

ARCH 213: BUILDING SYSTEMS & ENVIRONMENTAL PRINCIPLES

In Workflow

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Approval Path

1. 2026-05-15T23:33:06Z
Emily Potts (emily.potts): Approved for DOD Committee Chair
2. 2026-05-16T20:57:34Z
Richard Pratt (rpratt): Approved for DOD Chair
3. 2026-09-16T18:25:46Z
Rebekkah Mulholland (rebeccakah.mulholland): Approved for ALS College Committee Chair
4. 2026-09-16T21:23:12Z
Gladys Francis (gladys.francis): Approved for ALS Dean

New Course Proposal

Date Submitted: 2026-05-15T15:26:02Z

Viewing: ARCH 213 : Building Systems & Environmental Principles

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Changes proposed by: Mahtab Orooji (223030210)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:

Building Systems & Environmental Principles

Class Schedule Title:

Bldg & Environ 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)

213

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?

Fall 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 213 is a new course proposal that introduces graduate students to building systems and environmental principles as foundational drivers of architectural design in the context of a changing climate. Rather than treating environmental conditions as external constraints, the course frames climate, energy, thermal comfort, daylighting, and material systems as generative opportunities, drawing on historical precedents, contemporary case studies, and site-specific climatic data. By situating building systems and environmental principles as inseparable from design intent, the course reinforces a core conviction of both programs: that responsible architectural practice cannot treat technical knowledge as separate from design judgment.

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

This graduate seminar introduces foundational principles of building systems and environmental design as integral drivers of architecture in the context of a changing climate. Framing environmental conditions as generative opportunities rather than constraints, the course explores the relationships between climate, energy, thermal comfort, daylighting, material systems, and spatial experience through historical precedents, contemporary case studies, and site-specific climatic conditions. Students develop strategies for integrating climate-responsive thinking into architectural design across scales, while introducing analytical and simulation tools that support iterative design explorations.

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 how local and global climatic conditions influence architectural form, spatial organization, and building performance	Assessment #1 - Research of current design frameworks Assessment #5 - Presentation
2	Integrate key building systems for climate-responsive design strategies.	Assessment #2 - Analysis of building systems
3	Assess environmental performance with analytical tools	Assessment #1 - Research of current design frameworks Assessment #2 - Analysis of building systems Assessment #4 - Research existing alternative practices
4	Translate site-specific data to refine architectural designs.	Assessment #3 - Applications of climate-responsive design strategies Assessment #4 - Research existing alternative practices
5	Synthesize environmental principles to architectural design at multiple ecological and cultural scales.	Assessment #3 - Applications of climate-responsive design strategies Assessment #4 - Research existing alternative practices Assessment #5 - Presentation

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

ARCH 213_BldgSystems&EnvPrinciples_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: 15579