law, and University policy prohibit discrimination and harassment based on sex or gender (including sexual harassment, sexual assault, domestic/dating violence, stalking, sexual exploitation, and retaliation). If a student has been harassed or assaulted, they can obtain confidential counseling support, 24-hours a day, 7 days a week, from the Sexual and Relationship Violence Response Team at the Counseling Center (315-443-8000, Barnes Center at The Arch, 150 Sims Drive, Syracuse, New York 13244). Incidents of sexual violence or harassment can be reported non-confidentially to the University's Title IX Officer (Sheila Johnson Willis, 315-443-0211, titleix@syr.edu, 005 Steele Hall). Reports to law enforcement can be made to the University's Department of Public Safety (315-443-2224, 005 Sims Hall), the Syracuse Police Department (511 South State Street, Syracuse, New York, 911 in case of emergency or 315-435-3016 to speak with the Abused Persons Unit), or the State Police (844-845-7269). I will seek to keep information you share with me private to the greatest extent possible, but as a professor I have mandatory reporting responsibilities to share information regarding sexual misconduct, harassment, and crimes I learn about with the University's Title IX Officer to help make our campus a safer place for all.

Use of Class Materials

Original class materials (lectures, notes, syllabus, study guides, handouts, assignments, tests, project, programs and tools) of this course are the intellectual property of the course instructor (Junho Chun) and protected by U.S. copyright law and by University policy. The course instructor is the exclusive owner of the copyright in those materials. Students may take notes and make copies of course materials for their own use. However, students should not provide these materials to other parties (i.e., web sites, social media, other student who is not registered or enrolled in this course) without written permission from the instructor. Doing so is a violation of intellectual property law and of the [student code of conduct](#)⁷.

Student Work

The School of Architecture reserves the right to use academic work that you complete this semester in subsequent semesters for educational purposes. After such course has been completed, any further use of student works will meet one of the following conditions: (1) the work will be rendered anonymous through the removal of all personal identification of the work's creator/originator(s); or (2) the creator/originator(s)' written permission will be secured. Students will be required to prepare and upload digital versions of select course work to the School of Architecture's digital Student Works Archive. Work selection, file-naming protocols and software use will be explained during the semester in time to prepare and upload digital formats of required assets. Submittal of requested materials will be considered to be an integral part of the grading criteria for this course. Non-submittal will result in a semester grade of "F".

University Email Policy

Syracuse University has established email as a primary vehicle for official communication with students, faculty, and staff. Emergency notifications, educational dialog, research, and general

⁷<https://policies.syr.edu/policies/academic-rules-student-responsibilities-and-services/code-of-student-conduct/>

business correspondence are all consistently enhanced in institutions of higher learning where email policies exist and are supported by procedures, practice, and culture. An official email address is established and assigned by Information Technology Services (ITS) for each registered student, as well as for all active faculty and staff members. All University communications sent via email will be sent to this address. Faculty and staff members must use the officially established University email address to communicate with students registered in their classes. Keep in mind that student records sent to a non-syr.edu email address may create a FERPA violation (See the complete policy at [Syracuse University Email Policy](#)).

Use of Turnitin

This class will use the plagiarism detection and prevention system Turnitin. Students will have the option to submit their papers to Turnitin to check that all sources have been properly acknowledged and cited before submission of the paper. The instructor will also submit all papers students write for this class to Turnitin, which compares submitted documents against documents on the Internet and against student papers submitted to Turnitin at Syracuse University and at other colleges and universities. Students' knowledge of the subject matter of this course and writing level and style will be considered in interpreting the originality of report. Keep in mind that all papers you submit for this class will become part of the [Turnitin.com](#) reference database solely for the purpose of detecting plagiarism of such papers.

Course Schedule

ARC 211/611 | Structures I | Spring 2024

Week	Monday	Wednesday	Recitation	Homework	Note
1	15-Jan No class: Martin Luther King, Jr.	17-Jan Course Introduction			
2	22-Jan Introduction to Structural engineering	24-Jan Preliminaries	Rect 1	HW1 assigned - 1/22	
3	29-Jan Force Equilibrium I	31-Jan Force Equilibrium II	Rect 2	HW2 assigned - 1/29 HW1 due - 1/29	ESPR
4	5-Feb Structural Support and Reaction	7-Feb Structural Loads	Rect 3		Project introduction & assignment 2/7
5	12-Feb Structural Load Path	14-Feb Internal Forces	Rect 4	HW3 assigned - 2/12 HW2 due - 2/12	
6	19-Feb Stress and Strain	21-Feb Stress - Strain Diagram I	Rect 5	HW4 assigned - 2/19 HW3 due - 2/19	Project proposal due 2/21 Project Part I assigned 2/21
7	26-Feb Stress - Strain Diagram II	28-Feb Structural Beam Analysis: Force Diagram I	Rect 6		
8	4-Mar Structural Beam Analysis: Force Diagram II	6-Mar Midterm Exam	TAs/UGAs Office hours	HW5 assigned - 3/4 HW4 due - 3/4	
	11-Mar Spring break	13-Mar Spring break			MSPR
9	18-Mar Structural Beam Analysis: Deflection	20-Mar Structural Beam Analysis: Flexural stress	Rect 7		Project Part I due 3/20 Project Part II assigned 3/20
10	25-Mar Truss structure	27-Mar Truss Structure Analysis I	Rect 8	HW6 assigned - 3/25 HW5 due - 3/25	
11	1-Apr Truss Structure Analysis II	3-Apr Structural Material: Concrete	Rect 9		
12	8-Apr Structural Material: Steel	10-Apr Structural Column	Rect 10	HW7 assigned - 4/8 HW 6 due - 4/8	Project Part II due 4/10 Project Part III assigned 4/10
13	15-Apr Structural Column: Buckling	17-Apr Structural Slab I	Rect 11		
14	22-Apr Structural Slab II	24-Apr Cable Structure	Rect 12	HW 7 due - 4/22	Project Part III due (model testing) 4/22, 4/24
15	29-Apr Last day of class: Course Recap	1-May			Final Exam 5/3, 8-10 am Project final report due 5/5

Schedule is subject to change