

**UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN SENATE**  
**COMMITTEE ON EDUCATIONAL POLICY**  
 (Final; Information)

EP.25.035      Report of Administrative Approvals Through November 4, 2024

In accordance with Part B.9.a of the Senate *Bylaws*, "Senate committees are authorized to act for and in the name of the Senate on minor matters. Such actions shall be reported promptly to the Senate..." Below is a listing of items categorized as administrative approvals and approved by the Senate Committee on Educational Policy in the name of the Senate on the dates indicated. For each program listing, there is no change to the total hours required. Additional information for each approval is attached.

**Section 1. This Section Approved by EP on November 18, 2024**

**A. Graduate Programs**

1. **Revise the Master of Science in Journalism in the College of Media and the Graduate College (key 339)** – updates the Program of Study table to campus standards, which includes removing footnotes; reduces the number of project hours (JOUR 515) from 8 to 4 credit hours; eliminates JOUR 501 and 500 as a requirement; increases elective hours from 12 to 24. With this increase, the number of hours required for the degree remain the same. The program requires a minimum of 12 hours of journalism elective coursework. The Director of Graduate Studies must approve any non-Journalism courses chosen as electives.; requests an online program code for students electing to complete the degree completely online; and eliminates the GRE requirement for admission.
2. **Revise the Graduate Certificate in Human Resource Management in the School of Labor and Employment Relations and the Graduate College (key 1123)** - changes the requirement from 3 required courses, where one had an alternative course option, that students must take to be a choice from a list of 6 courses where students select 3 courses.; adds LER 595 and LER 537 to the list of course choices.; adds an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.; updates admissions requirements to remove the 'interview' with applicants.; updates how the learning objectives are assessed; and updates length to completion to weeks with a shorter completion timeframe. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.
3. **Revise the Graduate Certificate in Human Resources Data Analytics in the School of Labor and Employment Relations and the Graduate College (key 1126)** – changes the requirement from 3 required courses to be a choice from list from 4 courses where students select 3 courses.; adds LER 568 to the list of course choices.; adds an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.; updates admissions requirements to remove the 'interview' with applicants.; updates how the learning objectives are assessed.; updates to matriculation will be noted on revision. There are noted changes in red within the matriculation term. The content

remains unchanged, but edits were highlighted.; and updates length to completion to weeks with a shorter completion timeframe. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.

4. **Revise the Graduate Certificate in Fundamentals of Human Resources in the School of Labor and Employment Relations and the Graduate College (key 1119)** - changes the requirement from 3 required courses, where one had an alternative course option that students must take to be a choice from list from 6 courses where students select 3 courses.; adds LER 539 and LER 522 to the list of course choices.; adds an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.; updates admissions requirements to remove the 'interview' with applicants.; updates how the learning objectives are assessed.; updates learning outcomes section with formatting changes, but the content of the learning outcomes will remain unchanged. There were a few items that needed to be numbered and a few grammatical errors.; updates matriculation as the revisions allow individuals more options for starting and completing the program.; and updates length to completion to weeks with a shorter completion timeframe. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.
5. **Revise the Joint Program in the Master of Architecture in Architecture and Master of Urban Planning in Urban Planning in the College of Fine and Applied Arts and the Graduate College (KEY 1084)** – revises Program of Study to clarify joint program requirements and overlap; and changes GPA to 3.0 for the joint program in the Program Features section.

#### **B. Undergraduate Programs**

1. **Revise the Bachelor of Science in Sustainable Design in the College of Fine and Applied Arts (key 614)** - revises ARCH 273 in list of SD major electives so that the course is 4 hours (correct) instead of 3 hours as currently listed
2. **Revise the Bachelor of Science in Mechanical Engineering in the Grainger College of Engineering (key 120)** – updates technical electives to remove 10 courses with red-box error; updates technical electives (including professional technical electives) to include 70 additional MechSE Undergraduate Programs Committee approved courses; updates technical electives (including Professional technical electives) to include 46 cross-listed courses; moves ECON 102 or ECON 103 into major requirement; and modifies the formatting of the POS and additional text (e.g., graduation requirements, university requirements, and general education requirements) to adhere to the campus General Education Template.

### **Section 2. This Section Approved by EP on December 2, 2024**

#### **A. Graduate Programs**

1. **Revise the Master of Science in Recreation, Sport and Tourism in the College of Applied Health Sciences and the Graduate College (key 421)** – edits elective hours from 12 to 8 hours and defines additional coursework such that students are allowed to choose any 500-level or 400-level (approved for graduate credit) UIUC course outside of RST. The choice will need to be made in consultation with the academic advisor.
2. **Revise the Graduate Certificate in Compensation Best Practices in the School of Labor and Employment Relations and the Graduate College (key 1121)** – changes the requirement from 3 required courses that students must take to be a choice from a list of 5 courses where students select 3 courses.; adds LER 543 and LER 535 to the list of course choices.; adds an updated statement in the Program of Study table

regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.; updates how the learning objectives are assessed.; updates admissions requirements as we no longer have an 'interview' with applicants.; and updates time to completion.

3. **Revise the Concentration in Learning Design & Leadership in the College of Education and the Graduate College (key 996)** – revises concentration coursework to add EPOL 479.

#### **B. Undergraduate Programs**

1. **Revise the Bachelor of Science in Strategy, Innovation, and Entrepreneurship in the Gies College of Business (key 517)** – removes the special topics section of FIN 490 listed as an elective with the permanent course number of FIN 380.
2. **Revise the Bachelor of Science in Bioengineering in the Grainger College of Engineering (key 112)** – merges five separate track elective categories into a single 'technical electives' category, which includes all previously available track electives; excludes from the technical elective course list track-specific recommended free electives (SE 101, MCB 450, CHEM 442); eliminates duplicate courses from the technical elective course list; removes BIOE 416 to reduce redundancy since it is listed under home department rubric of ECE 416; and reorganizes technical elective course list in alphanumeric order.
3. **Revise the Bachelor of Science in Media and Cinema Studies in the College of Media (key 290)** – adds MACS 205 and MACS 284 and MACS 317 to the history course options in the Critical Media Production track; adds MACS 317 to the history course options in the General track; and updates the program of study to include general education requirements.
4. **Revise the Bachelor of Science in Chemical Engineering in the College of Liberal Arts and Sciences (key 268)** – removes STAT 400 from the List 2 technical electives list; and removes CHBE 411 from the List 1 technical electives list and thus adds it to the excluded core course list.
5. **Revise the Concentration in Biomolecular Engineering in the Bachelor of Science in Chemical Engineering in the College of Liberal Arts and Sciences (key 734)** - removes STAT 400 from the List 2 technical electives list; and removes CHBE 411 from the List 1 technical electives list and thus adds it to the excluded core course list.

Date Submitted: 04/29/24 9:31 am

Viewing: **10KS0278MS : Journalism, MS**

Last approved: 01/21/20 4:45 pm

Last edit: 11/07/24 2:03 pm

Changes proposed by: Mira Sotirovic

Catalog Pages

Using this

Program

[Journalism, MS](#)

Proposal Type:

In Workflow

1. U Program Review

2. 1642 Committee Chair

3. 1642 Head

4. KT Committee Chair

5. KT Dean

6. University Librarian

7. Grad\_College

8. COTE Programs

9. Provost

10. Senate EPC

11. Senate

12. U Senate Conf

13. Board of Trustees

14. IBHE

15. HLC

16. DOE

17. DMI

Approval Path

1. 05/01/24 11:53 am  
Donna Butler (dbutler):  
Approved for U Program Review

2. 07/02/24 10:59 am  
Alison Davis (alison7):  
Approved for 1642 Committee Chair

3. 07/02/24 3:02 pm  
Mira Sotirovic (sotirovi):  
Approved for 1642 Head

4. 09/24/24 11:53 am

- Jenny Oyallon-Koloski (joyallon):  
Approved for KT  
Committee Chair
5. 09/24/24 11:54  
am  
Katie Clark  
(keclark):  
Approved for KT  
Dean
6. 09/24/24 1:16 pm  
Tom Teper  
(tteper): Approved  
for University  
Librarian
7. 11/05/24 3:27 pm  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College
8. 11/06/24 10:10  
am  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
9. 11/07/24 10:06  
am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. May 8, 2019 by  
Deb Forgacs  
(dforgacs)
2. Jan 21, 2020 by  
Mary Lowry  
(lowry)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

# Administration Details

Official Program Name      Journalism, MS

Diploma Title

Sponsor College      Media, College of

Sponsor Department      Journalism

Sponsor Name      [Mira Sotirovic](#)

Sponsor Email      [sotirovi@illinois.edu](mailto:sotirovi@illinois.edu)

College Contact      [Katie Clark](#)

College Contact Email

[keclark@illinois.edu](mailto:keclark@illinois.edu)

College Budget Officer

College Budget Officer Email

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog Term      Fall 2024

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Master of Science in Journalism in the College of Media and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

# Program Justification

Provide a brief description of what changes are being made to the program.

The specific proposed revisions are:

1. Updating the Program of Study table to campus standards, which includes removing footnotes in both sections.
2. Reduce the number of project hours (JOUR 515) from 8 to 4 credit hours.
3. Eliminate JOUR 501 as a requirement.
4. Eliminate JOUR 500 as a requirement.
5. Increase elective hours from 12 to 24. With this increase, the number of hours required for the degree will remain the same. The program requires a minimum of 12 hours of journalism elective coursework. The Director of Graduate Studies must approve any non-Journalism courses chosen as electives.
6. Request an online program code for students electing to complete the degree completely online.

The faculty also have decided to eliminate the GRE requirement for admission.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1. Updating Program of Study. This is necessary to achieve transparency and for accessibility reasons.
2. Reduce the number of project hours (JOUR 515) from 8 to 4 credit hours. Currently, the project requires course work that extends into the summer semester. All our faculty have nine-month appointments, and no funding is available for the summer project supervision. By reducing the number of project hours to four, the students will be able to complete their projects during the spring semester.
3. Eliminate JOUR 501 as a requirement. The Department of Journalism received funding from the University of Illinois Investment for Growth program in 2022 to develop interdisciplinary curricular infrastructure for science and technology communication education on the undergraduate and graduate level. On the graduate level this initiative led to the development of an online science and technology journalism track. The modules created for this track do not depend or build on multimedia skills taught in JOUR 501, which makes this course unnecessary requirement.
4. Eliminate JOUR 500 as a requirement. We want to allow MS students flexibility to take JOUR 590 Advanced Topics in Science and Technology Journalism and other specialized electives to complete their degree.
5. Increase elective hours to 24. With this increase, the number of hours required for the degree will remain the same. We want to allow students to pursue a topical specialization in areas inside or outside Journalism department. In the past year, to support teaching in the area of science journalism, we hired three new faculty who will offer new online graduate electives in journalism.
6. Request an online program code. Because the program is now available for students to complete in-person or online, we will need an online program code to ensure students are assessed the appropriate tuition and fees.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

# Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

1. Knowledge of principles of journalism and its history and trends.
2. Expertise in news gathering through documents and data, interviews, and field observation.
3. Expertise in one of the major presentations methods in journalism, choosing among text, audio or video presentation, with an understanding of all of these presentation methods include the use of mobile devices.
4. An understanding of professional journalism, including its changing business models, job descriptions and increasing cross-disciplinary collaborations.
5. An understanding of various qualitative and quantitative methods in data journalism.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Learning outcomes #1 and #4 are assessed through satisfactory completion of the foundational pro-seminar (JOUR 505), which addresses issues, trends and ethics in journalism. Students complete weekly reading response assignments and a final, in-depth paper on a challenge facing journalism.

Learning outcomes #2, #3 and #5 are assessed via the production of work that is of professional quality. The bulk of student's coursework focuses on skill attainment, so the successful completion of journalistic stories in a variety of formats (e.g., text, audio, video, augmented and virtual reality) that are ready for publication or broadcast is the key factor in assessing learning. Students further demonstrate their proficiency via an independent reporting project (JOUR 515) culminating in publishable journalistic work that may take the form of a series of stories, a short documentary, a multimedia presentation, or the like.

Overall, students' success in obtaining internships and full-time employment is another key measure for determining whether learning outcomes have been achieved.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program [MS Journalism Letter.pdf](#)

Description and

Requirements

Attach Documents

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

## 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/PublicAdminRules2017.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.*

Revised programs [JOUR, MS\\_SideBySide.docx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

### Catalog Page Text - Overview Tab

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

The Master of Science (MS) in Journalism prepares students for professional roles in a wide variety of organizations, from online, print and broadcast news outlets to nonprofit, higher education and government communication offices where journalistic skills are highly valued. The course work includes reporting, writing, multimedia and emerging media skills and completion of a professional project. Students may opt to specialize in science and technology journalism and/or data journalism via certificates.

The program is designed to meet the educational goals of 1) students who have recently earned a bachelor's degree in Journalism or a related field and want to explore a specific type of journalism in greater depth, 2) mid-career journalists and other professional communicators who want to expand their professional skills, and 3) students with a background in science, technology, engineering and math seeking to complement their expertise with journalistic skills for communicating it to the public.

This program is professional in nature and not intended for students interested in graduate study leading to the PhD. Students interested in pursuing a doctorate may want to consider applying to the PhD in Communications and Media offered in the Institute of Communications Research.

Statement for

Programs of  
Study Catalog

Master of Science in Journalism ~~1- Other Requirements~~  
~~±~~

~~1 Undergraduates pursuing a B.S. in Journalism at Illinois are eligible to apply for the M.S. under a joint B.S./M.S. degree program. The B.S./M.S. requires a greater number of credit hours and more theoretical courses than the B.S./M.J. program. Students can apply for the B.S./M.S. program in the first semester of their junior year and, once admitted, are encouraged to select their remaining undergraduate journalism elective courses at the 200- and 300-level from courses covering skills other than those they emphasized in completing their undergraduate degree. As graduate students, they will enroll in a minimum of four advanced electives at the 400- and 500-levels, in addition to the required graduate courses JOUR 500, 505, and 515 (sections A and B). Electives may be in areas inside or outside Journalism to allow them to pursue a topical specialization. Those electives would require the approval of the Director of Graduate Studies. The B.S./M.S. requires a minimum of 16 hours of 500-level coursework, a 3.0 or higher GPA, and additional details and requirements are available on the department's website and in the Graduate College Handbook.~~

~~2 The Director of Graduate Studies must approve any non-Journalism courses chosen as electives.~~

First-Year

Fall Semester	Hours	Spring Semester	Hours	Summer Semester	Hours
JOUR 501	4	JOUR 500	4	JOUR 515 (Section B)	4
JOUR 505	4	JOUR 515 (Section A)	4	-	-
Electives—minimum of 4	4	Electives—minimum of two	8	-	-
hours at the JOUR 4—level2		JOUR 4—courses2			
-	0	-	0	-	0
Total Hours 0					

#### Course List

Code	Title	Hours
<u>JOUR 505</u>	<u>Journalism Proseminar</u>	<u>4</u>
<u>JOUR 515</u>	<u>Master's Project</u>	<u>4</u>
<u>Electives</u>		<u>24</u>

Minimum of 12 hours of elective coursework in journalism. The Director of Graduate Studies must approve any non-journalism courses chosen as electives. Students in the online Science & Technology Journalism specialization will be required to take all 24 hours of electives in Journalism online.

Total Hours 32

#### Other Requirements

Grad Other Degree Requirements

Requirement	Description
Other requirements may overlap	
Minimum 500-level Hours Required Overall: 16	
Minimum GPA:	3.0

Corresponding MS Master of Science Degree

## Program Features

Academic Level	Graduate
Does this major have transcripted concentrations?	<u>No</u>

What is the typical time to completion of this program?

9 months

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

32

What is the  
required GPA?

3.0

CIP Code                      090401 - Journalism.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is  
available:

~~On Campus—Students are required to be on campus, they may take some online courses.~~

On Campus and Online - 2 program types. Students can receive the entire program either on campus or online. Students can choose to take courses in either modality.

Describe the use of this delivery method:

The MS program in Journalism can be completed on campus or online; the latter option involves focusing on science, technology and data journalism, as those courses are offered online. The required seminar course (JOUR 505) and required master's project (JOUR 515) are offered in synchronous online format.

## Admission Requirements

Desired Effective      Fall 2024  
Admissions Term

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

No

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.

