CEE - 730 - Foundations of Big Data Analytics for Infrastructure Applications

2 Graduate Course Create 2021-22

I. Course Information

The faculty member originating this proposal is to complete sections I,II, III, and IV.

TURN ON help text before starting this proposal by clicking 🛈 in the top right corner of the heading.

You will need to turn on help text again after any actions that refresh the page including after saving proposals, importing information, or running impact reports.

FILL IN ONLY fields required marked with an *. You will not be able to launch the proposal without completing the required fields.

Department* 　Civil and Environmental Engineering and Construction

Prefix:* 　CEE 　　　　　　　**Number:*** 　730

Is a new Prefix being suggested? 　◯ Yes 　⦿ No

Suggested Prefix

Long Course Name:* 　Foundations of Big Data Analytics for Infrastructure Applications

Short Course Name* 　Analytics for Infra.

Tip: 25 characters max. for short name (abbreviations are acceptable if needed)

Tips

avoid the use of the words *student*, *course*, and *covers*
incomplete sentences are ok
avoid repeating the course title
(50 words max)

Catalog Description*	Investigates state-of-the-art big data analytics and corresponding quantitative research methods within the civil infrastructure environment. Focuses on **unstructured data analysis** including National Language Processing and large-scale sensor data analysis. Emphasis in data collection, preparation, processing, and interpretation. Crosslisted with CEM 730. Includes differential fees.
Is this course a culminating experience?*	☐ Yes ☑ No
If Yes, to which programs?	
First Term Course Offered*	Fall 2021
Explanation for Course Create*	The new faculty joined our department, so we are offering new course in her area of expertise. This course is regarding data analytics and natural language processing for engineering students. Other courses related to data analytics offered in UNLV are more focused on data processing and computing/programming skills; however, students in civil and construction will need skills to address current ongoing industrial questions using data analysis techniques. This course also focused on unstructured data analytics techniques. Our department has not offered any data analytics courses before. The demand of this course is high, because our students need data analytics course taught by our own faculty.
Are you adding a Service-Learning designation to this course?*	◯ Yes ◉ No

If the Service-Learning designation is being added to this course:

A syllabus in Word or PDF format must accompany this form.

Graduate syllabi must meet the minimum criteria as required by the Provost's office (See Semester Memo under Executive Vice President and Provost Policies and Forms www.unlv.edu/policies). Graduate courses that are linked to undergraduate courses (300/500 and 400/600 level joint courses) must clearly state in the syllabus how the class experience and expectations are different for graduate students, what additional requirements students enrolled in the graduate level course must fulfill, and how the grading scale will be applied to graduate students.

Please attach a current syllabus by navigating to the Proposal Toolbox and clicking **in the top right corner.**

Information about Service-Learning is available here. Faculty can visit the faculty Service-Learning page as well as the _UNLV Guide for Service Learning_ for additional information.

If adding Service-Learning designation, syllabus is attached	☐ Attached

II. Catalog Information

Will this be an experimental (x) course? *   ○ Yes   ◉ No

Has this course number been used previously as an Experimental (X) course?   ○ Yes   ◉ No

If yes, X-Course Prefix

X-Course Code

Program(s) impacted by this new course *

PhD in Civil Engineering

MSE in Civil & Envrionmental Engineering

MSCM

MST

Tip (note): A Program Change form will need to be submitted to add the new course into a program.

Detail the changes to the program catalog entry required due to the creation of this course. *

This course will be listed in the list of course the PhD, MSE, MSCM, MST students have the option to take in the area of construction and tranpsportation

Fixed/Variable Credits *   ◉ Fixed   ○ Variable

If fixed, enter number of credits. If variable, enter minimum and maximum credits (E.g., 1-3)

Number of Credits   3

Course is Repeatable *
○ Yes
◉ No

If yes, the maximum number of credits that may be earned is

Grading System *
◉ Letter Grade
○ S/U
○ Thesis/Dissertation

Is this a Special Topics course?*	○ Yes ⦿ No

Sub-topic(s)	

