New Proposal

Date Submitted: 10/01/19 10:28 am

Viewing: **10KS0231PHD : Environmental Engineering in Civil Engineering, PhD**

Last edit: 11/20/19 8:29 am

Changes proposed by: Rhonda McElroy

In Workflow

1. **U Program Review**
2. **1251 Head**
3. **KP Committee Chair**
4. **KP Dean**
5. **University Librarian**
6. **Grad_College**
7. **Provost**
8. **Senate EPC**
9. Senate
10. U Senate Conf
11. Board of Trustees
12. IBHE
13. DMI

Approval Path

1. 10/03/19 10:00 am
   Deb Forgacs (dforgacs): Approved for U Program Review
2. 10/08/19 8:07 pm
   Jeff Roesler (jroesler): Approved for 1251 Head
3. 10/08/19 8:23 pm
   Rhonda McElroy (rmcelroy): Approved for KP Committee Chair
4. 10/09/19 5:02 pm
   Jean Hanks (jhanks): Approved for KP Dean
5. 10/09/19 5:42 pm
   John Wilkin

(jpwilkin):
Approved for
University
Librarian

6. 11/19/19 7:05 pm
Allison McKinney
(agrindly):
Approved for
Grad_College

7. 11/19/19 7:16 pm
Kathy Martensen
(kmartens):
Approved for
Provost

Proposal Type

Proposal Type:
  Major (ex. Special Education)

Proposal Title:

if this proposal is one piece of a multi-element change please include the other impacted programs
here. *example: A BS revision with multiple concentration revisions*

  Revision of Curriculum Requirements for the Ph.D. in Environmental Engineering to add
a 96-Credit Hour Option, Department of Civil and Environmental Engineering (CEE),
The Grainger College of Engineering

Official Program Name	Environmental Engineering in Civil Engineering, PhD

Banner/Codebook
Name
  PHD:Env Engr Civil Engr -UIUC

Corresponding Degree	PhD Doctor of Philosophy
Program Code:	10KS0231PHD

Major Code	Minor Code	Conc Code	Degree Code

EP Control Number	EP.20.47

Senate Approval
Date

Senate
Conference
Approval Date

BOT Approval
Date

IBHE Approval
Date

Effective Date:

Effective Catalog Term	Fall 2018
Sponsor College	Grainger College of Engineering
Sponsor Department	Civil and Environmental Engineering
Sponsor Name	Benito Mariñas, Department Head

Sponsor Email marinas@illinois.edu

College Contact   Harry Dankowicz, Associate Dean for
Graduate, Professional and Online
Programs

College Contact
Email

danko@illinois.edu

Is this program interdisciplinary?

No

Academic Level	Graduate

Will you admit to
the concentration
directly?

Is a concentration
required for
graduation?

Program Description and Justification

Provide a ***brief*** description and justification of the program, including highlights of the program
objectives, and the careers, occupations, or further educational opportunities for which the program
will prepare graduates, when appropriate.

Program Description

CEE would like to add a 96-credit hour option to the current PhD curriculum in
Environmental Engineering to allow students to be directly admitted into the PhD
program. Currently, graduate students are required to hold an approved Master's
degree before they can enter the PhD program. Students without an approved Master's

degree before they can enter the PhD program. Students without an approved Master's degree must first complete the non-thesis or thesis-based Master's in CE or EE before entering the PhD program, which is a 64-credit hour curriculum.

Under the 96-credit hour curriculum, termed the Direct Ph.D., students will complete the following requirements, which are outlined in detail in the attached Appendix A.

56 to 64-credit hours of graduate level coursework
24-credit hours must in major field
24-credit hours 500-level coursework, with at least 12 hours in major field
Remaining credit hours of 400-500 level elective coursework
32-40-credit hours of thesis research
Successful completion of the Qualifying, Preliminary, and Final Defense exams.

These requirements (coursework and thesis) are equivalent to the addition of the requirements of the thesis-based CE or EE Master's degree plus the 64-credit hour EE PhD curriculum. In essence, the Direct Ph.D. student will fulfill exactly the same requirements as the student undertaking first an MS and then a PhD, but without preparing an MS thesis (or receiving an MS degree). It will be optional under the Direct PhD curriculum for students to obtain a non-thesis or thesis-based MS degree along the way to the PhD.