The Graduate College admission requirements apply. Specifically, the admission requirements are a minimum grade point average of 3.0 (A = 4.0) for the last two years of undergraduate work and any graduate work completed. In accordance with Graduate College requirements, applicants must receive a minimum score on the TOEFL of 103 and on the IELTS a minimum score of 7.5. Students are also required to provide a personal statement, a writing sample, and three letters of reference (at least one should be an academic reference). Students are admitted to begin graduate study in the fall semesters.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

The department is hopeful that clarifying how a student can complete the degree program in a single academic year and creating online certificate options that are stackable toward the degree will increase enrollment and number of degrees awarded.

Estimated Annual Number of Degrees Awarded

Year One Estimate	5th Year Estimate (or when fully implemented)
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What is the matriculation term for this program?	Fall
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Budget

Are there budgetary implications for this revision?	No
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Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?	No
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Additional Budget Information

Attach File(s)

Financial Resources

How does the unit intend to financially support this proposal?

1. All required courses in the revised M.S. in journalism program have already been funded by the departmental instructional budget.

2. The Department of Journalism and the Institute for Genomic Biology (IGB) have received a \$283,668 Investment for Growth grant to develop Science and Technology Communication Curricula at the University of Illinois. We use the funding partly to develop the science journalism track within our existing M.S. in journalism program. The funding supports the creation of online courses and their teaching (see the attached funding document).

3. The Department of Journalism is committed to continuing to fund the teaching of online courses in the science journalism track through tuition revenue generated by the students enrolled in the program. Our goal is to rebuild the program to a class size of 15-20 students per year.

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

No

Attach letters of support [IfG grant funding.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

On-campus students will pay the Grad Advertising/Journalism rate. Online students will pay the Grad Base Rate for online programs.

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

No

Is this program requesting self-supporting status?

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

No impact on faculty resources is anticipated. No changes to student advising.

## 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.

Library collections, resources and services are sufficient to support the MS in Journalism program.

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook                      MS:Journalism - UIUC  
Name

Program Code:                      10KS0278MS

Minor Code 0278	Conc Code	Degree Code	MS	Major Code
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Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval  
Date

Effective Date:

Program Reviewer                      **Mary Lowry (lowry) (04/22/24 11:33 am):** Rollback: Please see email dated  
Comments                      4-22-24 for more information.  
**Brooke Newell (bsnewell) (11/06/24 1:08 pm):** Per Mary Lowry from Grad  
College re: reason for elimination of GRE requirement for admission - "Most programs  
have eliminated it or made it optional. It's not a good indicator of success in grad  
school."

Date Submitted: 09/30/24 4:00 pm

Viewing: **1PKS5715GCRU : Human  
Resource Management, GCRT  
(online)**

Last approved: 06/12/24 11:38 am

Last edit: 11/08/24 9:57 am

Changes proposed by: Eden Haycraft Smothers

Human Resource Management, CERT

Catalog Pages  
Using this  
Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1568 Head
- 3. LG Dean
- 4. University Librarian
- 5. Grad\_College
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DOE
- 15. DMI

Approval Path

- 1. 10/15/24 9:25 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 10/31/24 1:48 pm  
Becky Barker (ebarker):  
Approved for 1568 Head
- 3. 10/31/24 1:50 pm  
Lynne HovelN (lhovelN):  
Approved for LG Dean
- 4. 11/05/24 10:58 am  
Claire Stewart (clairest):  
Approved for University Librarian
- 5. 11/06/24 9:45 am

Allison McKinney  
(agrindly):  
Approved for  
Grad\_College  
6. 11/06/24 10:10  
am  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs  
7. 11/07/24 10:06  
am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Jan 20, 2023 by  
Eden Haycraft  
Smothers  
(ehaycra)
2. Jun 12, 2024 by  
Emily Stuby  
(eastuby)
3. Jun 12, 2024 by  
Emily Stuby  
(eastuby)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Human Resource Management, GCRT (online)
Diploma Title	Graduate Certificate in Human Resource Management
Sponsor College	Labor & Empl. Relations, School of
Sponsor Department	Labor & Employment Relations
Sponsor Name	Eden Haycraft <a href="#">Smothers</a>
Sponsor Email	ehaycra@illinois.edu

College Contact      Eden Haycraft Smothers ~~Becky Barker~~

College Contact  
Email

ehaycra@illinois.edu ~~ebarker@illinois.edu~~

College Budget      Wyatt Martin  
Officer

College Budget      wjmartin@illinois.edu  
Officer Email

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Eden Haycraft (ehaycra@illinois.edu), Becky Barker (ebarker@illinois.edu), Amit Kramer (kram@illinois.edu)

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog      Spring 2025  
Term

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Graduate Certificate in Human Resource Management in the School of Labor and Employment Relations and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief  
description of  
what changes are  
being made to the  
program.

Below are the changes outlined in the revision.

1. Changing the requirement from 3 required courses, where one had an alternative course option, that students must take to be a choice from a list of 6 courses where students select 3 courses.
2. Adding LER 595 and LER 537 to the list of course choices.
3. Adding an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.
4. Update to admissions requirements as we no longer have an 'interview' with

applicants.

5. Update on how the learning objectives are assessed.

6. Length to completion has been updated to weeks with a shorter completion timeframe.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

Below outlines the justification for each of the outlined changes above.

1. Expanding course options will enable students to complete each certificate more quickly, resulting in a shorter overall program duration. This adjustment will help align our certificates with those offered by competing institutions. Currently, completing this certificate takes two to three semesters, with three semesters often being too lengthy. With the new course choices, students could finish the certificate in just one semester, benefiting those who need to expedite their education. While the certificate programs qualify for financial aid, students must enroll in at least two courses per semester. By providing more course options, we can enhance financial aid opportunities for students. One of the main challenges LER faces when speaking with prospective certificate students is the duration of completion. This shorter completion time was also identified as an area for improvement when we had our programs evaluated by Hanover Research, which highlighted opportunities to make our programs more appealing.
2. Additional courses will allow students the ability to start and complete the program at various times throughout the year without a long lag time between the application to starting the program. The additional courses added within the revision (LER 595 and LER 537) were identified by faculty as a course that could assist in building upon leadership and management skills.
3. The Program of Study table needed revisions to accurately reflect the course additions and which master's program requirements could be fulfilled by this certificate offering in case individuals want to explore the master's program in the future. The credit hours required to complete the certificate remains unchanged (12 total credit hours).
4. LER realized that instead of using the word 'interview' we would conduct short informal info sessions with each applicant that will allow the applicant to ask questions regarding the certificate, course offerings, and what they can expect from engaging in the certificate. When listing this as an 'interview' we felt it was providing a barrier to entry that LER wants to avoid. A new statement is not needed as the informal info session is not a requirement.
5. There were new questions asked regarding assessment of learning objectives that we answered on the revision.
6. There are noted changes in red within the typical time to completion of the program. Again, pointing to the improved completion timeframe for learners. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.

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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Below is a subset of learning outcomes from our MHRIR degree program. These outcomes are specific to the Human Resources Management Certificate. LER utilized HRCI's Human Resources Body of Knowledge to inform our learning objectives and has recently (January 2022) received "exceeds expectations" score from the Office of the Provost Learning Outcomes Assessment of its MHRIR degree program.

1. Students will apply Business Management and Strategy to shape immediate and long-term HR activities, practices, and policies. Students will critically examine the complex link between strategy and business practices, understand and apply workforce metrics to drive decision-making, and apply a strategic lens to international human resources.
2. Students will lead Employee and Labor Relations by managing workforce relationships, developing inclusive and respectful company culture, and building communication systems.
3. To support Human Resource Development, students will support organizational priorities by managing employee performance through evaluating gaps between employee performance and the desired state, building programs to address these gaps, and designing strategies for motivating employees.
4. Students will be able to use critical thinking and problem-solving skills to act strategically when making decisions in business and in life.
5. Students will be effective leaders of change and apply interpersonal skills to work well in cross-functional teams.

We have been assessing the learning outcomes through two different strategies. One being ICES evaluations at the end of the course to assess their overall course experience. We also do a sperate assessment that examines if program expectations were met in terms of content and to determine areas of improvement. This is often sent to students within two months of completing the program.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The learning outcomes are assessed at the completion of each course through ICES evaluations. They are assessed again upon completion of the certificate program through a department specific evaluation distributed through Qualtrics.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Letter grades are provided for each assignment as well as at the completion of each course.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

LER monitors course ratings each semester and connects with instructors that score lower than satisfactory on the evals. Aside from discussing formal course evaluations, LER student advisors also synthesize feedback provided informally through appointments to instructors as a way to continuously improve the course.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs [Side by Side Human Resource Management.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

Catalog Page Text - Overview Tab

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

Certificate Program Website: <https://ler.illinois.edu/online-human-resources-certificate-program/>

School Faculty: <https://ler.illinois.edu/faculty/>

Program Contact: Eden Haycraft [Smothers](#)

Email: [ehaycra@illinois.edu](mailto:ehaycra@illinois.edu)

#### Program Overview:

The online certificate program consists of a variety of tracks and each track has three courses (12 credit hours total, four credit hours per course). Each course in the certificate program is either six or eight weeks long. You can choose to engage in one or more certificate program tracks. Once you have received one or more certificates, and decide you are interested in the full Master of Human Resources and Industrial Relations (MHRIR) program, you are able to apply for the online master's program.

Each certificate program track takes between 5 ~~7~~ to 10 months to complete.

How do I know if the certificate program is for me?

Are you....

-working in HR with no HR background?

-employed by an organization that provides tuition reimbursement, but the reimbursement amount isn't equivalent to a full degree program?

-seeking to gain more knowledge in HR but either unable to or prefer not to attend graduate school?

-currently in HR and seeking to freshen-up your knowledge? This group may include, for example, individuals who started in HR, left HR for different reasons or even left the labor force.

-seeking to enter the HR field or change positions within your organization to HR, but do not want to commit/can't commit to a full degree?

-an individual who wants to know more about HR in general prior to embarking on a full degree program?

If you answered 'yes' to one or more of these questions, then this certificate program may be the perfect fit for you.

What is required to apply for one of these certificate programs?

Please note all applicants must have received a bachelor’s degree prior to starting one of our certificate program tracks.

- Application
- Resume
- Official Transcripts
- English Proficiency Exam for international students

Human Resources Management Certificate Overview: ~~-Phone Interview—Contacted after application is reviewed for a phone conversation regarding interest in the certificate program.~~

~~Human Resources Management Certificate Overview:~~ Topics include managing and motivating employees effectively as well as the core skills needed within HR regarding change management.

Statement for

Programs of  
Study Catalog

Students who have successfully completed the *Human Resource Management* certificate may use the certificate to satisfy the following degree requirements, provided they apply and are admitted to the degree program:

4 to 8 hours of ~~hours of~~ core and/or 4 to 8 hours of ~~and 8 hours of~~ elective coursework requirements of the MHRIR degree program (12 hours total). ~~total~~ Certificate can fulfill ~~fulfills~~ the Human Resource HR Management and Organization Behavior distribution requirement as well as the International Human Resource Management distribution requirement.

#### Course List

Code	Title	Hours
<del>LER-597</del>	<del>Employee Motivation &amp; Perfmnce</del>	<del>4</del>
<del>or LER-534Leadership and Employee Engagement</del>		
<del>LER-532</del>	<del>Successful Change Management for HR Professionals</del>	<del>4</del>
<del>LER-533</del>	<del>Fundamentals of Business Management</del>	<del>4</del>

Students in the certificate program will choose three out of the six course options listed below. Students will need to complete 12 credit hours total to be awarded a certificate. The courses do not need to be taken in any particular order.

#### Course List

Code	Title	Hours
<u>LER 597</u>	<u>Employee Motivation &amp; Perfmnce</u>	<u>4</u>
<u>LER 534</u>	<u>Leadership and Employee Engagement</u>	<u>4</u>
<u>LER 532</u>	<u>Successful Change Management for HR Professionals</u>	<u>4</u>
<u>LER 533</u>	<u>Fundamentals of Business Management</u>	<u>4</u>
<u>LER 595</u>	<u>Managing Diversity Globally</u>	<u>4</u>
<u>LER 537</u>	<u>Employee Stress, Well-Being, &amp; Safety</u>	<u>4</u>
<u>Total Hours</u>		<u>12</u>

=

Corresponding  
Degree

GCRT Graduate Certificate

## Program Features

Academic Level      Graduate

Does this major      No  
have transcribed  
concentrations?

What is the typical time to completion of this program?

22 weeks ~~6 months~~

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

12

What is the      2.75  
required GPA?

CIP Code      521001 - Human Resources Management/  
Personnel Administration, General.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is  
available:

Online Only - The entire program is delivered online, students are not required to come to campus.

Describe the use of this delivery method:

The program is hybrid synchronous and asynchronous. Each course has a required, once a week two-hour live Zoom session where students gather with their peers and the instructor. These live zoom sessions include lectures, activities, students' presentations, and other interactions involving the course content.

## Admission Requirements

Desired Effective      Spring 2025  
Admissions Term

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

No

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.

To apply to the certificate program within LER, prospective students must submit an updated resume and official transcripts. In order to qualify for the certificate, one must have completed an undergraduate degree. Some certificates require an undergraduate statistics course in order to proceed through the program. ~~Following the application an interview is setup with the Associate Director of Graduate Online Programs to discuss program fit and the applicant's background. An admissions decision is made after the interview with the candidate.~~ If a certificate student wants to pursue the master's degree following the completion of a certificate, they must then submit an application for the MHRIR program. That application would then require a personal statement along with three letters of recommendation. Certificate students can ask up to two of their instructors from the LER program to write letters for their master's application.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

The revision will increase enrollment and campus graduate certificates awarded by allowing for more course options which will provide more opportunities to start the program at various times throughout the year and flexibility regarding how soon the certificate can be completed.

Estimated Annual Number of Degrees Awarded

Year One Estimate	3-7	5th Year Estimate (or when fully implemented)	8
-------------------	-----	---	---

What is the matriculation term for this program?	Spring/Summer/Other
--	---------------------

Please give an explanation of why fall matriculation is not applicable:

Prospective certificate students can start the program in Fall, Spring or Summer semesters.

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

## Financial Resources

How does the unit intend to financially support this proposal?

All certificate courses ~~students~~ are a part of the master's program, so no additional costs will be added through faculty or advisors until the program grows substantially in which case the tuition dollars will cover program expenses since our online programs are self-supporting.

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

No

Attach letters of support [Letter of Impact Library.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

MHRIR online credit hour rate

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

No

Is this program requesting self-supporting status?

Yes

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The additional courses added to the certificate program are already a part of the master's curriculum and will not come with additional faculty or departmental costs. LER his not concerned about the class sizes growing too large from this adjustment.

## 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.

The text provided below is the response from LER’s library specialist, Mandi Arlain. The full conversation can be found in the attachments under “Letter of Impact\_Library.”

"I have reviewed the information shared for the four certificate tracks offered through LER. As previously noted, given the program's current structure and enrollment numbers, the impact on library resources is expected to be minimal.

The library already has a solid collection in most areas covered by the program's course descriptions, and as a result of receiving this CIM-P proposal, I will now also keep an eye out for current and upcoming publications on these topics when purchasing for our collection. In addition to the resources found through the library's catalog, several library databases also support these certificates, including but not limited to: Human Resources Abstracts, Bloomberg Law and Nexis Uni. Students will also have access to an extensive range of related online journals, current newspapers, and video/media content.

It’s also worth mentioning that professors often benefit from collaborating with us to create a curated list of relevant library resources tailored to their specific courses in the form of a course-specific LibGuide. At the very least, they should review our collection or share their reading lists with us in advance to ensure the library has access to the necessary course materials when needed.

Thanks again for contacting the library and we're here to assist with any additional questions or concerns you may have."

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final                      [U Program Review Comments KEY 1123 10-14-2024.docx](#)  
Approval Notices                      [FW\\_ Submission Confirmation\\_ Screening Form for Changes to Existing Programs.pdf](#)

Banner/Codebook                      GCRT:HR Mgmt ONL-UIUC  
Name

Program Code:                      1PKS5715GCRU

Minor Code	Conc Code	Degree Code	GCRT	Major Code
5715				
Senate Approval Date				
Senate Conference Approval Date				
BOT Approval Date				
IBHE Approval Date				
HLC Approval Date				
DOE Approval Date	12/27/2022			
Effective Date:				
Program Reviewer Comments	<b>Mary Lowry (lowry) (10/14/24 4:44 pm):</b> U Program Review comments attached in DMI Documentation section. <b>Allison McKinney (agrindly) (11/06/24 9:45 am):</b> Administratively approved.			