Are topics repeatable?	○ Yes ⦿ No

If yes, number of credits	

Prerequisites	CEEC Graduate Standing

Corequisites	

Does this course have any non-credit components?	○ Yes ⦿ No

If yes, indicate component(s)	☐ Clinical
	☐ Discussion
	☐ Field Studies
	☐ Independent Study
	☐ Internship
	☐ Laboratory
	☐ Lecture
	☐ Practicum
	☐ Research
	☐ Seminar
	☐ Supervision
	☐ Thesis Research

CROSS-LISTING / Same As, will this course be:*	○ Same As=Undergraduate: same content and same career (UG/UG). Graduate: Same/similar course content and same career (Grad/Grad)
	⦿ Cross-listing= Cross-listed courses contain the same or similar content and may be in different programs (eg., WMST 497 & SOC 497) or different careers (e.g., BIOL 467 & BIOL 667 or PSC 722 & PHIL 728)
	○ Not Cross-Listed or Same As

If yes, list the course	CEM 730

If yes, please include below the rationale for crosslisting, answering to the following questions:

1) What aspect of graduate preparation is met via this course that goes beyond the undergraduate program?

2) What common aspects are offered in the crosslistings and what grad level pieces are not?

3) What would be beneficial in offering the crosslisted courses from a graduate education perspective?

Crosslisting	This course is cross listed with graduate course not undergraduate course

Rationale: N/A

MSCM and PHD, MSE, and MST student can take this class together.

Indicate the instructional modes that should be available for scheduling ✱

- ☑ In Person Supplemental Web
- ☐ Field Study
- ☐ Hybrid
- ☐ Independent Study
- ☐ Television
- ☐ Web-based
- ☐ Web-based w/ on/off campus meeting

Differential fees required for this course? (if yes, please clarify on explanation field above)

☑ Yes ☐ No

III. Evaluation of Library Resources

A. This section is completed by the faculty member originating this proposal—indicate library resources that will be needed to support this course

Will this course creation require changes to library resources? ✱

◯ Yes ⦿ No

Please indicate library resources that will be needed to support students taking this course ✱

- ☑ Core journals
- ☑ Core books (not required texts)
- ☑ Electronic resources (e.g., databases, videos, media, etc.)

Critically needed journals for this subject area:

Core books needed:

Electronic Resources:

3. LAUNCH proposal by clicking ▶ in the top left corner.

4. Finish the launch of your proposal by clicking the icon ✅ located in the Proposal Toolbox on left side at top. Make your decision, comment is optional, and click on "Make decision".

You can check the status of the proposal by clicking ☰ in Proposal Toolbox to verify that the proposal has gone to the next step.

B. This section is completed by the librarian.

Level of support the Library can provide	

Library Comments	

IV. Syllabus

A syllabus in Word or PDF format must accompany this form.

Graduate syllabi must meet the minimum criteria as required by the Provost's office (See Semester Memo under Executive Vice President and Provost Policies and Forms https://www.unlv.edu/policies/current-policies). Graduate courses that are linked to undergraduate courses (300/500 and 400/600 level joint courses) must clearly state in the syllabus how the class experience and expectations are different for graduate students, what additional requirements students enrolled in the graduate level course must fulfill, and how the grading scale will be applied to graduate students.

Attachments List

Please attach any required files by navigating to the Proposal Toolbox and clicking 🗍 in the top right corner.

Attached syllabus* ☑ Attached

V. Department Vote Information

Note: This section is to be filled out by the Department Chair on behalf of the committee.

(The role has been assigned to the corresponding person on this step. If incorrect, please notify GradCurriculum@unlv.edu)

1. Review the proposal. Discuss and make appropriate revisions.

2. Fill in vote information.

3. Then go to the proposal toolbox at the top right side. Click on ✅ and select the corresponding decision for the committee. This will enable the proposal to go to the next person on the workflow.

You can check the status of the proposal by clicking ≡ in Proposal Toolbox to verify that the proposal has gone to the next step.

Date faculty voted on proposal	January 28,2021

Result of vote (Number of yes/no/abstention votes)	16/0/0

Manner of vote (online, in-person, etc.)	Email

VI. Unit Vote Information

Note: This section is to be filled out by the College Committee Chair on behalf of the committee.

