

Date Submitted: 10/01/19 10:33 am

Viewing: **10KS0106PHD : Civil Engineering, PhD**

Last approved: 09/20/19 2:50 pm

Last edit: 11/20/19 8:24 am

Changes proposed by: Rhonda McElroy

Catalog Pages  
Using this  
Program

[Civil Engineering, PhD](#)  
[Environmental Engineering in Civil Engineering, PhD](#)

### 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 8:03 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 5:01 pm  
Jean Hanks (jhanks):  
Approved for KP Dean
5. 10/09/19 5:41 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 7:15 pm  
Kathy Martensen

(kmartens):  
Approved for  
Provost

### History

- 1. Sep 20, 2019 by  
Deb Forgacs  
(dforgacs)

## Proposal Type

Proposal Type:  
Major (ex. Special Education)

This proposal is  
for a:  
Revision

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 Civil Engineering to add a 96-Credit Hour Option, Department of Civil and Environmental Engineering (CEE), The Grainger College of Engineering ~~admin-removal-of-grad-college-link.~~**

Is this program available on campus and online? **No**

Official Program Name Civil Engineering, PhD

Banner/Codebook Name

PHD:Civil Engineering -UIUC

Corresponding Degree      PhD Doctor of Philosophy

Program Code:            10KS0106PHD

Major Code	0106	Minor Code		Conc Code		Degree Code
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0106

EP Control Number      **EP.20.46**

Senate Approval Date

Senate Conference Approval Date

BOT Approval Date

IBHE Approval Date

Effective Date:

Effective Catalog Term      Fall 2020

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**      College Contact  
**Graduate, Professional and Online**      Email  
**Programs**  
**danko@illinois.edu**

Is this program interdisciplinary?

No

Academic Level            Graduate

Will you admit to the concentration directly?

Is a concentration  
required for  
graduation?

CIP Code 140801 - Civil Engineering, General.

## Program Description and Justification

Justification for proposal change:

### **Program Description**

**CEE would like to add a 96-credit hour option to the current PhD curriculum in Civil 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 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 CE 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 CE 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 CE 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 CE: 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

## Admission Requirements

Desired **Fall 2020**  
Admissions Term

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 CE 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

Describe how this revision will impact enrollment and degrees awarded.

**The enrollment in the CE or EE master's degree may decrease some. CEE will admit students that wish to earn their PhD into the Direct PhD curriculum vs. the master's degree. In addition, this change may effect the number of master's degree awarded. Students in the Direct PhD curriculum will have the option to earn a master's degree along the way, but not all will choose to do so.**

Estimated Annual Number of Degrees Awarded

Year One Estimate

5th Year Estimate (or when fully implemented)

What is the matriculation term for this program?

Fall

Delivery Method

This program is available:

Face-to-Face

## Budget

Are there budgetary implications for this revision?

No

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 CE and 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?

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

## 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.

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.

Revised programs [Appendix A-CE-EE PhD CurriculumChanges-Final.docx](#)

Attach a side-by-side comparison with the existing program AND, if the revision references or adds "chose-from" lists of courses students can select from to fulfill requirements, a listing of these courses, including the course rubric, number, title, and number of credit hours.

#### 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
<a href="#">CEE 599</a>	Thesis Research (min-max applied toward degree)	<b>32</b>
	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 <a href="#">CEE 597</a> (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.	

## Requirement

Description

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.

## Entering with an approved Baccalaureate Degree:

### Course List

Code	Title	Hours
<b><u>CEE 599</u></b>	<b>Thesis Research</b>	<b>32-40</b>
<b>Elective Courses (subject to Other Requirements and Conditions below)</b>		<b>56-64</b>
<b>Total Hours</b>		<b>96</b>

## 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.**

**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 exam1**

**Preliminary exam**

**Final exam or dissertation defense**

**Dissertation deposit**

**The minimum program GPA is 2.75.**

**1 [Qualifying Exam Information](#)**

**~~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: 167

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

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

Code	Title	Hours
<a href="#">CEE 599</a>	Thesis Research (min-max applied toward degree)	32
Elective courses (subject to Other Requirements and Conditions below)		32
<b>Total Hours</b>		<b>64</b>

**Other Requirements**

Requirement
Other Requirements and Conditions may overlap
A maximum of 8 hours of <a href="#">CEE 597</a> (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
<a href="#">CEE 599</a>	Thesis Research (min-max applied toward degree)	32-40
Elective courses (subject to Other Requirements and Conditions below)		56-64
<b>Total Hours</b>		<b>96</b>

**Other Requirements**

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

<b>Requirement</b>
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

<b>Ph.D. Degree</b>	<b>Entering with approved MS Degree</b> (64-credit hour curriculum)	<b>Entering with BS Degree</b> (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