Date Submitted: 09/30/24 3:59 pm

Viewing: **1PKS6124GCRU : Human  
Resources Data Analytics, GCRT  
(online)**

Last approved: 06/12/24 11:37 am

Last edit: 11/08/24 9:58 am

Changes proposed by: Eden Haycraft Smothers

Human Resources Data Analytics, CERT

Catalog Pages  
Using this  
Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1568 Head
- 3. LG Dean
- 4. University Librarian
- 5. Grad\_College
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DOE
- 15. DMI

Approval Path

- 1. 10/15/24 9:25 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 10/31/24 1:49 pm  
Becky Barker (ebarker):  
Approved for 1568 Head
- 3. 10/31/24 1:50 pm  
Lynne Hovel (lhovel):  
Approved for LG Dean
- 4. 11/05/24 11:30 am  
Claire Stewart (clairest):  
Approved for University Librarian
- 5. 11/06/24 9:45 am

Allison McKinney  
(agrindly):

Approved for  
Grad\_College

6. 11/06/24 10:10  
am

Suzanne Lee  
(suzannel):

Approved for  
COTE Programs

7. 11/07/24 10:06  
am

Brooke Newell  
(bsnewell):

Approved for  
Provost

## History

1. Jun 7, 2022 by  
Eden Haycraft  
Smothers  
(ehaycra)
2. Sep 22, 2022 by  
Mary Lowry  
(lowry)
3. Dec 9, 2022 by  
Becky Barker  
(ebarker)
4. Jun 12, 2024 by  
Emily Stuby  
(eastuby)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name      Human Resources Data Analytics, GCRT (online)

Diploma Title      Graduate Certificate in Human Resources Data Analytics

Sponsor College      Labor & Empl. Relations, School of

Sponsor Department      Labor & Employment Relations

1. Changing the requirement from 3 required courses to be a choice from list from 4 courses where students select 3 courses.
2. Adding LER 568 to the list of course choices.
3. Adding an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in

the master's if an individual decides to apply for the master's following a certificate.

4. Update to admissions requirements as we no longer have an 'interview' with applicants.

5. Update on how the learning objectives are assessed.

6. Update to matriculation will be noted on revision.

7. Length to completion has been updated to weeks with a shorter completion timeframe.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

Below outlines the justification for each of the outlined changes above.

1. Expanding course options will enable students to complete each certificate more quickly, resulting in a shorter overall program duration. This adjustment will help align our certificates with those offered by competing institutions. Currently, completing this certificate takes two to three semesters, with three semesters often being too lengthy. With the new course choices, students could finish the certificate in just one semester, benefiting those who need to expedite their education. While the certificate programs qualify for financial aid, students must enroll in at least two courses per semester. By providing more course options, we can enhance financial aid opportunities for students. One of the main challenges LER faces when speaking with prospective certificate students is the duration of completion. This shorter completion time was also identified as an area for improvement when we had our programs evaluated by Hanover Research, which highlighted opportunities to make our programs more appealing.
2. Additional courses will allow students to pursue more than one certificate even if the certificates have an overlapping course. Currently, students are unable to pursue the Human Resources Data Analytics and Compensation Best Practices certificates as they both require LER 545 Economics of Human Resources. The additional course added within the revision (LER 568) was identified by faculty as a course that could assist in building upon data analytics.
3. The Program of Study table needed revisions to accurately reflect the course additions and which master's program requirements could be fulfilled by this certificate offering in case individuals want to explore the master's program in the future. The credit hours required to complete the certificate remains unchanged (12 total credit hours).
4. LER realized that instead of using the word 'interview' we would conduct short informal info sessions with each applicant that will allow the applicant to ask questions regarding the certificate, course offerings, and what they can expect from engaging in the certificate. When listing this as an 'interview' we felt it was providing a barrier to entry that LER wants to avoid. A new statement is not needed as the informal info session is not a requirement.
5. There were new questions asked regarding assessment of learning objectives that we answered on the revision.
6. There are noted changes in red within the matriculation term. The content remains unchanged, but edits were highlighted.
7. There are noted changes in red within the typical time to completion of the program. Again, pointing to the improved completion timeframe for learners. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Below is a subset of learning outcomes from our MHRIR degree program. These outcomes are specific to the Human Resources Data Analytics Certificate. LER utilized HRCI's Human Resources Body of Knowledge to inform our learning objectives and has recently (January 2022) received "exceeds expectations" score from the Office of the Provost Learning Outcomes Assessment of its MHRIR degree program.

1. Students will apply Business Management and Strategy to shape immediate and long-term HR activities, practices, and policies. Students will critically examine the complex link between strategy and business practices, understand and apply workforce metrics to drive decision-making, and apply a strategic lens to international human resources.
2. Students will drive productivity outcomes, use job and company data to predict the success of new hires, and align human capital requirements to achieve business goals to support Workforce Planning and Development within an organization's HR operation.
3. Students will be able to use critical thinking and problem-solving skills to act strategically when making decisions in business and in life.
4. Students will produce persuasive and impactful written work and verbal presentations for academic and business audiences.

We have been assessing the learning outcomes through two different strategies. One being ICES evaluations at the end of the course to assess their overall course experience. We also do a sperate assessment that examines if program expectations were met in terms of content and to determine areas of improvement. This is often sent to students within two months of completing the program.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The learning outcomes are assessed at the completion of each course through ICES evaluations. They are assessed again upon completion of the certificate program through a department specific evaluation distributed through Qualtrics.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Letter grades are provided for each assignment as well as at the completion of each course.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

LER monitors course ratings each semester and connects with instructors that score lower than satisfactory on the evals. Aside from discussing formal course evaluations, LER student advisors also synthesize feedback provided informally through appointments to instructors as a way to continuously improve the course.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs    [Side by Side Human Resources Data Analytics.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

Catalog Page Text - Overview Tab

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

Certificate Program Website: <https://ler.illinois.edu/online-human-resources-certificate-program/>

School Faculty: <https://ler.illinois.edu/faculty/>

Program Contact: Eden Haycraft [Smothers](#)

Email: [ehaycra@illinois.edu](mailto:ehaycra@illinois.edu)

#### Program Overview:

The online certificate program consists of a variety of tracks and each track has three courses (12 credit hours total, four credit hours per course). Each course in the certificate program is either six or eight weeks long. You can choose to engage in one or more certificate program tracks. Once you have received one or more certificates, and decide you are interested in the full Master of Human Resources and Industrial Relations (MHRIR) program, you are able to apply for the online master's program.

Each certificate program track takes between 5 ~~7~~ to 10 months to complete.

How do I know if the certificate program is for me?

Are you....

-working in HR with no HR background?

-employed by an organization that provides tuition reimbursement, but the reimbursement amount isn't equivalent to a full degree program?

-seeking to gain more knowledge in HR but either unable to or prefer not to attend graduate school?

-currently in HR and seeking to freshen-up your knowledge? This group may include, for example, individuals who started in HR, left HR for different reasons or even left the labor force.

-seeking to enter the HR field or change positions within your organization to HR, but do not want to commit/can't commit to a full degree?

-an individual who wants to know more about HR in general prior to embarking on a full degree program?

If you answered 'yes' to one or more of these questions, then this certificate program may be the perfect fit for you.

What is required to apply for one of these certificate programs?

Please note all applicants must have received a bachelor’s degree prior to starting one of our certificate program tracks.

- Application
- Resume
- Official Transcripts
- English Proficiency Exam for international students

Human Resources Data Analytics Certificate Overview: ~~-Phone Interview—Contacted after application is reviewed for a phone conversation regarding interest in the certificate program-~~

~~Human Resources Data Analytics Certificate Overview:~~ Understand technical aspects of analysis in tools such as Excel including recruiting and staffing, hiring assessments, succession planning, compensation, non-exempt workforce/negotiations, and training measurement. Your learning experience will include case studies so you will be able to apply what you learn in real-world scenarios. Now, more than ever, making data-driven decisions is essential for HR professionals.

Prerequisite: Any elementary statistics course.

Statement for  
Programs of  
Study Catalog

**Graduation Requirements**  
**Minimum Cumulative GPA: 2.75**

**Minimum hours required for certificate completion:** 12 hours

Students who have successfully completed the *Human Resources Data Analytics* certificate may use the certificate to satisfy the following degree requirements, provided they apply and are admitted to the degree program:

8 to 12 hours of core ~~and/or~~ ~~and~~ 4 hours of elective coursework requirements of the MHRIR degree program (12 total hours). ~~hours~~ Certificate may fulfill ~~fulfills~~ the Labor Markets and Employment distribution requirement, Human Resource Management and Organizational Behavior distribution requirement, ~~requirement~~ as well as another required course (LER 593)

Students in the certificate program will choose three out of the four course options listed below. Students will need to complete 12 credit hours total to be awarded a certificate. The courses do not need to be taken in any particular order.

**Course List**

Code	Title	Hours
<del>LER-531</del>	<del>Workforce Analytics</del>	<del>4</del>
<del>LER-545</del>	<del>Economics of Human Resources</del>	<del>4</del>
<del>LER-593</del>	<del>Quantitative Methods in LER</del>	<del>4</del>
<del>Total Hours</del>		<del>12</del>

**Course List**

Code	Title	Hours
<u>LER 531</u>	<u>Workforce Analytics</u>	<u>4</u>
<u>LER 545</u>	<u>Economics of Human Resources</u>	<u>4</u>
<u>LER 568</u>	<u>Firm Performance and HR</u>	<u>4</u>
<u>LER 593</u>	<u>Quantitative Methods in LER</u>	<u>4</u>
<u>Total Hours</u>		<u>12</u>

-

Corresponding Degree	GCRT Graduate Certificate
----------------------	---------------------------

## Program Features

Academic Level	Graduate
----------------	----------

Does this major have transcripted concentrations?	No
---	----

What is the typical time to completion of this program?

22 weeks ~~5 months~~

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

12

What is the required GPA?	2.75
---------------------------	------

CIP Code	521001 - Human Resources Management/ Personnel Administration, General.
----------	--

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is available:

Online Only - The entire program is delivered online, students are not required to come to campus.

Describe the use of this delivery method:

The program is hybrid synchronous and asynchronous. Each course has a required, once a week two-hour live Zoom session where students gather with their peers and the instructor. These live zoom sessions include lectures, activities, students' presentations, and other interactions involving the course content.

## Admission Requirements

Desired Effective Admissions Term	Spring 2025
-----------------------------------	-------------

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

No

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.

To apply to the certificate program within LER, prospective students must submit an updated resume and official transcripts. In order to qualify for the certificate, one must have completed an undergraduate degree. The HR Data Analytics certificate track requires ~~Some certificates require~~ an undergraduate statistics course in order to proceed through the program. ~~Following the application an interview is setup with the Associate Director of Graduate Online Programs to discuss program fit and the applicant's background. An admissions decision is made after the interview with the candidate.~~ If a certificate student wants to pursue the master's degree following the completion of a certificate, they must then submit an application for the MHRIR program. That application would then require a personal statement along with three letters of recommendation. Certificate students can ask up to two of their instructors from the LER program to write letters for their master's application.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

The revision will increase enrollment and campus graduate certificates awarded.

Estimated Annual Number of Degrees Awarded

Year One Estimate	2-7	5th Year Estimate (or when fully implemented)	7
-------------------	-----	---	---

What is the matriculation term for this program?	Spring/Summer/Other
--	---------------------

Please give an explanation of why fall matriculation is not applicable:

Prospective certificate students can start the program in Fall, Spring, ~~Spring~~ or Summer semesters.

## 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

## Financial Resources

How does the unit intend to financially support this proposal?

All certificate courses ~~students~~ are a part of the master's program, so no additional costs will be added through faculty or advisors until the program grows substantially in which case the tuition dollars will cover program expenses since our online programs are self-supporting.

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

No

Attach letters of support [Letter of Impact Library.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

MHRIR online credit hour rate

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

No

Is this program requesting self-supporting status?

Yes

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The additional courses added to the certificate program are already a part of the master's curriculum and will not come with additional faculty or departmental costs. LER his not concerned about the class sizes growing too large from this adjustment.

## 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.

The text provided below is the response from LER’s library specialist, Mandi Arlain. The full conversation can be found in the attachments under “Letter of Impact\_Library”.

"I have reviewed the information shared for the four certificate tracks offered through LER. As previously noted, given the program's current structure and enrollment numbers, the impact on library resources is expected to be minimal.

The library already has a solid collection in most areas covered by the program's course descriptions, and as a result of receiving this CIM-P proposal, I will now also keep an eye out for current and upcoming publications on these topics when purchasing for our collection. In addition to the resources found through the library's catalog, several library databases also support these certificates, including but not limited to: Human Resources Abstracts, Bloomberg Law and Nexis Uni. Students will also have access to an extensive range of related online journals, current newspapers, and video/media content.

It’s also worth mentioning that professors often benefit from collaborating with us to create a curated list of relevant library resources tailored to their specific courses in the form of a course-specific LibGuide. At the very least, they should review our collection or share their reading lists with us in advance to ensure the library has access to the necessary course materials when needed.

Thanks again for contacting the library and we're here to assist with any additional questions or concerns you may have."

EP Documentation

EP Control Number	EP.25.035
Attach Rollback/Approval Notices	
This proposal requires HLC inquiry	No

DMI Documentation

Attach Final Approval Notices	<a href="#">U Program Review Comments KEY 1126 10-14-2024.docx</a> <a href="#">FW_ Submission Confirmation_ Screening Form for Changes to Existing Programs.pdf</a>
Banner/Codebook Name	GCRT:HR DataAnalytics ONL-UIUC
Program Code:	1PKS6124GCRU

Minor Code	Conc Code	Degree Code	GCRT	Major Code
6124				
Senate Approval Date				
Senate Conference Approval Date				
BOT Approval Date				
IBHE Approval Date				
HLC Approval Date				
DOE Approval Date				
Effective Date:				
Program Reviewer Comments	<b>Mary Lowry (lowry) (10/14/24 4:44 pm):</b> U Program Review comments attached in DMI Documentation section. <b>Allison McKinney (agrindly) (11/06/24 9:45 am):</b> Administratively approved.			

Date Submitted: 09/30/24 3:58 pm

Viewing: **1PKS6125GCRU :**  
**Fundamentals of Human Resources,**  
**GCRT (online)**

Last approved: 06/12/24 11:40 am

Last edit: 11/08/24 9:58 am

Changes proposed by: Eden Haycraft Smothers

Fundamentals of Human Resources, CERT

Catalog Pages  
Using this  
Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1568 Head
- 3. LG Dean
- 4. University Librarian
- 5. Grad\_College
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DOE
- 15. DMI

Approval Path

- 1. 10/15/24 9:24 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 10/31/24 1:49 pm  
Becky Barker (ebarker):  
Approved for 1568 Head
- 3. 10/31/24 1:50 pm  
Lynne Hovel (lhovel):  
Approved for LG Dean
- 4. 11/05/24 11:31 am  
Claire Stewart (clairest):  
Approved for University Librarian
- 5. 11/06/24 9:46 am

- Allison McKinney  
(agrindly):  
Approved for  
Grad\_College
6. 11/06/24 10:10  
am  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
7. 11/07/24 10:06  
am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Jun 7, 2022 by  
Eden Haycraft  
Smothers  
(ehaycra)
2. Sep 22, 2022 by  
Mary Lowry  
(lowry)
3. Jun 12, 2024 by  
Emily Stuby  
(eastuby)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Fundamentals of Human Resources, GCRT (online)
Diploma Title	Graduate Certificate in Fundamentals of Human Resources
Sponsor College	Labor & Empl. Relations, School of
Sponsor Department	Labor & Employment Relations
Sponsor Name	<a href="#">Eden Haycraft Smothers</a>
Sponsor Email	<a href="mailto:ehaycra@illinois.edu">ehaycra@illinois.edu</a>

College Contact      Eden Haycraft Smothers

College Contact  
Email

ehaycra@illinois.edu

College Budget      Wyatt Martin  
Officer

College Budget      wjmartin@illinois.edu  
Officer Email

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Eden Haycraft (ehaycra@illinois.edu), Becky Barker (ebarker@illinois.edu), Amit Kramer (kram@illinois.edu)

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog      Spring 2025  
Term

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Graduate Certificate in Fundamentals of Human Resources in the School of Labor and Employment Relations and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

Below are the changes outlined in the revision.