(The role has been assigned to the corresponding person on this step. If incorrect, please notify GradCurriculum@unlv.edu)

1. Review the proposal. Discuss and make appropriate revisions.

2. Fill in vote information.

3. Then go to the proposal toolbox at the top right side. Click on ✅ **and select the corresponding decision for the committee. This will enable the proposal to go to the next person on the workflow.**

You can check the status of the proposal by clicking ≡ **in Proposal Toolbox to verify that the proposal has gone to the next step.**

Date faculty voted on proposal	2/22/21

Result of vote (Number of yes/no/abstention votes)	4/0/0

Manner of vote (online, in-person, etc.)	online

VIII. Processing Notes (Graduate College/Registrar Use Only)

PS Processing Notes	

PS Processing Date	04/13/2021	**Initials**	EJ

Acalog Processing Notes	

Comments for CEE - 730 - Foundations of Big Data Analytics for Infrastructure Applications

Curriculog   4/13/2021 12:27 pm **Reply**

This proposal has been completed.

Curriculog   4/13/2021 12:27 pm **Reply**

REG Curriculum has approved this proposal on Implementation: Catalog and PeopleSoft.

REG Curriculum   4/13/2021 12:27 pm **Reply**

PS & Acalog done. 04/13/2021. EJ

Curriculog   4/5/2021 8:25 am **Reply**

Emily Lin has approved this proposal on Graduate College Dean.

Curriculog   4/2/2021 10:36 am **Reply**

James Navalta has approved this proposal on behalf of Graduate Course Review Committee. See **Graduate Course Review Committee 3-24-2021** for more information.

Curriculog   4/2/2021 8:44 am **Reply**

Graduate Curriculum has approved this proposal on Graduate Course Review Committee.

Curriculog   2/25/2021 10:19 pm **Reply**

Mohamed Trabia has approved this proposal on School/College Associate Dean/ Dean.

Melissa Morris   2/22/2021 3:13 pm **Reply**

College Committee Voted unanimously to approve this proposal via email on 2/22/21

Curriculog   2/22/2021 3:13 pm **Reply**

Melissa Morris has approved this proposal on School/College Committee.

Curriculog   2/22/2021 10:29 am **Reply**

CEEC Chair has approved this proposal on Department Chair.

Curriculog	2/22/2021 10:01 am **Reply**

CEEC Graduate Coordinator has approved this proposal on Graduate Coordinator.

Curriculog	2/22/2021 9:34 am **Reply**

Graduate Curriculum has approved this proposal on Technical Review.

CEEC Graduate Coordinator	2/18/2021 1:20 pm **Reply**

We have made corrections according to your comments.

Curriculog	2/18/2021 1:20 pm **Reply**

CEEC Graduate Coordinator has approved this proposal on Originator.

Graduate Curriculum	2/1/2021 4:25 pm **Reply**

- Please review and clarify rationale for course create, how does the new course impact the curriculum? what is the demand for the new course? how course differs from any other analytics course?
- Please review crosslisting, the course cannot be crosslisted with itself.
- Please review description to identify how course differs from any other analytics course? (e.g. within the IDGP Data Analytics program)
- Please adjust short course name to reflect specificity of course, e.g. "Analytics for Infra."
- Please review and adjust syllabus to reflect points above, also please include further topics or topic examples in the syllabus.

for assistance please contact gradcurriculum@unlv.edu

Curriculog	2/1/2021 4:25 pm **1 Reply** | **Reply**

Graduate Curriculum has rejected this proposal on Technical Review.

CEEC Graduate Coordinator	2/18/2021 1:01 pm

- We have reviewed the rationale for course create and provided more explanation
- The cross listed CEM 730 has different prefix, it is not a same course but it will of offered together.
- We have change the course description and how this course differs from other UNLV course is explained in the Rational for creating this course section.
- We have reviewed the and adjust the syllabus by including futher topics or topic examples.

Curriculog	1/28/2021 6:40 pm **Reply**

CEEC Graduate Coordinator has approved this proposal on Originator.

Curriculog	1/28/2021 2:04 pm **Reply**

CEEC Graduate Coordinator has launched this proposal

CEEC Graduate Coordinator has launched this proposal.