Justification

Under the current curriculum, students without an approved MS degree must first be admitted into the non-thesis or thesis-based MS degree program in CE or EE and then petition into the PhD degree program. This is hindering CEE from recruiting top talent into its graduate program. Many students applying to the EE PhD degree program want to be directly admitted into the PhD program without the requirement of first completing an MS degree. Many of our peer EE doctoral programs have an option to directly admit students to the PhD program without requiring a prior MS degree, including almost all the departments in the Grainger College of Engineering at the University of Illinois. Examples of direct admit PhD in EE: University of California Berkeley, Massachusetts Institute of Technology, Stanford University, Georgia Institute of Technology, Purdue University, University of Michigan, Texas A&M University, and Carnegie Mellon University. This difference places Illinois at a distinct competitive disadvantage when recruiting top applicants who intend to pursue a PhD degree. Implementing the Direct PhD option keeps us competitive with our peers.

Is This a Teacher Certification Program?
                              No

Will specialized accreditation be sought for this program?

No

Institutional Context

University of Illinois at Urbana-Champaign

Describe the historical and university context of the program's development. Include a short summary of any existing program(s) upon which this program will be built.

Explain the nature and degree of overlap with existing programs and, if such overlap exists, document consultation with the impacted program's home department(s).

This a curriculum revision to an existing degree program.

University of Illinois

Briefly describe how this program will support the University's mission, focus and/or current priorities. Demonstrate the program's consistency with and centrality to that mission.

This a curriculum revision to an existing degree program.

State of Illinois

Indicate which of the following goals of the Illinois Board of Higher Education's Strategic Initiative are supported by this program: (choose all that apply)
Educational Attainment - increase educational attainment to match the best-performing states.

Describe how the proposed program supports these goals.

This a curriculum revision to an existing degree program.

Admission Requirements

Desired Admissions Term	Fall 2020

Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

Admission to the CE and EE Direct PhD program will require applicants to have a bachelor's degree in CE or EE or an equivalent bachelor's degree from an accredited institution whose requirements for the bachelor's degree are substantially equivalent to those of the University of Illinois. Applicants must hold at least a 3.0 or higher GPA to be considered for admission. In addition, the Graduate Record Examination (GRE) is required.

All applicants whose native language is not English must submit a minimum TOEFL score of 79 (iBT), 213 (CBT), or 550 (PBT); or minimum International English Language Testing System (IELTS) academic exam scores of 6.5 overall and 6.0 in all subsections. Applicants may be exempt from the TOEFL if certain criteria are met. For those taking the TOEFL or IELTS, full admission status is granted for scores greater than 102 (TOEFL iBT), 253 (TOEFL CBT), 610 (TOEFL PBT), or 7.0 (IELTS). Limited status is granted for lesser scores and requires enrollment in English as a Second Language (ESL) courses based on an ESL Placement Test (EPT) taken upon arrival to campus.

Describe how critical academic functions such as admissions and student advising are managed.

There are no capacity implications with respect to the proposed change. With the direct PhD option in EE in CEE, there will be fewer admission offers made to applicants for the non-thesis and thesis-based master's degree. The department's goal is not to increase the total number of non-thesis or thesis-based master's and PhD students that are currently admitted. There will be no additional enrollment beyond the numbers currently supported by the department. Graduate student enrollment is limited by the number of research assistantships (faculty grants) and by available teaching assistantships.

Enrollment

Number of Students in Program (estimate)

Year One Estimate	50	5th Year Estimate (or when fully implemented)
	200	

Estimated Annual Number of Degrees Awarded

Year One Estimate	50	5th Year Estimate (or when fully implemented)
	75	

What is the
matriculation

term for this
program?
  Fall

Delivery Method

This program is
available:
  Face-to-Face

Budget

Will the program or revision require staffing (faculty, advisors, etc.)
beyond what is currently available?
                    No

Additional Budget
Information
  There will not be any budgetary obligations due to these changes to the EE PhD
  curriculum. The program implementations will be carried out with existing resources.

Attach File(s)

Resource Implications

Facilities

Will the program require new or additional facilities or significant
improvements to already existing facilities?
                    No

Technology

Will the program need additional technology beyond what is currently
available for the unit?
                    No

Non-Technical Resources

Will the program require additional supplies, services or equipment (non-technical)?

  No

Resources

Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.

There are no negative implications on faculty resources for either of the proposed changes.

Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

This proposed changes will not impact the University Library.

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does this new program/proposed change result in the replacement of another program?

No

Does the program include other courses/subjects impacted by the creation/revision of this program?

No

Financial Resources

How does the unit intend to financially support this proposal?

There are no financial changes to this curriculum revision.

Will the unit need to seek campus or other external resources?

No

Attach letters of support

Will an existing tuition rate be used or continue to be used for this program?

Yes

Is this program requesting self-supporting status?

No

Market Demand

What market indicators are driving this proposal? If similar programs exist in the state, describe how this program offers a unique opportunity for students:

  This a curriculum revision to an existing degree program.