1. Changing the requirement from 3 required courses, where one had an alternative course option that students must take to be a choice from list from 6 courses where students select 3 courses.
2. Adding LER 539 and LER 522 to the list of course choices.
3. Adding an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.
4. Update to admissions requirements as we no longer have an 'interview' with applicants.

5. Update on how the learning objectives are assessed.
6. Formatting changes will be noted in the learning outcomes section, but the content of the learning outcomes will remain unchanged. There were a few items that needed to be numbered and a few grammatical errors.
7. Update to matriculation as the revisions allow individuals more options for starting and completing the program.
8. Length to completion has been updated to weeks with a shorter completion timeframe.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

## Why are these changes necessary?

Below outlines the justification for each of the outlined changes above.

1. Expanding course options will enable students to complete each certificate more quickly, resulting in a shorter overall program duration. This adjustment will help align our certificates with those offered by competing institutions. Currently, completing this certificate can take two to three semesters, with three semesters often being too lengthy. With the new course choices, students could finish the certificate in just one semester, benefiting those who need to expedite their education. While the certificate programs qualify for financial aid, students must enroll in at least two courses per semester. By providing more course options, we can enhance financial aid opportunities for students. One of the main challenges LER faces when speaking with prospective certificate students is the duration of completion. This shorter completion time was also identified as an area for improvement when we had our programs evaluated by Hanover Research, which highlighted opportunities to make our programs more appealing.
2. Additional courses will allow students to pursue more than one certificate even if the certificates have an overlapping course. Currently, students are unable to pursue the Fundamentals of Human Resources and Compensation Best Practices certificates as they both require LER 561 Compensation Systems. The two additional courses added within the revision (LER 539 and LER 522) were identified by faculty as courses that could assist in building a foundation for human resources.
3. The Program of Study table needed revisions to accurately reflect the course additions and which master's program requirements could be fulfilled by this certificate offering in case individuals want to explore the master's program in the future. The credit hours required to complete the certificate remains unchanged (12 total credit hours).
4. LER realized that instead of using the word 'interview' we would conduct short informal info sessions with each applicant that will allow the applicant to ask questions regarding the certificate, course offerings, and what they can expect from engaging in the certificate. When listing this as an 'interview' we felt it was providing a barrier to entry that LER wants to avoid. A new statement is not needed as the informal info session is not a requirement.
5. There were new questions asked regarding assessment of learning objectives that we answered on the revision.
6. There are noted changes in red within the learning outcomes, but they are due to formatting and grammatical error changes. Wanted to emphasize there aren't changes to the content of the outcomes.
7. There are noted changes in red within the matriculation term. Previously a student could only begin the Fundamentals of Human Resources certificate in fall or spring whereas now students could also engage in the certificate starting in the summer term. Emphasizing the flexibility for starting and completing the certificate will be improved by revisions.
8. There are noted changes in red within the typical time to completion of the program. Again, pointing to the improved completion timeframe for learners. Although a student could take 22 weeks to complete the certificate, there are several options to complete in as soon as 16 weeks.

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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Below is a subset of learning outcomes from our MHRIR degree program. These outcomes are specific to the Fundamentals of Human Resources Certificate. LER utilized HRCI's Human Resources Body of Knowledge to inform our learning objectives and has recently (January 2022) received "exceeds expectations" score from the Office of the Provost Learning Outcomes Assessment of its MHRIR degree program.

1. Students will lead Employee and Labor Relations by managing workforce relationships, developing inclusive and respectful company culture, and building communication systems.
  2. Students will understand the structural elements of compensation system design and evaluate an organization's Compensation and Benefits structure relative to market forces, union agreements, and legal requirements.
  3. Students will be able to integrate, synthesize, and apply knowledge of ethical dilemmas and solutions in Human Resources.
- ~~Students will apply strategies for realizing the benefits of diversity and inclusion and employ practices that contribute to healthy, safe, and secure workplaces, communities, and societies as part of the organization's corporate social responsibility.~~4. Students will apply strategies for realizing the benefits of diversity and inclusion and employ practices that contribute to healthy, safe, and secure workplaces, communities, and societies as part of the organization's corporate social responsibility.
- ~~Students will be able to use critical thinking and problem-solving skills to act strategically when making decisions in business and in life.~~5. Students will be able to use critical thinking and problem-solving skills to act strategically when making decisions in business and in life.
6. Students will be effective leaders of change and apply interpersonal skills to work well in cross-functional teams.

We have been assessing the learning outcomes through two different strategies. One being ICES evaluations at the end of ~~each~~ the course to assess their overall course experience. We also do a separate ~~sperate~~ assessment that examines if program expectations were met in terms of content and to determine areas of improvement. This is often sent to students within two months of completing the program.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The learning outcomes are assessed at the completion of each course through ICES evaluations. They are assessed again upon completion of the certificate program through a department specific evaluation distributed through Qualtrics.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Letter grades are provided for each assignment as well as at the completion of each course.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

LER monitors course ratings each semester and connects with instructors that score lower than satisfactory on the evals. Aside from discussing formal course evaluations, LER student advisors also synthesize feedback provided informally through appointments to instructors as a way to continuously improve the course.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs     [Side by Side Fundamentals of Human Resources.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

Catalog Page Text - Overview Tab

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

Certificate Program Website: <https://ler.illinois.edu/online-human-resources-certificate-program/>

School Faculty: <https://ler.illinois.edu/faculty/>

Program Contact: Eden Haycraft [Smothers](#)

Email: [ehaycra@illinois.edu](mailto:ehaycra@illinois.edu)

#### Program Overview:

The online certificate program consists of a variety of tracks and each track has three courses (12 credit hours total, four credit hours per course). Each course in the certificate program is either six or eight weeks long. You can choose to engage in one or more certificate program tracks. Once you have received one or more certificates, and decide you are interested in the full Master of Human Resources and Industrial Relations (MHRIR) program, you are able to apply for the online master's program.

Each certificate program track takes between 5 ~~7~~ to 10 months to complete.

How do I know if the certificate program is for me?

Are you....

-working in HR with no HR background?

-employed by an organization that provides tuition reimbursement, but the reimbursement amount isn't equivalent to a full degree program?

-seeking to gain more knowledge in HR but either unable to or prefer not to attend graduate school?

-currently in HR and seeking to freshen-up your knowledge? This group may include, for example, individuals who started in HR, left HR for different reasons or even left the labor force.

-seeking to enter the HR field or change positions within your organization to HR, but do not want to commit/can't commit to a full degree?

-an individual who wants to know more about HR in general prior to embarking on a full degree program?

If you answered 'yes' to one or more of these questions, then this certificate program may be the perfect fit for you.

What is required to apply for one of these certificate programs?

Please note all applicants must have received a bachelor’s degree prior to starting one of our certificate program tracks.

- Application
- Resume
- Official Transcripts
- English Proficiency Exam for international students

Fundamentals of Human Resources Certificate Overview: ~~-Phone Interview—Contacted after application is reviewed for a phone conversation regarding interest in the certificate program-~~

~~Fundamentals of Human Resources Certificate Overview:~~ Obtain a framework for the analysis of employment relationships including human resources management strategies and practices. Learn about the theoretical and practical issues surrounding the design of effective compensation systems and the practice of identifying and recruiting a diverse workforce.

Statement for  
Programs of  
Study Catalog

### Graduation Requirements

**Minimum Cumulative GPA:** 2.75

**Minimum hours required for certificate completion: 12 hours**

~~-2.75 Minimum hours required for certificate completion: 12 hours~~

Students who have successfully completed the *Fundamentals of Human Resources* certificate may use the certificate to satisfy the following degree requirements, provided they apply and are admitted to the degree program:

8 to 12 hours of core and/or 4+ ~~and 4~~ hours of elective coursework requirements of the MHRIR degree program (12 hours total). ~~total~~ Certificate may fulfill ~~fulfills~~ the International Human Resource Management and Human Resource Management and Organization Behavior distribution requirements ~~requirement~~ as well as another required course (LER 591)

±

### Course List

Code	Title	Hours
LER 591	Employment Relations Systems	4
LER 561	Compensation Systems	4
LER 595	Managing Diversity Globally	4
or LER 566 International HR Management		
Total Hours		12

Students in the certificate program will choose three out of the six course options listed below. Students will need to complete 12 credit hours total to be awarded a certificate. The courses do not need to be taken in any particular order.

### Course List

Code	Title	Hours
LER 591	Employment Relations Systems	<u>4</u>
LER 561	Compensation Systems	<u>4</u>
LER 595	Managing Diversity Globally	<u>4</u>
LER 566	International HR Management	<u>4</u>
LER 539	Talent Management	<u>4</u>
LER 522	Employment Law for HR Managers: Discrimination, Compensation, and Privacy	4

Code	Title	Hours
<u>Total Hours</u>		<u>12</u>

Corresponding Degree

GCRT Graduate Certificate

## Program Features

Academic Level

Graduate

Does this major have transcribed concentrations?

No

What is the typical time to completion of this program?

22 weeks ~~7 months~~

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

12

What is the required GPA?

2.75

CIP Code

521005 - Human Resources Development.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is available:

Online Only - The entire program is delivered online, students are not required to come to campus.

Describe the use of this delivery method:

The program is hybrid synchronous and asynchronous. Each course has a required, once a week two-hour live Zoom session where students gather with their peers and the instructor. These live zoom sessions include lectures, activities, students' presentations, and other interactions involving the course content.

## Admission Requirements

Desired Effective Admissions Term

Spring 2025

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

No

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.

To apply to the certificate program within LER, prospective students must submit an updated resume and official transcripts. In order to qualify for the certificate, one must have completed an undergraduate degree. Some certificates require an undergraduate statistics course in order to proceed through the program. ~~Following the application an interview is setup with the Associate Director of Graduate Online Programs to discuss program fit and the applicant's background. An admissions decision is made after the interview with the candidate.~~ If a certificate student wants to pursue the master's degree following the completion of a certificate, they must then submit an application for the MHRIR program. That application would then require a personal statement along with three letters of recommendation. Certificate students can ask up to two of their instructors from the LER program to write letters for their master's application.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

The revision will increase enrollment and campus graduate certificates awarded by allowing for more course options which will provide more opportunities to start the program at various times throughout the year and flexibility regarding how soon the certificate can be completed.

Estimated Annual Number of Degrees Awarded

Year One Estimate	2-7	5th Year Estimate (or when fully implemented)	7
-------------------	-----	---	---

What is the matriculation term for this program?	Spring/Summer/Other
--	---------------------

Please give an explanation of why fall matriculation is not applicable:

Prospective certificate students can start the program in Fall, Spring, ~~Fall~~ or Summer ~~Spring~~ semesters.

## 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

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

All certificate courses students are a part of the master's program, so no additional costs will be added through faculty or advisors until the program grows substantially in which case the tuition dollars will cover program expenses since our online programs are self-supporting.

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

No

Attach letters of support [Letter of Impact Library.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

MHRIR online credit hour rate

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

No

Is this program requesting self-supporting status?

Yes

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The additional courses added to the certificate program are already a part of the master's curriculum and will not come with additional faculty or departmental costs. LER his not concerned about the class sizes growing too large from this adjustment.

## 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.

The text provided below is the response from Mandi Arlain, LER librarian specialist:

I have reviewed the information shared for the four certificate tracks offered through LER. As previously noted, given the program's current structure and enrollment numbers, the impact on library resources is expected to be minimal.

The library already has a solid collection in most areas covered by the program's course descriptions, and as a result of receiving this CIM-P proposal, I will now also keep an eye out for current and upcoming publications on these topics when purchasing for our collection. In addition to the resources found through the library's catalog, several library databases also support these certificates, including but not limited to: Human Resources Abstracts, Bloomberg Law and Nexis Uni. Students will also have access to an extensive range of related online journals, current newspapers, and video/media content.

It's also worth mentioning that professors often benefit from collaborating with us to create a curated list of relevant library resources tailored to their specific courses in the form of a course-specific LibGuide. At the very least, they should review our collection or share their reading lists with us in advance to ensure the library has access to the necessary course materials when needed.

Thanks again for contacting the library and we're here to assist with any additional questions or concerns you may have.

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final                      [U Program Review Comments KEY 1119 10-14-24.docx](#)  
Approval Notices                      [FW Submission Confirmation Screening Form for Changes to Existing Programs.pdf](#)

Banner/Codebook                      GCRT:Fundamental HR ONL-UIUC  
Name

Program Code:                      1PKS6125GCRU

Minor    Conc    Degree                      GCRT    Major

Code Code Code Code 6125

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval  
Date

Effective Date:

Program Reviewer Comments **Mary Lowry (lowry) (10/14/24 4:44 pm):** U Program Review comments attached in DMI Documentation section.

**Allison McKinney (agrindly) (11/06/24 9:46 am):** Administratively approved.

Key: 1119

Date Submitted: 08/02/24 4:44 pm

Viewing: **10KS0155MUP &  
10KS0247MARC(or 0248) : JP:  
Architecture, MARCH & Urban  
Planning, MUP**

Last approved: 05/08/24 8:51 am

Last edit: 11/14/24 10:34 am

Changes proposed by: Nicole Turner

Catalog Pages

Using this

Program

Architecture, MARCH & Urban Planning, MUP

Proposal Type:

In Workflow

1. U Program Review

2. 1733 Committee Chair

3. 1733 Head

4. 1767 Committee Chair

5. 1767 Head

6. KR Dean

7. University Librarian

8. Grad\_College

9. COTE Programs

10. Provost

11. Senate EPC

12. Senate

13. U Senate Conf

14. Board of Trustees

15. IBHE

16. HLC

17. DOE

18. DMI

Approval Path

1. 08/14/24 12:13 pm  
Donna Butler (dbutler):  
Approved for U Program Review

2. 08/14/24 12:16 pm  
Andrew Greenlee (agreen4):  
Approved for 1733 Committee Chair

3. 09/26/24 11:54 am  
Mark Doussard (mdouss1):  
Approved for 1733 Head

4. 10/11/24 12:26 pm  
Emelie Mies  
(emies): Approved for 1767  
Committee Chair
5. 10/22/24 8:58 am  
Francisco  
Rodriguez-Suarez  
(paco70):  
Approved for 1767  
Head
6. 10/22/24 8:59 am  
Nicole Turner  
(nicturn):  
Approved for KR  
Dean
7. 10/22/24 10:34 am  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
8. 11/13/24 3:51 pm  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College
9. 11/13/24 4:05 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
10. 11/13/24 4:49 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Mar 20, 2023 by  
Mary Lowry  
(lowry)
2. May 8, 2024 by  
Nicole Turner  
(nicturn)

Joint Program (ex. Master of Public Health & PhD. in Community Health)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	JP: Architecture, MARCH & Urban Planning, MUP		
Diploma Title	Master of Architecture; Master of Urban Planning		
Sponsor College	Fine & Applied Arts		
Sponsor Department	Urban & Regional Planning		
Sponsor Name	Marc Doussard		
Sponsor Email	mdouss1@illinois.edu		
College Contact	Nicole Turner	College Contact Email	
	nicturn@illinois.edu		
College Budget Officer	Greg Anderson		
College Budget Officer Email	gnanders@illinois.edu		

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

KR Dean

Does this program have inter-departmental administration?  
Yes

Interdisciplinary Colleges and Departments (list other colleges/departments which are involved other than the sponsor chose above)

Please describe the oversight/governance for this program, e.g., traditional departmental/college governance. Inclusion of/roles of elected faculty committees? Inclusion of/roles of any advisory committees.

College	Fine & Applied Arts
Department	Architecture

Is there an additional department involved in governance?  
No

## Proposal Title

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Joint Program in the Master of Architecture in Architecture and Master of Urban Planning in Urban Planning in the College of Fine and Applied Arts and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

1. Revision to POS to clarify joint program requirements and overlap. 2. Change in GPA to 3.0 for the joint program in Program Features section.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

## Why are these changes necessary?

In the last program revision, the complete requirements for each program were entered into the Program of Study. We need to clarify the overlap and document the requirements of the joint degree.

A. This was completed by reducing the MUP recommended concentration/electives from 32 to 2 (-30 hours), which reduces the 64 hour program to 32 hours.

