

**APPROVED BY SENATE**  
**02/08/2021**

# 10KS3846PHD: SYSTEMS & ENTREPRENEURIAL ENGINEERING, PHD

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## In Workflow

1. U Program Review (dforgacs@illinois.edu; eastuby@illinois.edu; aledward@illinois.edu)
2. 1422 Head (thurston@illinois.edu; hcraddoc@illinois.edu; lredman@illinois.edu)
3. KP Committee Chair (mch@illinois.edu; bsnewell@illinois.edu; danko@illinois.edu; kcp@illinois.edu)
4. KP Dean (candyd@illinois.edu)
5. University Librarian (jpwilkin@illinois.edu)
6. Grad\_College (agrindly@illinois.edu; jch@illinois.edu; lowry@illinois.edu)
7. Provost (kmartens@illinois.edu)
8. Senate EPC (bjlehman@illinois.edu; moorhouz@illinois.edu; kmartens@illinois.edu)
9. Senate (jtempel@illinois.edu)
10. U Senate Conf (none)
11. Board of Trustees (none)
12. IBHE (none)
13. DMI (eastuby@illinois.edu; aledward@illinois.edu; dforgacs@illinois.edu)

## Approval Path

1. Mon, 12 Oct 2020 16:05:58 GMT  
Deb Forgacs (dforgacs): Approved for U Program Review
2. Thu, 15 Oct 2020 19:07:46 GMT  
Deborah Thurston (thurston): Approved for 1422 Head
3. Tue, 17 Nov 2020 19:29:13 GMT  
Keri Pipkins (kcp): Approved for KP Committee Chair
4. Tue, 17 Nov 2020 20:59:31 GMT  
Candy Deaville (candyd): Approved for KP Dean
5. Tue, 17 Nov 2020 22:15:52 GMT  
John Wilkin (jpwilkin): Approved for University Librarian
6. Thu, 10 Dec 2020 20:05:32 GMT  
Allison McKinney (agrindly): Approved for Grad\_College
7. Thu, 10 Dec 2020 20:39:49 GMT  
Kathy Martensen (kmartens): Approved for Provost

## History

1. May 9, 2019 by Deb Forgacs (dforgacs)
2. Jul 1, 2019 by Mary Lowry (lowry)

Date Submitted: Mon, 12 Oct 2020 16:04:56 GMT

## Viewing: 10KS3846PHD : Systems & Entrepreneurial Engineering, PhD

Changes proposed by: Lauren Redman

## 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***

PhD revision with multiple minor revisions

The other programs that are tied to this revision include:

IE, MS -- key 337

IE, PHD -- key 336

SE, MS -- key 338

**EP Control Number**

EP:21.053

**Official Program Name**

Systems & Entrepreneurial Engineering, PhD

**Effective Catalog Term**

Fall 2021

**Sponsor College**

Grainger College of Engineering

**Sponsor Department**

Industrial and Enterprise Systems Engineering

**Sponsor Name**

Lauren Redman

**Sponsor Email**

lredman@illinois.edu

**College Contact**

Harry Dankowicz

**College Contact Email**

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## Program Description and Justification

### Justification for proposal change:

The Department of Industrial and Enterprise Systems Engineering would like to align both the Industrial Engineering and Systems & Entrepreneurial Engineering curriculum requirements. This has no implication for students from a financial aspect and should make the requirements much more clear to avoid confusion that we currently experience.

In particular, we are proposing the following:

PhD With Approved Masters:

- \*Increase the number of SE courses (removing IE courses as option, unless approved)
- \*Decreasing the number of electives (due to increase of SE courses) and structuring the electives -- STEM courses and open electives
- \*Defining the STEM courses that will count toward the degree

PhD With Approved Bachelors:

- \*Increasing the number of thesis hours required
- \*Increase the number of SE courses (removing IE courses as option, unless approved)
- \*Reducing the number of electives (due to increase of thesis) and structuring the electives -- STEM courses and open electives
- \*Defining the STEM courses that will count toward the degree

### Corresponding Degree

PhD Doctor of Philosophy

### Is this program interdisciplinary?

No

### Academic Level

Graduate

### Will you admit to the concentration directly?

No

### Is a concentration required for graduation?

No

### CIP Code

142701 - Systems Engineering.

