CM 240: PREFABRICATION AND INDUSTRIALIZED CONSTRUCTION

In Workflow

1. CM Committee Chair (figgess@csus.edu)
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11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. 2026-10-02T17:52:29Z
   Gareth Figgess (figgess): Approved for CM Committee Chair
2. 2026-10-02T20:03:49Z
   Gareth Figgess (figgess): Approved for CM Chair
3. 2026-10-16T17:13:35Z
   Tongren Zhu (tongren.zhu): Approved for ECS College Committee Chair
4. 2026-10-16T18:22:33Z
   Behnam Arad (arad): Approved for ECS Dean

New Course Proposal

Date Submitted: 2026-09-29T16:59:19Z

Viewing: CM 240 : Prefabrication and Industrialized Construction

Last edit: 2026-10-16T17:12:17Z

Changes proposed by: Tarek Salama (223001272)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Tarek Salama	salama@csus.edu	9166944235

Catalog Title:
Prefabrication and Industrialized Construction

Class Schedule Title:
Industrialized Construction

Academic Group: (College)
ECS - Engineering & Computer Science

Academic Organization: (Department)
Construction Management

Will this course be offered through the College of Continuing Education (CCE)?
No

Catalog Year Effective:
Fall 2027 (2027/2028 Catalog)

Subject Area: (prefix)
CM - Construction Management

Catalog Number: (course number)
240

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, Spring

Does this course require a room for its final exam?
Yes, final exam requires a room

Does this course replace an existing experimental course?
No

This course complies with the credit hour policy:
Yes

Justification for course proposal:
We are creating a new Master of science program for our department, and this course is necessary as a core class, and also because it is focused one modular and offsite construction which is one of the main Industry 4.0 technologies that will change the construction industry.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)
Principles and practices of prefabrication and industrialized construction. Students evaluate volumetric, panelized, and hybrid systems; Design for Manufacturing and Assembly (DfMA); lean production; modular codes and regulations; BIM coordination; factory planning, workflows, automation, and robotics; scheduling, cost estimating, and financial analysis; logistics and supply-chain management; transportation constraints; just-in-time delivery; on-site assembly; sustainability; and contractual, legal, and risk considerations. Through case studies and applied analysis, students assess feasibility, integration, performance, and implementation strategies for building applications while examining emerging technologies such as artificial intelligence and smart factories. 3 Units.

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):
Seminar

Seminar Classification
CS#05 - Seminar (K-factor=1 WTU per unit)
Seminar 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	Differentiate between traditional, modular, panelized, and hybrid construction approaches in terms of productivity, risk, and performance.	Quiz
2	Evaluate the principles, typologies, and evolution of modular and offsite construction systems	Quiz
3	Apply Building Information Modeling (BIM) workflows to coordinate modular components and detect design conflicts.	Assignment using Revit & Navisworks
4	Develop construction schedules that integrate parallel offsite manufacturing and onsite activities.	Assignment using MS Project.
5	Assess the impact of modularization on project duration, sequencing, and critical path.	Assignment using MS Project.
6	Prepare cost estimates for modular construction projects, including manufacturing, transportation, and installation costs.	Assignment
7	Design logistics strategies for transportation, storage, and site delivery of prefabricated modules.	Quiz
8	Plan and evaluate site installation processes, including crane operations, module alignment, and tolerances.	Quiz
9	Quantify and evaluate the environmental impacts of modular construction using sustainability metrics (e.g., waste reduction, carbon footprint).	Quiz
10	Develop a modular construction project plan integrating design, scheduling, cost, logistics, and sustainability.	Project

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

For whom is this course being developed?
Majors in the Dept
Other

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:
MS in Construction Management

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
Communication
Critical thinking/analysis
Information literacy
Professionalism
Intercultural/Global perspectives
Research (optional)

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

Please attach any additional files not requested above:

CM 240 Prefabrication and Industrialized Construction.docx

Key: 15623