B. For the MARCH 2 Year track, this was completed by adding a statement "For the joint program, the 32 hours of MARCH courses must be selected in consultation with an advisor from the following:" which designates that even though the total credit hours for the program still add up to 64 that the 32 required hours can be selected through consultation with advisor.

C. For the MARCH 3 year track, no changes were needed because the total listed is 54 hours, which is the minimum required in that program since students are entering the program with only a four-year baccalaureate in architectural studies.

D. Additionally, in the 'Other Requirements' table this statement is removed: "Up to 8 hours of UP coursework may be applied to the MARCH degree at the department's discretion." because the clarification for how the MARCH hours are earned is provided in the POS table.

E. Headers were updated to add "Requirements for the Joint Program" for the MUP and MARCH and "for the Joint Program" header was added to the Total Minimum Hours POS.

2. GPA: The Grad Handbook says "Students enrolled in joint degree programs must meet the minimum GPA requirements of both degree programs in order to maintain satisfactory academic progress and to graduate." According to the Grad College (8.1.23), "in practice is that joint students have to meet the GPA of the lower and the higher program. So, by default they need to meet the higher GPA. This is because the Grad College only has one GPA to look at to determine probation and graduation, and it is calculated using all the coursework the student has taken as a grad student." Because the MARCH requires a 2.75 and the MUP requires a 3.0, the joint program minimum GPA is a 3.0."

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

# Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

#### MASTER OF URBAN PLANNING

To be consistent with our accreditation requirements, we are using the Knowledge, Skills, and Values identified by the Planning Accreditation Board (PAB) as desired outcomes for planning education.

##### A.1. General planning knowledge:

Purpose and Meaning of Planning:

Planning Theory:

Planning Law:

Human Settlements and History of Planning:

The Future:

Global Dimensions of Planning:

##### A.2. Planning skills:

ResearchWritten, Oral and Graphic Communication:

Quantitative and Qualitative Methods:

Plan Creation and Implementation: is able to use Planning Process Methods:

Leadership:

##### A.3. Values and ethics

Professional Ethics and Responsibility:

Governance and Participation:

Sustainability and Environmental Quality:

Growth and Development: Social Justice:

-----

#### MASTER OF ARCHITECTURE

##### 1. Apply Specialized Knowledge

Engage in the practice of architecture in its many forms.

Employ design processes to understand, conceive, and create the many facets of built environments.

Utilize the interplay of form and space to create compelling experiences in the built environment.

Address environmental, social, political, cultural, and economic challenges through the application of design inquiry.

Apply advanced documentation, research, analysis, and design techniques to create innovative design solutions to pressing global challenges.

##### 2. Apply Broad and Integrative Knowledge

Solve complex problems through the use of advanced design techniques.

Communicate complex ideas and concepts through a mastery of graphic, verbal, physical, and digital means.

Integrate community voices, cultural perspectives, and participatory practices into design solutions.

Employ an understanding of the complex intersections between design and environmental, social, economic, political, and cultural phenomena in historical and

contemporary contexts.

Use scholarly inquiry to answer questions in support of design solutions.

### 3. Utilize Differentiated Modes of Thinking

Understand, differentiate, and apply analytical, critical, and conceptual thinking to the design challenges of the twenty-first century.

Evaluate and apply theories of the built environment to understand their impacts on global ecology, human experience, and wellbeing.

Research and critically analyze historic and contemporary humanistic conditions related to the built environment in local, regional, and global geographies.

### 4. Collaborate Successfully

Foster teamwork and consensus decision-making.

Lead and steer complex processes to completion.

Value and integrate interdisciplinarity as well as diverse disciplinary approaches in the realm of design,

### 5. Contributing to Community, Civic, and Global Equity

Demonstrate the ability to make empathic and ethical decisions throughout the design process.

Work toward a more inclusive profession that welcomes practitioners of all genders, abilities, races, ethnicities, and ages.

Foreground social, environmental, and economic justice in the design of the environment to contribute to greater equity, diversity, and inclusion.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.

Revised programs [MUP MARCH FA 24 side by side.docx](#)  
Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

Catalog Page Text - Overview Tab

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

Statement for  
Programs of  
Study Catalog      **Master of Urban Planning in Urban Planning Requirements for the Joint Program**

Course List

Code	Title	Hours
<a href="#">UP 501</a>	Planning History and Theory	4
<a href="#">UP 503</a>	Physical Planning	4
<a href="#">UP 504</a>	Urban History and Theory	4
<a href="#">UP 505</a>	Urban and Regional Analysis	2
<a href="#">UP 510</a>	Plan Making	4
<a href="#">UP 511</a>	Law and Planning	4
<a href="#">UP 590</a>	Professional Internship (reduces the hours needed to graduate by 4)	0
Recommended concentration/electives		2
Non-Thesis Option		
<a href="#">UP 591</a>	Capstone Seminar (enrollment required for 0 hours one term & 4 hours one term)	4
<a href="#">UP 598</a>	Master's Project (min/max applied toward degree)	4
Thesis Option		
<a href="#">UP 591</a>	Capstone Seminar (enrollment required for two semesters)	0
<a href="#">UP 599</a>	Thesis Research (min/max applied toward degree)	8
Total Hours		32

**Master of Architecture in Architecture Requirements for the Joint Program Architecture Architecture: 2 Year, MARCH**

Course List

Code	Title	Hours
<u>For the joint program, the 32 hours of MArch courses must be selected in consultation with an advisor from the following:</u>		
<a href="#">ARCH 501</a>	Architectural Practice	3
<a href="#">ARCH 517</a>	Modern Architectural History, 1850-Present	3
<a href="#">ARCH 536</a>	Planning and Design of Structural Systems	4
<a href="#">ARCH 537</a>	Environmental Control Systems II	4
<a href="#">ARCH 538</a>	Integrative Design of Buildings	4
Three graduate design studios		18
<a href="#">ARCH 575</a>	Integrative Architecture Design Studio	6
<a href="#">ARCH 577</a>	Theories of Architecture	4
Electives (Architecture graduate seminars and other approved courses)		16
Total Hours		32

# Architecture: Track 3 MARCH

## Course List

Code	Title	Hours
Thesis Option		
One course in architectural practice		
One core elective each from a select list of courses in architectural thought		
One core elective each from a select list of courses in professional practice		
Four studios including two semesters of comprehensive design		
One course in structural planning		
Students must also complete prerequisites, which are determined individually and do not count toward the required number of hours required		
ARCH 599	Thesis Research (min/max applied toward degree)	0
Thesis Option Total Hours		54

Non-Thesis Option		
One course in architectural practice		
One core elective each from a select list of courses in architectural thought		
One core elective each from a select list of courses in professional practice		
Four studios including two semesters of comprehensive design		
One course in structural planning		
Students must also complete prerequisites, which are determined individually and do not count toward the required number of hours required		
Non-Thesis Total Hours:		54

## Other Requirements for Joint MARCH and MUP degrees

Grad Other Degree Requirements		
Requirement		Description
Other requirements may overlap		
Enrollment in each program at least 2 semesters		
Minimum 500-level hours required overall for MARCH		12
Minimum 500-level hours required overall for MUP		16 (12 in UP)
Minimum hours within UP		32
<del>Up to 8 hours of UP coursework may be applied to the MARCH degree at the department's discretion.</del>		

If pursuing the MARCH thesis option, the thesis committee chair must be full-time in Architecture and one committee member must be from Urban Planning.  
MARCH Candidates must spend at least four semesters and earn at least half of the required graduate hours in residence  
Must earn a letter grade of C or better in all core MARCH courses.

Minimum GPA	3.00
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## Course List

Code	Title	Hours
Total Minimum Hours for the Joint Program		
Candidates entering the program with a five-year Bachelor of Architecture degree		64
32 hours in Architecture and 32 hours in Urban Planning		
If admitted with full status, may complete the program in four semesters and a summer session		
Candidates entering the program with a four-year baccalaureate in architectural studies		86
54 hours in Architecture and 32 hours in Urban Planning		
If admitted with full status, may complete the program in six semesters and one summer session		

# Program Relationships

Identify the  
existing programs  
to be joined:

Corresponding Program(s)
Architecture, MARCH
Urban Planning, MUP

## Program Features

Academic Level      Graduate

What is the typical time to completion of this program?  
3 years

What are the minimum Total Credit Hours required for this program?  
64

What is the                3.0 ~~2.75~~  
required GPA?

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
  
No

## Delivery Method

This program is  
available:  
On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective  
Admissions Term

Is this revision a change to the admission status of the program?  
  
No

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.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

No impact.

Estimated Annual Number of Degrees Awarded

Year One Estimate

5th Year Estimate (or when  
fully implemented)

## Budget

Are there                      No  
budgetary  
implications for  
this revision?

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

Additional Budget  
Information

Attach File(s)

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base  
Tuition, or Engineering Differential, or Social Work Online (no dollar amounts  
necessary)

Are you seeking a change in the tuition rate or differential for this  
program?  
No

Is this program requesting self-supporting status?  
No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

No impact.

## 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.

Library collections, resources and services are sufficient to support this joint graduate program revision.

## EP Documentation

EP Control Number                      EP.25.035

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook                      NONE:MARCH/UrbanPIng(MUP)-UIUC (10KS8118NONE)  
Name

Program Code:                      10KS0155MUP & 10KS0247MARC(or 0248)

Minor Code	Conc Code	Degree Code	Major Code
------------	-----------	-------------	------------

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval  
Date

Effective Date:

Program Reviewer **Mary Lowry (lowry) (07/26/24 4:21 pm):** Rollback: Just one request. See email  
Comments dated 7-26-24.

Key: 1084

Date Submitted: 10/29/24 5:34 pm

Viewing: **10KR5749BS : Sustainable Design, BS**

Last approved: 04/22/24 1:40 pm

Last edit: 11/07/24 2:04 pm

Changes proposed by: Nicole Turner

Catalog Pages [Sustainable Design, BS](#)  
Using this Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1644 Head
- 3. KR Dean
- 4. University Librarian
- 5. COTE Programs
- 6. Provost
- 7. Senate EPC
- 8. Senate
- 9. U Senate Conf
- 10. Board of Trustees
- 11. IBHE
- 12. HLC
- 13. DMI

Approval Path

- 1. 11/04/24 11:14 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 11/04/24 5:50 pm  
Nicole Turner (nicturn):  
Approved for 1644 Head
- 3. 11/04/24 5:51 pm  
Nicole Turner (nicturn):  
Approved for KR Dean
- 4. 11/05/24 10:57 am  
Claire Stewart (clairest):  
Approved for University Librarian
- 5. 11/05/24 11:18 am

Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs  
6. 11/07/24 10:06  
am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Sep 3, 2019 by  
Nicole Turner  
(nicturn)
2. Apr 2, 2021 by  
Nicole Turner  
(nicturn)
3. Apr 27, 2022 by  
Nicole Turner  
(nicturn)
4. Mar 15, 2023 by  
Nicole Turner  
(nicturn)
5. Apr 22, 2024 by  
Nicole Turner  
(nicturn)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program  
Name Sustainable Design, BS

Diploma Title Bachelor of Science in Sustainable Design

Sponsor College Fine & Applied Arts

Sponsor  
Department Fine and Applied Arts

Sponsor Name Karin Hodgins Jones

Sponsor Email khodgin2@illinois.edu

College Contact Nicole Turner

College Contact

Email                      nicturn@illinois.edu

College Budget            Greg Anderson  
Officer

College Budget            gnanders@illinois.edu  
Officer Email

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

KR Dean/nicturn@illinois.edu

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog        Fall 2025  
Term

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Sustainable Design in the College of Fine and Applied Arts

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief            1. Revise ARCH 273 in list of SD major electives so that the course is 4 hours (correct)  
description of            instead of 3 hours as currently listed  
what changes are  
being made to the  
program.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1. The fall 2024 red box error report indicated this error. This update corrects the error. The course was revised from 3 to 4 credit hours for fall 2024 and the POS box had 3 manually typed in, so it did not automatically change to 4.

40 advanced hours

ARTD 326 - 3 hrs

ARCH 321 - 3 hrs

ARTD 451 - 4 hrs

FAA 330 - 5 hrs

FAA 430 - 3 hrs

FAA 431 - 5 hrs

10 hrs of 300/400 level SD major electives - 10 hrs

free electives - 7 hrs

No change to program, degree hours, sample schedule.

11.4.24 N. Turner approved on behalf of FAA Courses & Curricula Committee

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

The Student Learning objectives (SLO) are:

1. Students will have a deep level of understanding of the fundamentals of sustainability and their functional links to the built environment
2. Students will have a deep level of understanding of the fundamentals of design thinking and practice
3. Students will be proficient in applying basic principles of visual and material communication, including sketching, drafting, model-making, 2-d and 3-d design software and geographic information systems.
4. Students will be able to combine design theory and practice with sustainability principles to address environmental issues at the product, building, neighborhood, city, landscape and global levels.
5. Students will be comfortable working in multidisciplinary teams to solve complex design problems

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Assessment criteria will be based on the program's learning objectives. Students will be assessed according to the above learning objectives in each of their courses, and at the end of their program through the capstone project. For studio courses we invite critics from private firms, nonprofits and City officials to review students' work and offer feedback. Course instructors will be responsible for evaluating students' performance in their courses through formative and summative assessments of work (short, cumulative assignments throughout the semester, essays, portfolios, exhibits, reflections).

Student performance and course effectiveness are regularly evaluated by individual instructors and are based on course-embedded projects and assessment, class critiques, student program exhibits, capstone projects, portfolios, a BSSD exhibition, and student course evaluations. Studio and seminar faculty teaching in the BSSD will assess individual student performance on a regular basis.

The first level of governance for the major will be a faculty program coordinator from one of the units in the College of Fine and Applied Arts, along with one faculty person from each of the remaining three units, to form a courses and curricula committee to provide a first level of governance for all academic program concerns. This committee will meet regularly during the program startup to evaluate its success.

The following assessment data will be used to aid the evaluation of the program:

- Admission numbers disaggregated by race, gender, socio-economic status, geography, concentration, and academic year
- Student performance data
- Student participation in study abroad programs
- Undergraduate research opportunities
- Retention rates and average time to complete the degree
- Student and alumni feedback
- Senior exit survey
- Student awards and recognition outside the School of Art and Design
- Job placements
- Graduate School placements
- Alumni Surveys

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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

## 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/PublicAdminRules2017.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.*

Revised programs      Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

### Catalog Page Text - Overview Tab

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

The major in Sustainable Design offers an innovative, interdisciplinary course of study in design, with a focus on building sustainable communities through the intentional design of environmentally sensitive products, buildings, neighborhoods, landscapes and cities.

The program grounds concrete skills development with opportunities to move between disciplinary barriers, allowing students to prepare for the future in a sustainable world where ideas from many disciplines will be necessary to solve the complex problems of pollution reduction, energy conservation, and biodiversity protection in equitable, healthy, and thriving places.

Required introductory coursework provide a solid grounding in design thinking and skills, coupled with a broad understanding of the role of design in achieving sustainable results across scales. Students will apply their skills and knowledge in a required senior capstone project.

With expertise across disciplines, students in this program will be prepared to work in the public and private sector, or continue preparation in a variety of professional graduate programs such as Architecture, Industrial Design, Landscape Architecture, Urban Design and Urban Planning.

Statement for

Programs of

Study Catalog

### **Graduation Requirements**

Minimum hours required for graduation: 120 hours.

### **University Requirements**

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the [Student Code](#) (§ 3-801) and in the [Academic Catalog](#).