### Is This a Teacher Certification Program?

No

### Will specialized accreditation be sought for this program?

No

## **Admission Requirements**

**Is this revision a change to the admission status of the program?**

No

## **Enrollment**

**Describe how this revision will impact enrollment and degrees awarded.**

No impact in enrollment or degrees awarded is expected

**Estimated Annual Number of Degrees Awarded**

**What is the matriculation term for this program?**

Fall

**What is the typical time to completion of this program?**

5 years

**What are the minimum Total Credit Hours required for this program?**

64

## **Delivery Method**

**Is this program available on campus and online?**

No

**This program is available:**

On Campus

## **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

## 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

**For each of these items, be sure to include in the response if the proposed new program or change will result in replacement of another program(s). If so, which program(s), what is the anticipated impact on faculty, students, and instructional resources? Please attach any letters of support/acknowledgement from faculty, students, and/or other impacted units as appropriate.**

Faculty Resources

Library Resources

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 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?**

No financial impact is expected

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

No

**Are you seeking a change in the tuition rate or differential for this program?**

Yes

**Is this program requesting self-supporting status?**

No

## Program Regulation and Assessment

**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

PhDSEE ProposedChanges 101220.pdf

**Attach a side-by-side comparison with the existing program AND, if the revision references or adds "chosed-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

**Statement for Programs of Study Catalog**

## Entering with approved M.S./M.A. degree

Code	Title	Hours
SE 599	Thesis Research <sup>A</sup> A maximum of 32 credit hours of SE 599 (or other approved thesis) may be counted toward the degree	32
SE 590	Seminar (registration for 0 hours every term while in residence)	0
Approved SE and IE courses		16
Elective courses – chosen in consultation with advisor (subject to Other Requirements and Conditions below)		16
400/500-level SE Courses		20
STEM courses from outside of major <sup>B</sup> STEM courses must be approved and be from a College of Engineering department, including ABE and CHBE (or other approved department). Excludes TEC and ENG courses.		12
Total Hours		64

## Other Requirements and Conditions (may overlap)

Requirement	Description
Other Requirements and Conditions may overlap	
Minimum 500-level credit hours applied toward the degree, all of which must from a College of Engineering department, including ABE and CHBE.	16
The Elective courses must be at the 500-level and from a College of Engineering department including ABE and CHBE.	
A maximum of 8 hours of IE 597 (or other approved independent study) may be applied toward the elective course work requirement.	
At least 64 hours of credit, which may include SE 599, must be earned in residence.	
Minimum GPA:	3.25
Minimum 500-level credit hours applied toward the degree:	16
Independent study/project design do not count toward 500-level requirement.	
A maximum of 8 credit hours of SE 594 (or other approved project design/ independent study) may be counted toward the degree.	
Ph.D. exam and dissertation requirements:	
Qualifying exam	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	

## Entering with approved B.S./B.A. degree

Code	Title	Hours
SE 599	Thesis Research <sup>A</sup> A maximum of 40 credit hours of SE 599 (or other approved thesis) may be counted toward the degree	40
SE 590	Seminar (registration for 0 hours every term while in residence)	0
Approved SE and IE courses		16
Elective courses – chosen in consultation with advisor (subject to Other Requirements and Conditions below)		16
400/500-level SE Courses		32
STEM courses from outside of major <sup>B</sup> STEM courses must be approved and be from a College of Engineering department, including ABE and CHBE (or other approved department). Excludes TEC and ENG courses.		12
Electives in consultation with advisor		12
Total Hours		96

## Other Requirements and Conditions (may overlap)

Requirement	Description
Other Requirements and Conditions may overlap	
Minimum 500-level credit hours applied toward the degree, all of which must from a College of Engineering department, including ABE and CHBE.	28
The Elective courses must be at the 500-level and from a College of Engineering department including ABE and CHBE.	

