

CE 266A: DYNAMICS AND EARTHQUAKE RESPONSE OF STRUCTURES

In Workflow

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Approval Path

1. Thu, 17 Sep 2020 02:36:27 GMT
Julie Fogarty (fogarty): Approved for CE Committee Chair
2. Thu, 17 Sep 2020 18:14:18 GMT
Benjamin Fell (fellb): Approved for CE Chair
3. Thu, 01 Oct 2020 16:35:45 GMT
Gareth Figgess (figgess): Approved for ECS College Committee Chair
4. Fri, 16 Oct 2020 17:23:05 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

New Course Proposal

Date Submitted: Thu, 17 Sep 2020 02:33:42 GMT

Viewing: CE 266A : Dynamics and Earthquake Response of Structures

Last edit: Fri, 16 Oct 2020 17:22:52 GMT

Changes proposed by: Julie Fogarty (218645519)

Contact(s):

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Catalog Title:

Dynamics and Earthquake Response of Structures

Class Schedule Title:

Dynamc+Earthqke Response Strc

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Civil Engineering

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

No

Catalog Year Effective:

Fall 2021 (2021/2022 Catalog)

Subject Area: (prefix)

CE - Civil Engineering

Catalog Number: (course number)

266A

Course ID: (For administrative use only.)

107601

Units:

3

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

Fall term only - odd years

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:

Graduate CE courses are being renumbered to clarify course pre- and co-requisites and topic areas to help students plan their path to graduation. Prerequisites numbers (not courses) are being changed to reflect course number changes.

This is not a new course. It is being proposed as a new course so that the existing number can be reused for another course. There is no change to the content (course description, ELOs, assessment) for this course. It is simply a number change.

When coding this course for the catalog, please drop the A on this course so it is simply the number CE 266 (another course using CE 266 is being changed concurrently to a different number).

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Response of structures modeled as single-degree systems to harmonic, periodic, and arbitrary excitation and earthquake ground motion; effects of damping and material nonlinearity; numerical methods using spreadsheets; response spectra. Response of structures modeled as multi-degree systems: modeling of structure mass, damping and elastic stiffness; solution by modal superposition; time-history and response spectrum analysis; implications for codes for earthquake-resistant design. Microcomputer software is extensively used.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

CE 161 or instructor permission

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

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: Describe outcomes using the following format: 'Students will be able to: 1), 2), etc.'

- 1) Identify and define concepts related to structural dynamics, such as natural frequencies, mode shapes, damping and vibration characteristics of structures.
- 2) Formulate the equation of motion for a variety of structural systems.
- 3) Develop competence in using computer programming skill (e.g. Matlab) to perform modelling and dynamic analysis of structural systems.
- 4) Apply structural dynamics concepts to the earthquake response and conceptual seismic design of structures
- 5) Solve engineering problems in the context of structural dynamics.

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

CE 265A.doc

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

Homework: ELOs 1-5

Project: ELOs 1-5

Exams: ELOs 1-5

For whom is this course being developed?

Majors in the Dept

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

No

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:**

Critical thinking/analysis

Information literacy

Disciplinary knowledge
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

Key: 14280