### **General Education Requirements**

Follows the [campus General Education \(Gen Ed\) requirements](#). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
	Composition I	4-6
	Advanced Composition	3
	Humanities & the Arts (6 hours)	6
	fulfilled by <a href="#">ARTH 211</a> and <a href="#">FAA 201</a>	
	Natural Sciences & Technology (6 hours)	6
	Social & Behavioral Sciences (6 hours)	6
	Cultural Studies: Non-Western Cultures (1 course)	3
	Cultural Studies: US Minority Cultures (1 course)	3
	fulfilled by <a href="#">FAA 201</a>	
	Cultural Studies: Western/Comparative Cultures (1 course)	3
	Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)	6-10
	Language Requirement (Completion of the third semester or equivalent of a language other than English is required)	0-15

### Sustainable Design Requirements

Course List		
Code	Title	Hours
	Foundation	18
<a href="#">FAA 101</a>	Arts at Illinois	1
<a href="#">FAA 230</a>	Sustainable Design of the Built Environment	3
<a href="#">LA 101</a>	Introduction to Landscape Arch	2
<a href="#">ARCH 171</a>	Introduction to Design I	3
<a href="#">ARCH 172</a>	Introduction to Design II	3
<a href="#">FAA 201</a>	Black Arts Today	3
<a href="#">ARTH 211</a>	Design History Survey	3
	Urban Scale Sustainability (select one course)	3
<a href="#">UP 136</a>	Urban Sustainability	3
<a href="#">UP 205</a>	Ecology & Environmental Sustainability	3
<a href="#">ARCH 237</a>	Urban Scale Sustainability	3
	Drawing (select one course)	3
<a href="#">ARTD 225</a>	Design Drawing	3
<a href="#">ARTF 102</a>	Observational Drawing	3
<a href="#">ARTF 103</a>	Design I	3
<a href="#">LA 280</a>	Design Communications I (limited seats solely for BSSD/MLA 4+2 students)	3
	Core	15
<a href="#">FAA 330</a>	Making Sustainable Design	5
<a href="#">ARTD 326</a>	Sustainability & Manufacturing	3
<a href="#">ARCH 321</a>	Environment, Architecture, and Global Health	3
<a href="#">ARTD 451</a>	Ethics of a Designer in a Global Economy	4
	Senior Capstone	8
<a href="#">FAA 430</a>	Capstone Seminar	3
<a href="#">FAA 431</a>	Capstone Studio	5
	Total Hours	47

### Sustainable Design Major Electives

Course List		
Code	Title	Hours
Select 16 credit hours, with at least 10 hours at the 300 or 400-level, and with approval of advisor.		

Code	Title	Hours
<a href="#">ARTD 230</a>	Design Thinking/Need-Finding	3
<a href="#">ARTD 270</a>	Design Methods	2
<a href="#">ART 205</a>	Experience & Meaning in Design	3
<a href="#">ART 208</a>	Digital Art and Sustainability	3
<a href="#">ART 310</a>	Design Thinking	3
<a href="#">ARTJ 398</a>	Designing Everyday Life in Modern Japan	3
<a href="#">ARTD 426</a>	Product Innovation	3
<a href="#">ARTS 321</a>	Sustainable Fashion Development and Branding	3
<a href="#">UP 203</a>	Cities: Planning & Urban Life	3
<a href="#">UP 204</a>	Chicago: Planning & Urban Life	3
<a href="#">UP 205</a>	Ecology & Environmental Sustainability (may not double count as a major requirement)	3
<a href="#">UP 246</a>	International Environmental Planning and Governance	3
<a href="#">UP 340</a>	Planning for Healthy Cities	3
<a href="#">UP 405</a>	Watershed Ecology and Planning	4
<a href="#">UP 406</a>	Urban Ecology	4
<a href="#">UP 418</a>	GIS for Planners	4
<a href="#">UP 420</a>	Plng for Historic Preservation	4
<a href="#">UP 430</a>	Urban Transportation Planning	4
<a href="#">UP 434</a>	Pedestrian and Bicycle Planning	3
<a href="#">UP 437</a>	Public Transportation Planning	3
<a href="#">UP 456</a>	Sustainable Planning Workshop	4
<a href="#">UP 479</a>	Community Engagement in Planning	3
<a href="#">UP 486</a>	Planning with Climate Change	4
<a href="#">UP 494</a>	Special Topics in Planning	1-4
<a href="#">ARCH 210</a>	Introduction to the History of World Architecture	3
<a href="#">ARCH 231</a>	Anatomy of Buildings	4
<a href="#">ARCH 237</a>	Urban Scale Sustainability (may not double count as a major requirement)	3
<a href="#">ARCH 273</a>	Fundamentals of Design I	4
<a href="#">ARCH 416</a>	The Architecture of the United States, c.1650 to Present	3
<a href="#">ARCH 417</a>	Modern and Contemporary Global Architecture	3
<a href="#">LA 222</a>	Islamic Gardens & Architecture	3
<a href="#">LA 314</a>	History of World Landscapes	4
<a href="#">LA 370</a>	Environmental Sustainability	3
<a href="#">LA 446</a>	Sustainable Planning Seminar	4
<a href="#">LA 466</a>	Energy & the Built Environment	4
<a href="#">LA 480</a>	Sustainable Design Principles	2
<a href="#">FAA 491</a>	Special Problems in Sustainable Design	1 to 4
Other courses approved by advisor		
Total Hours (minimum)		16

### Summary of Credits for Bachelor of Science in Sustainable Design

Course List		
Code	Title	Hours
General Education requirements		
Sustainable Design Major		47
Major Electives		16
Free Electives		
A minimum of 40 credits at the 300 or 400 course level are required		

Code	Title	Hours
Total Hours		120

Corresponding Degree	BS Bachelor of Science
----------------------	------------------------

## Program Features

Academic Level	Undergraduate
----------------	---------------

Does this major have transcripted concentrations?	No
---	----

What is the typical time to completion of this program?	4 years
---	---------

What are the minimum Total Credit Hours required for this program?	120
--	-----

CIP Code	303301 - Sustainability Studies.
----------	----------------------------------

Is This a Teacher Certification Program?	No
--	----

Will specialized accreditation be sought for this program?	No
--	----

## Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective Admissions Term
-----------------------------------

Is this revision a change to the admission status of the program?	No
---	----

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.

Program does not require a portfolio, there is no licensure component, and admissions requirements are managed by Undergraduate Admissions. Transfer admissions requirements remain the same (<https://admissions.illinois.edu/Apply/Transfer/handbook>), as do inter-college transfer requirements (<https://faa.illinois.edu/majors-minors/prospective-students>).

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

No impact.

Estimated Annual Number of Degrees Awarded

Year One Estimate	0	5th Year Estimate (or when fully implemented)	10-20
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What is the matriculation term for this program?

Fall

## 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

Attach File(s)

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base

Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

FAA Undergrad Differential

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

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

No impact.

## 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.

Library's resources, collections, and services are sufficient to meet the needs of the program outlined in this proposal.

## EP Documentation

EP Control Number      EP.25.035

Attach Rollback/  
Approval Notices

This proposal      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook Name      BS: Sustainable Design - UIUC

Program Code:      10KR5749BS

Minor Code	Conc Code	Degree Code	BS	Major Code
5749				

Senate Approval  
Date

Senate

Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval        NA  
Date

Effective Date:

Program Reviewer    **Brooke Newell (bsnewell) (11/04/24 7:52 am):** Per discussion with Nicole, copied  
Comments            the 40 hour statement from previous revision in Spring 2024 into the Justification for  
                             this revision.

**Brooke Newell (bsnewell) (11/04/24 8:51 am):** No U Program Review Comments

Date Submitted: 08/19/24 2:43 pm

Viewing: **10KP0133BS : Mechanical Engineering, BS**

Last approved: 11/16/23 4:05 pm

Last edit: 11/07/24 2:04 pm

Changes proposed by: Stephanie Ott-Monsivais

Catalog Pages [Mechanical Engineering, BS](#)  
Using this Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1917 Head
- 3. KP Committee Chair
- 4. KP Dean
- 5. University Librarian
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DMI

Approval Path

- 1. 08/26/24 3:14 pm  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 08/26/24 9:27 pm  
Sanjiv Sinha (sanjiv): Approved for 1917 Head
- 3. 10/29/24 11:48 am  
Keri Pipkins (kcp): Approved for KP Committee Chair
- 4. 10/29/24 1:26 pm  
Cindy Pruitt (cpruitt): Approved for KP Dean
- 5. 11/05/24 10:56 am  
Claire Stewart (clairest):

Approved for  
University  
Librarian

6. 11/05/24 11:18  
am

Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs

7. 11/07/24 10:06  
am

Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Dec 13, 2018 by  
Deb Forgacs  
(dforgacs)

2. Apr 25, 2019 by  
Deb Forgacs  
(dforgacs)

3. Aug 12, 2019 by  
Deb Forgacs  
(dforgacs)

4. Feb 26, 2020 by  
Brooke Newell  
(bsnewell)

5. Mar 31, 2020 by  
Deb Forgacs  
(dforgacs)

6. Apr 14, 2020 by  
Deb Forgacs  
(dforgacs)

7. May 10, 2021 by  
Stephanie Ott-  
Monsivais  
(ottmonsi)

8. Oct 8, 2021 by  
Brooke Newell  
(bsnewell)

9. Apr 5, 2022 by  
Stephanie Ott-  
Monsivais  
(ottmonsi)

10. Nov 16, 2023 by

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name Mechanical Engineering, BS

Diploma Title

Sponsor College Grainger College of Engineering

Sponsor Department Mechanical Sci & Engineering

Sponsor Name Stephanie Ott-Monsivais

Sponsor Email ottmonsi@illinois.edu

College Contact Jonathan Makela

jmakela@illinois.edu

College Contact  
Email

College Budget Officer Tessa Hile

College Budget Officer Email tmhile@illinois.edu

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Kate Freeman, katefree@illinois.edu, ~~Brooke Newell, bsnewell@illinois.edu~~, GCOE;  
Stephanie Ott-Monsivais, ottmonsi@illinois.edu, MechSE

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog Term Fall 2024

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Mechanical Engineering in the Grainger College of Engineering

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

1. Update of Technical Electives to remove all courses with red-box error:

--CEE 424, 430

--CHEM 474

--CS 457

--ECE 412, 432, 485

--MCB 403, 404

--STAT 458

2. Update of Technical Electives (including Professional Technical Electives, indicated with an \*) to include additional MechSE Undergraduate Programs Committee (UPC) approved courses with affiliated letters of support (LOS).

--ABE 361, 452\*, 454, 457

--AE 435, 480, 485

--ATMS 301, 302, 304, 306, 405, 406, 410, 411, 424

--BIOE 430, 485

--CEE 320, 419, 473, 474, 490

--CHBE 413, 458, 459, 461, 478

--CS 340, 409, 415, 437, 441, 442, 443, 444, 448, 469, 474

--ECE 350, 391, 407, 410, 443, 461, 479

--GEOL 450, 451, 454, 460

--IE 361, 370, 371, 400, 434

--MATH 314, 466

--MSE 464

--NPRE 321, 413, 445, 449, 452

--PHYS 370, 446

--STAT 431, 432, 433, 434, 437

3. Update of Technical Electives (including Professional Technical Electives, indicated with an \*) to include cross-listed courses (note these are listed in the instructional resources section, but do not have letters of support as the primary course has already been approved/accounted for).

--ADV 462, 492

--AE 452, 468

--ANSC 445

--ASRM 402, 450, 451, 453

--ATMS 312, 420

--BADM 460, 461

--BIOE 427, 467, 480  
--CHEM 452  
--CPSC 489  
--CS 407, 482  
--CSE 408, 414, 422, 423, 426, 427, 428, 429, 440, 448, 485  
--ECE 374, 449  
--EPSY 456\*  
--ETMA 430\*  
--IB 421  
--MCB 406, 419, 446  
--NE 410  
--NEUR 419  
--NRES 445  
--PHYS 329  
--PSYC 358, 456\*  
--UP 430\*

4. The introductory economics requirement, ECON 102 or 103, was moved into a major requirement.

5. The formatting of the POS and additional text (e.g., graduation requirements, university requirements, and general education requirements) has been modified to adhere to the campus General Education Template.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1. These courses have been deactivated by the units owning the courses and should be removed from the current program of study as they are no longer offered.
2. To keep the BS ME list of Technical Electives current such that it will include new, revised, and previously unevaluated courses from within UIUC that may be of interest to our BS ME students and are of suitable rigor for an advanced-elective course as determined by the MechSE UPC.
3. To keep the BS ME list of Technical Electives clear, we have made sure to include course cross-listings of current and newly added (see 2.) courses to provide increased transparency.
4. This is an existing degree requirement; however, the introductory economics requirement was defined as text in a paragraph and it is now in the POS table for clarity.
5. Per Office of the Provost General Education initiative for transparency and accessibility.

The minimum 40 hours of upper-division classes for IBHE requirement are met by

- ME 470 (3 credit hours)
- ME 371 (3 credit hours)
- ME 370 (3 credit hours)
- ME 360 (3.5 credit hours)
- ME 340 (3.5 credit hours)
- ME 330 (4 credit hours)
- ME 320 (4 credit hours)
- ME 310 (4 credit hours)
- STAT 400 or IE 300 (4 or 3 credit hours, respectively)
- TAM 251 (3 credit hours) - prerequisites of TAM 210 or 211, which has prerequisites of PHYS 211 and credit or concurrent registration in MATH 241 or MATH 257
- TAM 212 (3 credit hours) - prerequisites of TAM 210 or 211, which has prerequisites of PHYS 211 and credit or concurrent registration in MATH 241 or MATH 257
- TAM 210 (2 credit hours) - prerequisites of PHYS 211 and credit or concurrent registration in MATH 241 or MATH 257
- ME 200 (3 credit hours) - prerequisites of MATH 241, which has a prerequisite of MATH 231
- MATH 285 (3 credit hours) - prerequisites of MATH 241, which has a prerequisite of MATH 231
- MATH 241 (4 credit hours) - prerequisites of MATH 231, which has a prerequisite of MATH 220 or 221
- ECE 206 (1 credit hour) - prerequisites of PHYS 212, which has prerequisites of PHYS 211 and MATH 241
- ECE 205 (3 credit hours) - prerequisites of PHYS 212, which has prerequisites of PHYS 211 and MATH 241
- PHYS 212 (4 credit hours) - prerequisites of PHYS 211 and credit or concurrent registration in MATH 241, which has a prerequisite of MATH 231

--MechSE/Technical Electives (12 credit hours required, minimum of 6 credit hours will fulfill IBHE requirements) and/or Free Electives and/or Science Elective (6 or more credit hours, depending on electives chosen).