A maximum of 8 hours of E 597 (or other approved independent study) may be applied toward the elective course work requirement.

At least 64 hours of credit, which may include SE 599, must be earned in residence.

Minimum GPA: 3.25

Minimum 500-level credit hours applied toward the degree: 28

Independent study/project design do not count toward 500-level requirement.

A maximum of 8 credit hours of SE 594 (or other approved project design/independent study) may be counted toward the degree.

Ph.D. exam and dissertation requirements:

Qualifying exam

Preliminary exam

Final exam or dissertation defense

Dissertation deposit

## EP Documentation

## DMI Documentation

### Banner/Codebook Name

PHD:Sys&Entreprnural Eng-UIUC

### Program Code:

10KS3846PHD

### Degree Code

PHD

### Major Code

3846

### Program Reviewer Comments

Deb Forgacs (dforgacs) (Mon, 12 Oct 2020 15:36:40 GMT):Rollback: requested.

Key: 335



**10KS3846PHD Program Code**  
**Effective Fall 2021**

<b>PhDSEE Approved Masters Current</b>		<b>PhDSEE Approved Masters Proposed</b>	
Thesis credit (SE 599)	32	Thesis credit (SE 599)	32
Seminar registration each semester (IE 590)	0	Seminar registration each semester (SE 590)	0
Approved SE and IE courses	16	400/500-level SE Courses	20
Electives in consultation with advisor	16	STEM courses from outside of major	12
<b>Total</b>	<b>64</b>	<b>Total</b>	<b>64</b>

A minimum of 16 credit hours of 500-level credit must be applied toward the degree, all of which must from a College of Engineering department, including ABE and CHBE.

At least 16 hours of 500-level credit must be applied toward the degree. Independent study/project design do not count toward 500-level requirement.

STEM courses must be approved and be from a College of Engineering department, including ABE and CHBE (or other approved department). Excludes TEC and ENG courses.

A maximum of 8 hours of IE 597 (or other approved independent study) may be applied toward the elective course work requirement.

A maximum of 8 credit hours of SE 594 (or other approved project design/independent study) may be counted toward the degree.

PhD exam and dissertation requirements: qualifying exams, preliminary exam, final exam or dissertation defense, dissertation deposit.

PhD exam and dissertation requirements: qualifying exams, preliminary exam, final exam or dissertation defense, dissertation deposit.

Minimum GPA: 3.25

Minimum GPA: 3.25

*The Elective courses must be at the 500-level and from a College of Engineering department including ABE and CHBE.*

*At least 64 hours of credit, which may include SE 599, must be earned in residence.*

<b>PhDSEE Approved Bachelors Current</b>		<b>PhDSEE Approved Bachelors Proposed</b>	
Thesis credit (SE 599)	36	Thesis credit (SE 599)	40
Seminar registration each semester (IE 590)	0	Seminar registration each semester (SE 590)	0
Approved SE and IE Courses	28	400/500-level SE Courses	32
Electives in consultation with advisor	32	STEM courses from outside of major	12
		Electives in consultation with advisor	12
<b>Total</b>	<b>96</b>	<b>Total</b>	<b>96</b>

A minimum of 28 credit hours of 500-level credit must be applied toward the degree, all of which must from a College of Engineering department, including ABE and CHBE.

At least 28 hours of 500-level credit must be applied toward the degree. Independent study/project design do not count toward 500-level requirement.

STEM courses must be approved and be from a College of Engineering department, including ABE and CHBE (or other approved department). Excludes TEC and ENG courses.

A maximum of 8 hours of IE 597 (or other approved independent study) may be applied toward the elective course work requirement.

A maximum of 8 credit hours of SE 594 (or other approved project design/independent study) may be counted toward the degree.

PhD exam and dissertation requirements: qualifying exams, preliminary exam, final exam

preliminary exam, final exam or dissertation defense, dissertation deposit.

Minimum GPA: 3.25

Minimum GPA: 3.25

*The Elective courses must be at the 500-level and from a College of Engineering department including ABE and CHBE.*

*At least 64 hours of credit, which may include SE 599, must be earned in residence.*