What type of employment outlook should these graduates expect? Explain how the program will meet the needs of regional and state employers, including any state agencies, industries, research centers, or other educational institutions that expressly encourage the program's development.

  This a curriculum revision to an existing degree program.

What resources will be provided to assist students with job placement?

  This a curriculum revision to an existing degree program.

If letters of
support are
available attach
them here:

Program Regulation

Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable.

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning.

  NA

Is the career/profession for graduates of this program regulated by the State of Illinois?

  No

Program of Study

"Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: https://www.ibhe.org/assets/files/PrivateAdminRules2017.pdf). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.

All proposals must attach the new or revised version of the Academic Catalog program of study entry. Contact your college office if you have questions.

For new
programs, attach
Program of Study

Appendix A-CE-EE PhD
CurriculumChanges-Final.docx

Catalog Page Text

Catalog Page Text: Description of program for the catalog page. This is not official content, it is used to help build the catalog pages for the program. Can be edited in the catalog by the college or department.

The degree of Doctor of Philosophy, primarily a research degree, requires from three to four years of graduate study beyond the master's degree or with direct admit PhD requires from five and six year past the bachelor's degree. The major area of specialization encompasses courses and research that are closely related, but the courses need not be offered by a single major department. Candidates must demonstrate a capacity for independent research by preparing an original thesis on a topic within the major field of study, must meet the qualifying requirements or examination in the area of specialization, and must pass both preliminary and final examinations.

Statement for Programs of Study Catalog

Entering with an approved Master's Degree:

Course List

Code	Title	Hours
CEE 599	Thesis Research (min-max applied toward degree)	32
	Elective courses (subject to Other Requirements and Conditions below)	32
Total Hours		64

Other Requirements

Grad Other Degree Requirements

Requirement	Description
Other Requirements and Conditions may overlap	
A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.	
There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.	
64 graduate hours must be completed in residence.	
A Masters degree is required for admission to the Ph.D. program.	
Ph.D. exam and dissertation requirements:	
Qualifying exam1	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	
The minimum program GPA is 2.75.	

1   *Qualifying Exam Information*

Entering with an approved Baccalaureate Degree:

Course List

Code	Title	Hours
CEE 599	Thesis Research	32-40
Elective Courses (subject to other requirements and conditions below)		56-64
Total Hours		96

Other Requirements

Grad Other Degree Requirements

Requirement	Description
Other Requirements and Conditions may overlap	
A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.	
There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.	
64 graduate hours must be completed in residence.	
24 credit hours must be in major field. 24 credit hours of elective coursework must be at the 500-level, with at least 12 hours in major field.	
Ph.D. exam and dissertation requirements:	
Qualifying exam1	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	
The minimum program GPA is 2.75.	

1   *Qualifying Exam Information*

EP Documentation

Attach
Rollback/Approval
Notices

DMI Documentation

Attach Final
Approval Notices

Attached
Document

Justification for
this request

Program Reviewer
Comments

Key: 889

Appendix A:
64-Credit Hour Curriculum and New 96-Credit Hour Option

Current 64 Credit Hour Ph.D. Curriculum, CE and EE

Code	Title	Hours
CEE 599	Thesis Research (min-max applied toward degree)	32
Elective courses (subject to Other Requirements and Conditions below)		32
Total Hours		**64**

Other Requirements

Requirement
Other Requirements and Conditions may overlap
A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.
There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.
64 graduate hours must be completed in residence.
A Master's degree is required for admission to the Ph.D. program.
Ph.D. exam and dissertation requirements:
Qualifying exam
Preliminary exam
Final exam or dissertation defense
Dissertation deposit
The minimum program GPA is 2.75.

New 96 Credit Hour Ph.D. Option, CE and EE

Code	Title	Hours
CEE 599	Thesis Research (min-max applied toward degree)	32-40
Elective courses (subject to Other Requirements and Conditions below)		56-64
Total Hours		**96**

Other Requirements

Requirement
Other Requirements and Conditions may overlap
A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.

Requirement
There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.
24 credit hours must be in major field. 24 credit hours of elective coursework must be at the 500-level, with at least 12 hours in major field.
64 graduate hours must be completed in residence.
Ph.D. exam and dissertation requirements:
Qualifying exam
Preliminary exam
Final exam or dissertation defense
Dissertation deposit
The minimum program GPA is 2.75.

Overview of Both Curriculums Side-by-Side

Ph.D. Degree	Entering with approved MS Degree (64-credit hour curriculum)	Entering with BS Degree (96-credit hour option, consisting of the 64-credit hour curriculum to the left plus the CE/EE MS curriculum)
Total credit towards degree	64 hours	96 hours
CEE 599 Research (minimum applied toward degree)	32	32-40
Elective Coursework	32	56-64