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

Yes

Courses outside  
of the sponsoring  
department/  
interdisciplinary  
departments

[ECON 102 - Microeconomic Principles](#)  
[ECON 103 - Macroeconomic Principles](#)  
[AE 435 - Electric Space Propulsion](#)  
[AE 480 - Hypersonic Aerothermodynamics](#)  
[ATMS 301 - Atmospheric Thermodynamics](#)  
[ATMS 304 - Radiative Transfer-Remote Sens](#)  
[ATMS 306 - Cloud Physics](#)  
[ATMS 405 - Boundary Layer Processes](#)  
[ATMS 406 - Tropical Meteorology](#)  
[ATMS 410 - Radar Remote Sensing](#)  
[ATMS 411 - Satellite Remote Sensing](#)  
[ATMS 424 - Atmospheric Convection](#)  
[ECE 350 - Fields and Waves II](#)  
[ECE 391 - Computer Systems Engineering](#)  
[ECE 407 - Cryptography](#)  
[ECE 410 - Neural Circuits and Systems](#)  
[ECE 443 - LEDs and Solar Cells](#)  
[ECE 461 - Digital Communications](#)  
[ECE 479 - IoT and Cognitive Computing](#)  
[CEE 320 - Construction Engineering](#)  
[CEE 419 - Transportation Economics](#)  
[CEE 473 - Wind Effects on Structures](#)  
[CEE 474 - Mechanics of Additive Manufact](#)  
[CEE 490 - Computer Methods](#)  
[NPRE 321 - Intro to Plasmas & Application](#)  
[NPRE 413 - Nucl Separ & Fuel Reprocessing](#)

[NPRE 445 - Interact of Radiation w/Matter](#)  
[NPRE 449 - Nuclear Syst Engrg & Design](#)  
[NPRE 452 - Adv Radiological Science Lab](#)  
[GEOL 450 - Investigating Earth's Interior](#)  
[GEOL 451 - Environmental Geophysics](#)  
[GEOL 454 - Introduction to Seismology](#)  
[GEOL 460 - Geochemistry](#)  
[CHBE 458 - Synthetic Nanomaterials](#)  
[CHBE 459 - Polymer Rheology](#)  
[CHBE 461 - Functional Materials Assembly](#)  
[CHBE 478 - Bioenergy Technology](#)  
[MSE 464 - Magnetic Mat'ls & Applications](#)  
[ATMS 302 - Atmospheric Dynamics I](#)  
[STAT 431 - Applied Bayesian Analysis](#)  
[STAT 432 - Basics of Statistical Learning](#)  
[STAT 433 - Stochastic Processes](#)  
[STAT 434 - Survival Analysis](#)  
[STAT 437 - Unsupervised Learning](#)  
[BIOE 430 - Intro Synthetic Biology](#)  
[BIOE 485 - Comp Math for ML and Imaging](#)  
[PHYS 370 - Intro to Quant Info and Comp](#)  
[PHYS 446 - Modern Computational Physics](#)  
[IE 361 - Production Planning & Control](#)  
[IE 370 - Stochastic Processes & Applic](#)  
[IE 371 - Simulation Modeling for IE](#)  
[IE 400 - Design & Anlys of Experiments](#)  
[IE 434 - Deep Learning: Math/Apl.](#)  
[CS 340 - Intro to Computer Systems](#)  
[CS 409 - The Art of Web Programming](#)  
[CS 415 - Game Development](#)  
[CS 437 - Topics in Internet of Things](#)  
[CS 441 - Applied Machine Learning](#)  
[CS 442 - Trustworthy Machine Learning](#)  
[CS 443 - Reinforcement Learning](#)  
[CS 444 - Deep Learning for Compt Visn](#)  
[CS 448 - Audio Computing Laboratory](#)  
[CS 469 - Comp Adv Infrastructure](#)  
[CS 474 - Logic in Computer Science](#)  
[MATH 314 - Intro Higher Math](#)  
[MATH 466 - Applied Random Processes](#)  
[ABE 361 - Func Analysis Des Agr Mach Sys](#)  
[ABE 452 - Engrg for Disaster Resilience](#)  
[ABE 454 - Environmental Soil Physics](#)  
[ABE 457 - NPS Pollution Processes](#)  
[AE 485 - Spacecraft Environments](#)  
[CHBE 413 - Data Science for Chem & Eng](#)  
[ADV 492 - Tech and Advertising Campaigns](#)  
[ADV 462 - Comp Adv Applications](#)

[AE 452 - Intro to Nonlinear Dyn & Vib](#)  
[AE 468 - Optical Remote Sensing](#)  
[ANSC 445 - Statistical Methods](#)  
[ASRM 402 - Actuarial Statistics II](#)  
[ASRM 450 - Methods of Applied Statistics](#)  
[ASRM 451 - Basics of Statistical Learning](#)  
[ASRM 453 - Applied Bayesian Analysis](#)  
[ATMS 312 - Atmospheric Dynamics II](#)  
[ATMS 420 - Atmospheric Chemistry](#)  
[BADM 460 - Business Process Modeling](#)  
[BADM 461 - Tech, Eng, & Mgt Final Project](#)  
[BIOE 427 - Biomedical Ultrasound Imaging](#)  
[BIOE 467 - Biophotonics](#)  
[BIOE 480 - Magnetic Resonance Imaging](#)  
[CHEM 452 - Data Science for Chem & Eng](#)  
[CPSC 489 - Photosynthesis](#)  
[CS 407 - Cryptography](#)  
[CS 482 - Simulation](#)  
[CSE 408 - Applied Parallel Programming](#)  
[CSE 414 - Fundamental Algorithms](#)  
[CSE 422 - Computer System Organization](#)  
[CSE 423 - Operating Systems Design](#)  
[CSE 426 - Software Engineering I](#)  
[CSE 427 - Interactive Computer Graphics](#)  
[CSE 428 - Statistical Computing](#)  
[CSE 429 - Software Engineering II](#)  
[CSE 440 - Statistical Data Management](#)  
[CSE 448 - Advanced Data Analysis](#)  
[CSE 485 - Atomic Scale Simulations](#)  
[ECE 374 - Intro to Algs & Models of Comp](#)  
[ECE 449 - Machine Learning](#)  
[EPSY 456 - Human Perform & Cogn in Contxt](#)  
[ETMA 430 - Project Management](#)  
[IB 421 - Photosynthesis](#)  
[MCB 406 - Gene Expression & Regulation](#)  
[MCB 419 - Brain, Behavior & Info Process](#)  
[MCB 446 - Physical Biochemistry](#)  
[NE 410 - Neural Circuits and Systems](#)  
[NEUR 419 - Brain, Behavior & Info Process](#)  
[NRES 445 - Statistical Methods](#)  
[PHYS 329 - Atmospheric Dynamics I](#)  
[PSYC 358 - Human Factors](#)  
[PSYC 456 - Human Performance and Cognition in Context](#)  
[UP 430 - Urban Transportation Planning](#)

Please attach any [ME BS Request for Letter of Support - Economics\\_SP24.docx](#)  
 letters of support/  
 acknowledgement [ME BS Request for Letter of Support - ECE\\_SP24.pdf](#)  
 for any [ME BS Request for Letter of Support - CEE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - NPRE\\_SP24.pdf](#)

Instructional  
Resources  
consider faculty,  
students, and/or  
other impacted  
units as  
appropriate.

[ME BS Request for Letter of Support - GEOL\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - CHBE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - MSE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - ATMS\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - BIOE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - PHYS\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - ISE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - ABE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - STAT\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - MATH\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - CS\\_SP24.pdf](#)  
[ME BS Request for Letter of Support - AE\\_SP24.pdf](#)  
[ME BS Request for Letter of Support -  
CHBE\\_SP24\\_CHBE413\\_Addition.pdf](#)

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Data is collected and evaluated every 3 years for key curricular courses, in coordination with the faculty teaching the course in the chosen semester. Courses to be evaluated are determined by the MechSE Undergraduate Programs Committee (UPC) to be necessary to evaluate program outcomes (listed below #1. through 7.). This process allows the program to make and assess changes, advising processes, and the assessment process itself during the 6-year ABET evaluation cycle.

Each instructor (to allow for separation of lecture section results) is asked to classify the outcome attainment of all of the students in one of the five categories: Unsatisfactory (0), Marginal (1), Satisfactory (2), Mastery (3), or did not complete the assignment according to the provided rubrics. To form a metric for each program outcome, we define a performance indicator assessment ratio as the sum of the students who attained "Satisfactory (2)" and "Mastery (3)" achievement of a given performance indicator divided by the number of students who were assessed.

The UPC will evaluate all direct outcomes assessment data and discuss opportunities for improvement according to the 3-year assessment cycle. If the performance indicator assessment ratio is less than 75% for a given outcome, for a given section of a course, for a given semester then the UPC must investigate. In such cases, the UPC would first determine if further action is deemed appropriate. An example of why further action is not deemed necessary includes, but is not limited to, that the assessment ratio for one particular section of the assessed course is slightly below 75% due to small sample sizes or other explainable statistical variation in the numbers. If further action is deemed appropriate, then the UPC or a UPC appointed ad-hoc subcommittee would evaluate the assessment material, identify opportunities to improve the program if the assessment appears accurate, or improve the assessment process if the method of assessment appears lacking or inappropriate in some regard. If an improvement to either the program, assessment process or both is implemented, the performance indicator for the given outcome is reassessed and then reevaluated. If the performance indicator assessment ratios are all equal or greater than 75%, then the level of attainment is considered satisfactory and investigation is not required for the given performance indicator of the given outcome.

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Program outcomes and learning objectives:

The Mechanical Engineering Program prepares graduates to achieve the following student outcomes by the time of graduation:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide

leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs [ME\\_Sample\\_Sequence\\_SP2024.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

Catalog Page Text - Overview Tab

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

The Mechanical Engineering program at Illinois (accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)) is one of the most diverse engineering majors and plays a major role in advancing almost every industry. Students study physical principles behind how forces act on bodies of solids or fluids and the interaction of these bodies with their environments through exchanges of energy. Further, Mechanical Engineering students learn how to apply these basic principles in designing, manufacturing, and controlling machines and complex systems. Examples include systems that apply loads, transport matter and energy, and convert one form of energy to another. Mechanical Engineering is a broad major that is well suited for students interested in how the world around them moves and changes.

Statement for  
Programs of **Graduation Requirements**  
Study Catalog ~~Minimum Technical GPA: 2.0~~

Minimum hours required for graduation: 128 hours.

Minimum Overall GPA: 2.0

Minimum Technical GPA: 2.0

~~2.0~~

TGPA is required for required Engineering courses and any technical elective courses. See ~~See~~**Technical GPA** to clarify requirements.

**University Requirements**

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (§ 3-801) and in the Academic Catalog.

**General Education Requirements**

~~Minimum Overall GPA: 2.0 Minimum hours required for graduation: 128 hours General education: Follows the campus~~ Students must complete the Campus General Education (Gen Ed) requirements, including the campus general education language requirement. Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
<u>Composition I</u>		<u>4-6</u>
<u>Advanced Composition</u>		<u>3</u>
<u>fulfilled by ME 470</u>		
<u>Humanities &amp; the Arts (6 hours)</u>		<u>6</u>
<u>Natural Sciences &amp; Technology (6 hours)</u>		<u>6</u>
<u>fulfilled by CHEM 102, PHYS 211, PHYS 212</u>		
<u>Social &amp; Behavioral Sciences (6 hours)</u>		<u>6</u>
<u>fulfilled by ECON 102 or ECON 103, and any other course approved as Social &amp; Behavioral Sciences</u>		
<u>Cultural Studies: Non-Western Cultures (1 course)</u>		<u>3</u>
<u>Cultural Studies: US Minority Cultures (1 course)</u>		<u>3</u>
<u>Cultural Studies: Western/Comparative Cultures (1 course)</u>		<u>3</u>
<u>Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)</u>		<u>6-10</u>

Code	Title	Hours
	<u>fulfilled by MATH 220 or MATH 221; and MATH 231, MATH 241, MATH 285, PHYS 211, PHYS 212</u>	
	<u>Language Requirement (Completion of the third semester or equivalent of a language other than English is required)</u>	<u>0-15</u>
<b><u>Major Requirements</u></b>		
<del>One of the SBS courses must be an introductory economics course (ECON 102 or ECON 103). ME 470 will satisfy a core course requirement and the Campus General Education Advanced Composition requirement. Orientation and Professional Development Foundational Mathematics and Science Mechanical Engineering Technical Core Technical Electives Free Electives</del>		
Course List		
Code	Title	Hours
<u>ENG 100</u>	Grainger Engineering Orientation Seminar (External transfer students take <u>ENG 300</u> .)	1
<u>ME 290</u>	Seminar	0
Total Hours		1
<b><u>Introductory Economics Elective</u></b>		
Course List		
Code	Title	Hours
<u>ECON 102</u>	<u>Microeconomic Principles</u>	3
or <u>ECON 103</u>	<u>Macroeconomic Principles</u>	
Total Hours		3
<b><u>Foundational Mathematics and Science</u></b>		
Course List		
Code	Title	Hours
<u>CHEM 102</u>	General Chemistry I	3
<u>CHEM 103</u>	General Chemistry Lab I	1
<u>MATH 221</u>	Calculus I ( <u>MATH 220</u> may be substituted. <u>MATH 220</u> is appropriate for students with no background in calculus. 4 of 5 credit hours count towards degree.)	4
<u>MATH 231</u>	Calculus II	3
<u>MATH 241</u>	Calculus III	4
<u>MATH 257</u>	Linear Algebra with Computational Applications	3
<u>MATH 285</u>	Intro Differential Equations	3
<u>PHYS 211</u>	University Physics: Mechanics	4
<u>PHYS 212</u>	University Physics: Elec & Mag	4
Total Hours		29
<b><u>Mechanical Engineering Technical Core</u></b>		
Course List		
Code	Title	Hours
<u>CS 101</u>	Intro Computing: Engrg & Sci ( <u>CS 124</u> or <u>ECE 220</u> may be substituted.)	3
<u>ECE 205</u>	Electrical and Electronic Circuits ( <u>ECE 110</u> and either <u>ECE 210</u> or <u>ECE 211</u> may be substituted.)	3
<u>ECE 206</u>	Electrical and Electronic Circuits Lab	1
<u>ME 170</u>	Computer-Aided Design	3
<u>ME 270</u>	Design for Manufacturability	3
<u>ME 200</u>	Thermodynamics	3
<u>ME 310</u>	Fundamentals of Fluid Dynamics	4
<u>ME 320</u>	Heat Transfer	4
<u>ME 330</u>	Engineering Materials	4

Code	Title	Hours
<a href="#">ME 340</a>	Dynamics of Mechanical Systems	3.5
<a href="#">ME 360</a>	Signal Processing	3.5
<a href="#">ME 370</a>	Mechanical Design I	3
<a href="#">ME 371</a>	Mechanical Design II	3
<a href="#">ME 470</a>	Senior Design Project	3
<a href="#">TAM 210</a>	Introduction to Statics	2
<a href="#">TAM 212</a>	Introductory Dynamics	3
<a href="#">TAM 251</a>	Introductory Solid Mechanics	3
Total Hours		52

### Technical Electives

Course List		
Code	Title	Hours
Science elective(s), chosen from one of the following:		4
<a href="#">CHEM 104</a>	General Chemistry II	
& <a href="#">CHEM 105</a>	and General Chemistry Lab II	
<a href="#">MCB 150</a>	Molec & Cellular Basis of Life	
<a href="#">PHYS 213</a>	Univ Physics: Thermal Physics	
& <a href="#">PHYS 214</a>	and Univ Physics: Quantum Physics	
Statistics elective, one course chosen from:		3
<a href="#">IE 300</a>	Analysis of Data	
<a href="#">STAT 400</a>	Statistics and Probability I	
MechSE electives chosen from the departmentally approved list below.		6
All 400 level ME courses, except 470 and potentially 497, 498 (As Approved)		
All 400 level TAM courses, except potentially 497, 498 (As Approved)		
Technical electives chosen from the departmentally approved list below.		6
<a href="#">ABE 361</a>	<a href="#">Functional Analysis and Design of Agricultural Machine Systems</a>	<a href="#">3</a>
<a href="#">ABE 430</a>	Project Management (As Approved)	2
<a href="#">ABE 436</a>	Renewable Energy Systems	3 or 4
<a href="#">ABE 445</a>	Statistical Methods	4
<a href="#">ABE 452</a>	<a href="#">Engineering for Disaster Resilience (As Approved)</a>	<a href="#">3 or 4</a>
<a href="#">ABE 454</a>	<a href="#">Environmental Soil Physics</a>	<a href="#">3</a>
<a href="#">ABE 455</a>	Erosion and Sediment Control	2
<a href="#">ABE 456</a>	Land & Water Resources Engrg	3 or 4
<a href="#">ABE 457</a>	<a href="#">NPS Pollution Processes</a>	<a href="#">2</a>
<a href="#">ABE 459</a>	Drainage and Water Management	3 or 4
<a href="#">ABE 466</a>	Engineering Off-Road Vehicles	3
<a href="#">ABE 469</a>	Capstone Design Experience	4
<a href="#">ABE 476</a>	Indoor Air Quality Engineering	4
<a href="#">ABE 483</a>	Engineering Properties of Food Materials	3
<a href="#">ABE 488</a>	Bioprocessing Biomass for Fuel	4
<a href="#">ABE 497</a>	Independent Study (As Approved)	1 to 4
<a href="#">ABE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">ADV 462</a>	<a href="#">Computational Advertising Infrastructure</a>	<a href="#">3 or 4</a>
<a href="#">ADV 492</a>	<a href="#">Tech and Advertising Campaigns</a>	<a href="#">3</a>
<a href="#">AE 352</a>	Aerospace Dynamical Systems	3
<a href="#">AE 402</a>	Orbital Mechanics	3 or 4
<a href="#">AE 403</a>	Spacecraft Attitude Control	3 or 4

