

ARCH 250: STRUCTURAL SYSTEMS

In Workflow

1. DOD Committee Chair (emily.potts@csus.edu)
2. DOD Chair (rpratt@csus.edu)
3. ALS College Committee Chair (rebeccakah.mulholland@csus.edu)
4. ALS Dean (gladys.francis@csus.edu)
5. Academic Services (catalog@csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Graduate (s.storms@csus.edu)
8. Dean of Undergraduate (shaw@csus.edu)
9. Catalog Editor (catalog@csus.edu)
10. Registrar's Office (k.mcfarland@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. 2026-05-15T23:32:45Z
Emily Potts (emily.potts): Approved for DOD Committee Chair
2. 2026-05-16T20:57:26Z
Richard Pratt (rpratt): Approved for DOD Chair
3. 2026-09-16T18:24:36Z
Rebekkah Mulholland (rebeccakah.mulholland): Approved for ALS College Committee Chair
4. 2026-09-16T21:22:28Z
Gladys Francis (gladys.francis): Approved for ALS Dean

New Course Proposal

Date Submitted: 2026-05-15T15:54:36Z

Viewing: ARCH 250 : Structural Systems

Last edit: 2026-05-15T15:54:34Z

Changes proposed by: Mahtab Orooji (223030210)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Mahtab Orooji	orooji@csus.edu	916-278-4945

Catalog Title:

Structural Systems

Class Schedule Title:

Structural Systems

Academic Group: (College)

ALS - Arts & Letters

Academic Organization: (Department)

Design

Will this course be offered through the College of Continuing Education (CCE)?

Yes

Please specify:

CCE Only

Catalog Year Effective:

Fall 2027 (2027/2028 Catalog)

Subject Area: (prefix)

ARCH - Architecture

Catalog Number: (course number)

250

Course ID: (For administrative use only.)

TBD

Units:

3

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?

No

In what term(s) will this course typically be offered?

Spring term only

Does this course require a room for its final exam?

No, final exam does not require a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

ARCH 250 is a new course proposal that engages structural systems as a core dimension of architectural research, design reasoning, and professional judgment, moving beyond foundational structural principles to investigate the selection, integration, tectonic expression, and performance evaluation of structural systems across building scales and typologies.

The course addresses a gap in the M.Arch curriculum by treating structure not as a secondary technical layer but as a generative framework that shapes architectural form, space, material expression, and environmental performance. By requiring students to evaluate structural systems against criteria of performance, embodied carbon, constructability, and architectural expression, the course ensures that M.Arch graduates can make principled, sustainability-conscious structural decisions in collaboration with engineering consultants.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)

Examines structural systems as a dimension of architectural research, design thinking, and professional practice. Moving beyond foundational principles, this course investigates the selection, integration, tectonic expression, and performance evaluation of structural systems across building scales and typologies. Topics include material performance in steel, reinforced concrete, mass timber, and hybrid systems; lateral force strategy; long-span and shell structures; computational form-finding; high-rise typologies; superstructure-envelope integration; adaptive and resilient structures; the architect-engineer relationship; and embodied carbon dimensions of structural decision-making.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Is this course designated as Curricular Community Engaged Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

No

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

Department Approval

Course Component(s) and Classification(s):

Lecture

Lecture Classification

CS#02 - Lecture/Discussion (K-factor=1WTU per unit)

Lecture Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Analyze advanced structural systems including long-span, shell, high-rise, and hybrid typologies, through research literature and built precedents.	Assessment #1: Seminar Participation & Discussion Leadership Assessment #2: Weekly Reading Responses Assessment #3: Applied/Hands-On Exercises Assessment #4: Case Study Analysis & Presentation
2	Evaluate structural systems and tectonic decisions using criteria of performance, embodied carbon, constructability, and architectural expression.	Assessment #1: Seminar Participation & Discussion Leadership Assessment #2: Weekly Reading Responses Assessment #3: Applied/Hands-On Exercises Assessment #4: Case Study Analysis & Presentation Assessment #5: Final Project
3	Synthesize structural, material, and lateral systems into an integrated, research-informed architectural design proposal..	Assessment #3: Applied/Hands-On Exercises Assessment #4: Case Study Analysis & Presentation Assessment #5: Final Project
4	Evaluate the ethical, environmental, and professional implications of structural practice, including architect-engineer collaboration and climate resilience.	Assessment #3: Applied/Hands-On Exercises Assessment #4: Case Study Analysis & Presentation Assessment #5: Final Project
5	Create a comprehensive structural systems proposal with advanced system selection, tectonic integration, and professional documentation.	Assessment #4: Case Study Analysis & Presentation Assessment #5: Final Project

Attach a list of the required/recommended course readings and activities:

ARCH 250_syllabus.pdf

For whom is this course being developed?

Majors in the Dept

Is this course required in a degree program (major, minor, graduate degree, certificate?)

Yes

Has a corresponding Program Change been submitted to Workflow?

Yes

Identify the program(s) in which this course is required:

Programs:

Master of Architecture (M.Arch)

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Graduate (Masters) Learning Goals:

Disciplinary knowledge

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Key: 15577