Code	Title	Hours
<a href="#">AE 410</a>	Computational Aerodynamics	3 or 4
<a href="#">AE 412</a>	Viscous Flow & Heat Transfer	4
<a href="#">AE 416</a>	Applied Aerodynamics	3 or 4
<a href="#">AE 419</a>	Aircraft Flight Mechanics	3 or 4
<a href="#">AE 420</a>	Finite Element Analysis	3 or 4
<a href="#">AE 428</a>	Mechanics of Composites	3
<a href="#">AE 433</a>	Aerospace Propulsion	3 or 4
<a href="#">AE 434</a>	Rocket Propulsion	3 or 4
<a href="#">AE 435</a>	<a href="#">Electric Space Propulsion</a>	<a href="#">3 or 4</a>
<a href="#">AE 442</a>	Aerospace Systems Design I	3
<a href="#">AE 443</a>	Aerospace Systems Design II	3
<a href="#">AE 451</a>	Aeroelasticity	3 or 4
<a href="#">AE 452</a>	<a href="#">Introduction to Nonlinear Dynamics and Vibrations</a>	<a href="#">4</a>
<a href="#">AE 454</a>	Systems Dynamics & Control	3 or 4
<a href="#">AE 456</a>	Global Nav Satellite Systems	4
<a href="#">AE 460</a>	Aerodynamics & Propulsion Lab	2
<a href="#">AE 461</a>	Structures & Control Lab	2
<a href="#">AE 468</a>	<a href="#">Optical Remote Sensing</a>	<a href="#">3</a>
<a href="#">AE 480</a>	<a href="#">Hypersonic Aerothermodynamics</a>	<a href="#">3 or 4</a>
<a href="#">AE 482</a>	Introduction to Robotics	4
<a href="#">AE 483</a>	Autonomous Systems Lab	2
<a href="#">AE 485</a>	<a href="#">Spacecraft Environment and Interactions</a>	<a href="#">3 or 4</a>
<a href="#">AE 497</a>	Independent Study (As Approved)	1 to 4
<a href="#">AE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">ANSC 445</a>	<a href="#">Statistical Methods</a>	<a href="#">4</a>
<a href="#">ASRM 402</a>	<a href="#">Actuarial Statistics II</a>	<a href="#">4</a>
<a href="#">ASRM 410</a>	Investments and Financial Markets	3 or 4
<a href="#">ASRM 450</a>	<a href="#">Methods of Applied Statistics</a>	<a href="#">3 or 4</a>
<a href="#">ASRM 451</a>	<a href="#">Basics of Statistical Learning</a>	<a href="#">3 or 4</a>
<a href="#">ASRM 453</a>	<a href="#">Applied Bayesian Analysis</a>	<a href="#">3 or 4</a>
<a href="#">ASRM 461</a>	Loss Models	4
<a href="#">ASRM 469</a>	Casualty Actuarial Mathematics	3 or 4
<a href="#">ASRM 471</a>	Life Contingencies I	4
<a href="#">ASRM 472</a>	Life Contingencies II	3
<a href="#">ATMS 301</a>	<a href="#">Atmospheric Thermodynamics</a>	<a href="#">3</a>
<a href="#">ATMS 302</a>	<a href="#">Atmospheric Dynamics I</a>	<a href="#">3</a>
<a href="#">ATMS 304</a>	<a href="#">Radiative Transfer-Remote Sens</a>	<a href="#">3</a>
<a href="#">ATMS 306</a>	<a href="#">Cloud Physics</a>	<a href="#">3</a>
<a href="#">ATMS 312</a>	<a href="#">Atmospheric Dynamics II</a>	<a href="#">3</a>
<a href="#">ATMS 405</a>	<a href="#">Boundary Layer Processes</a>	<a href="#">4</a>
<a href="#">ATMS 406</a>	<a href="#">Tropical Meteorology</a>	<a href="#">4</a>
<a href="#">ATMS 410</a>	<a href="#">Radar Remote Sensing</a>	<a href="#">4</a>
<a href="#">ATMS 411</a>	<a href="#">Satellite Remote Sensing</a>	<a href="#">4</a>
<a href="#">ATMS 420</a>	<a href="#">Atmospheric Chemistry</a>	<a href="#">4</a>
<a href="#">ATMS 424</a>	<a href="#">Atmospheric Convection</a>	<a href="#">4</a>
<a href="#">BADM 460</a>	<a href="#">Business Process Modeling</a>	<a href="#">3</a>
<a href="#">BADM 461</a>	<a href="#">Tech, Eng, &amp; Mgt Final Project</a>	<a href="#">4</a>

Code	Title	Hours
<a href="#">BIOC 406</a>	Gene Expression & Regulation	3
<a href="#">BIOC 446</a>	Physical Biochemistry	3
<a href="#">BIOC 455</a>	Technqs Biochem & Biotech	4
<a href="#">BIOE 380</a>	Biomedical Imaging	3
<a href="#">BIOE 414</a>	Biomedical Instrumentation	3
<a href="#">BIOE 415</a>	Biomedical Instrumentation Lab	2
<a href="#">BIOE 416</a>	Biosensors	3
<a href="#">BIOE 427</a>	<a href="#">Biomedical Ultrasound Imaging</a>	<a href="#">3</a>
<a href="#">BIOE 430</a>	<a href="#">Intro Synthetic Biology</a>	<a href="#">3 or 4</a>
<a href="#">BIOE 461</a>	Cellular Biomechanics	4
<a href="#">BIOE 467</a>	<a href="#">Biophotonics</a>	<a href="#">3</a>
<a href="#">BIOE 476</a>	Tissue Engineering	3
<a href="#">BIOE 479</a>	Cancer Nanotechnology	3
<a href="#">BIOE 480</a>	<a href="#">Magnetic Resonance Imaging</a>	<a href="#">3 or 4</a>
<a href="#">BIOE 481</a>	Whole-Body Musculoskel Biomech	3 or 4
<a href="#">BIOE 482</a>	Musculoskel Tissue Mechanics	3 or 4
<a href="#">BIOE 485</a>	<a href="#">Computational Mathematics for Machine Learning and Imaging</a>	<a href="#">4</a>
<a href="#">BIOE 497</a>	Individual Study (As Approved)	1 to 4
<a href="#">BIOE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">BIOP 401</a>	Introduction to Biophysics	3
<a href="#">BIOP 419</a>	Brain, Behavior & Info Process	3
<a href="#">BIOP 432</a>	Photosynthesis	3
<a href="#">CEE 310</a>	Transportation Engineering	3
<a href="#">CEE 320</a>	<a href="#">Construction Engineering</a>	<a href="#">3</a>
<a href="#">CEE 330</a>	Environmental Engineering	3
<a href="#">CEE 340</a>	Energy and Global Environment	3
<a href="#">CEE 350</a>	Water Resources Engineering	3
<a href="#">CEE 360</a>	Structural Engineering	3
<a href="#">CEE 380</a>	Geotechnical Engineering	3
<a href="#">CEE 398</a>	Special Topics (As Approved)	0 to 4
<a href="#">CEE 401</a>	Concrete Materials	4
<a href="#">CEE 405</a>	Asphalt Materials I	3 or 4
<a href="#">CEE 406</a>	Pavement Design I	3 or 4
<a href="#">CEE 407</a>	Airport Design	3 or 4
<a href="#">CEE 408</a>	Railroad Transportation Engrg	3 or 4
<a href="#">CEE 409</a>	Railroad Track Engineering	3 or 4
<a href="#">CEE 410</a>	Railway Signaling & Control	3 or 4
<a href="#">CEE 411</a>	RR Project Design & Constr	3 or 4
<a href="#">CEE 412</a>	High-Speed Rail Engineering	3 or 4
<a href="#">CEE 415</a>	Geometric Design of Roads	4
<a href="#">CEE 416</a>	Traffic Capacity Analysis	3 or 4
<a href="#">CEE 417</a>	Urban Transportation Planning (As Approved)	4
<a href="#">CEE 418</a>	Public Transportation Systems	3 or 4
<a href="#">CEE 419</a>	<a href="#">Transportation Economics</a>	<a href="#">4</a>
<a href="#">CEE 420</a>	Construction Productivity	3 or 4
<a href="#">CEE 421</a>	Construction Planning	3 or 4
<a href="#">CEE 422</a>	Construction Cost Analysis	3 or 4

Code	Title	Hours
<del>CEE 424</del>	<del>Course CEE 424 Not Found</del>	<del>4</del>
<del>CEE 430</del>	<del>Course CEE 430 Not Found</del>	<del>2</del>
CEE 434	Environmental Systems I	3
CEE 437	Water Quality Engineering	3
CEE 438	Science & Environmental Policy	3
CEE 440	Fate Cleanup Environ Pollutant	4
CEE 442	Environmental Engineering Principles, Physical	4
CEE 443	Env Eng Principles, Chemical	4
CEE 444	Env Eng Principles, Biological	4
CEE 447	Atmospheric Chemistry	4
CEE 449	Environmental Engineering Lab	3
CEE 450	Surface Hydrology	3
CEE 451	Environmental Fluid Mechanics	3
CEE 452	Hydraulic Analysis and Design	3
CEE 453	Urban Hydrology and Hydraulics	4
CEE 457	Groundwater	3
CEE 458	Water Resources Field Methods	4
CEE 460	Steel Structures I	3
CEE 461	Reinforced Concrete I	3
CEE 462	Steel Structures II	3 or 4
CEE 463	Reinforced Concrete II	3 or 4
CEE 465	Design of Structural Systems	3
CEE 467	Masonry Structures	3 or 4
CEE 468	Prestressed Concrete	3 or 4
CEE 469	Wood Structures	3 or 4
CEE 470	Structural Analysis	4
CEE 471	Structural Mechanics	3 or 4
CEE 472	Structural Dynamics I	3 or 4
CEE 473	<u>Wind Effects on Structures</u>	<u>4</u>
CEE 474	<u>Mechanics of Additive Manufacturing</u>	<u>3 or 4</u>
CEE 483	Soil Mechanics and Behavior	4
CEE 484	Applied Soil Mechanics	3 or 4
CEE 490	<u>Computer Methods</u>	<u>3 or 4</u>
CEE 491	Decision and Risk Analysis	3 or 4
CEE 497	Independent Study (As Approved)	1 to 16
CEE 498	Special Topics (As Approved)	1 to 4
CHBE 413	<u>Data Science for Chemistry and Engineering</u>	<u>4</u>
CHBE 422	Mass Transfer Operations	4
CHBE 424	Chemical Reaction Engineering	3
CHBE 451	Transport Phenomena	3
CHBE 452	Chemical Kinetics & Catalysis	3
CHBE 453	Electrochemical Engineering	2 or 3
CHBE 456	Polymer Science & Engineering	3
CHBE 458	<u>Synthetic Nanomaterials</u>	<u>3</u>
CHBE 459	<u>Polymer Rheology</u>	<u>3</u>
CHBE 461	<u>Functional Materials Assembly</u>	<u>3</u>
CHBE 471	Biochemical Engineering	3 or 4

Code	Title	Hours
<a href="#">CHBE 472</a>	Techniques in Biomolecular Eng	3 or 4
<a href="#">CHBE 473</a>	Biomolecular Engineering	3 or 4
<a href="#">CHBE 474</a>	Metabolic Engineering	3 or 4
<a href="#">CHBE 475</a>	Tissue Engineering	3
<a href="#">CHBE 476</a>	Biotransport	3
<a href="#">CHBE 478</a>	<a href="#">Bioenergy Technology</a>	<a href="#">3</a>
<a href="#">CHEM 232</a>	Elementary Organic Chemistry I	3 or 4
<a href="#">CHEM 233</a>	Elementary Organic Chem Lab I	2
<a href="#">CHEM 236</a>	Fundamental Organic Chem I	4
<a href="#">CHEM 237</a>	Structure and Synthesis	2
<a href="#">CHEM 312</a>	Inorganic Chemistry	3
<a href="#">CHEM 315</a>	Instrumental Chem Systems Lab	2
<a href="#">CHEM 317</a>	Inorganic Chemistry Lab	3
<a href="#">CHEM 332</a>	Elementary Organic Chem II	4
<a href="#">CHEM 420</a>	Instrumental Characterization	2
<a href="#">CHEM 436</a>	Fundamental Organic Chem II	3
<a href="#">CHEM 437</a>	Organic Chemistry Lab	3
<a href="#">CHEM 440</a>	Physical Chemistry Principles	4
<a href="#">CHEM 442</a>	Physical Chemistry I	4
<a href="#">CHEM 444</a>	Physical Chemistry II	4
<a href="#">CHEM 445</a>	Physical Principles Lab I	2
<a href="#">CHEM 447</a>	Physical Principles Lab II	2
<a href="#">CHEM 452</a>	<a href="#">Data Science for Chemistry and Engineering</a>	<a href="#">4</a>
<a href="#">CHEM 460</a>	Green Chemistry	3 or 4
<a href="#">CHEM 472</a>	Physical Biochemistry	3
<a href="#">CHEM 474</a>	<a href="#">Course CHEM 474 Not Found</a>	
<a href="#">CHEM 480</a>	Polymer Chemistry	3 or 4
<a href="#">CHEM 482</a>	Polymer Physics	3 or 4
<a href="#">CHEM 483</a>	Solid State Structural Anlys	4
<a href="#">CHEM 488</a>	Surfaces and Colloids	3 or 4
<a href="#">CHEM 497</a>	Individual Study Senior (As Approved)	1 to 3
<a href="#">CPSC 489</a>	<a href="#">Photosynthesis</a>	<a href="#">3</a>
<a href="#">CS 225</a>	Data Structures	4
<a href="#">CS 233</a>	Computer Architecture	4
<a href="#">CS 242</a>	Programming Studio	3
<a href="#">CS 340</a>	<a href="#">Introduction to Computer Systems</a>	<a href="#">3</a>
<a href="#">CS 341</a>	System Programming	4
<a href="#">CS 357</a>	Numerical Methods I	3
<a href="#">CS 374</a>	Introduction to Algorithms & Models of Computation	4
<a href="#">CS 407</a>	<a href="#">Cryptography</a>	<a href="#">3 or 4</a>
<a href="#">CS 409</a>	<a href="#">The Art of Web Programming</a>	<a href="#">3 or 4</a>
<a href="#">CS 410</a>	Text Information Systems	3 or 4
<a href="#">CS 411</a>	Database Systems	3 or 4
<a href="#">CS 412</a>	Introduction to Data Mining	3 or 4
<a href="#">CS 413</a>	Intro to Combinatorics	3 or 4
<a href="#">CS 414</a>	Multimedia Systems	3 or 4
<a href="#">CS 415</a>	<a href="#">Game Development</a>	<a href="#">3 or 4</a>

Code	Title	Hours
<a href="#">CS 418</a>	Interactive Computer Graphics	3 or 4
<a href="#">CS 419</a>	Production Computer Graphics	3 or 4
<a href="#">CS 420</a>	Parallel Progrmg: Sci & Engrg	3 or 4
<a href="#">CS 421</a>	Programming Languages & Compilers	3 or 4
<a href="#">CS 422</a>	Programming Language Design	3 or 4
<a href="#">CS 423</a>	Operating Systems Design	3 or 4
<a href="#">CS 424</a>	Real-Time Systems	3 or 4
<a href="#">CS 425</a>	Distributed Systems	3 or 4
<a href="#">CS 426</a>	Compiler Construction	3 or 4
<a href="#">CS 427</a>	Software Engineering I	3 or 4
<a href="#">CS 428</a>	Software Engineering II	3 or 4
<a href="#">CS 429</a>	Software Engineering II, ACP	3
<a href="#">CS 431</a>	Embedded Systems	3 or 4
<a href="#">CS 433</a>	Computer System Organization	3 or 4
<a href="#">CS 436</a>	Computer Networking Laboratory	3 or 4
<a href="#">CS 437</a>	<a href="#">Topics in Internet of Things</a>	<a href="#">3 or 4</a>
<a href="#">CS 438</a>	Communication Networks	3 or 4
<a href="#">CS 439</a>	Wireless Networks	3 or 4
<a href="#">CS 440</a>	Artificial Intelligence	3 or 4
<a href="#">CS 441</a>	<a href="#">Applied Machine Learning</a>	<a href="#">3 or 4</a>
<a href="#">CS 442</a>	<a href="#">Trustworthy Machine Learning</a>	<a href="#">3 or 4</a>
<a href="#">CS 443</a>	<a href="#">Reinforcement Learning</a>	<a href="#">3 or 4</a>
<a href="#">CS 444</a>	<a href="#">Deep Learning for Computer Vision</a>	<a href="#">3 or 4</a>
<a href="#">CS 445</a>	Computational Photography	3 or 4
<a href="#">CS 446</a>	Machine Learning	3 or 4
<a href="#">CS 447</a>	Natural Language Processing	3 or 4
<a href="#">CS 448</a>	<a href="#">Audio Computing Laboratory</a>	<a href="#">3 or 4</a>
<a href="#">CS 450</a>	Numerical Analysis	3 or 4
<a href="#">CS 457</a>	<a href="#">Course CS 457 Not Found</a>	
<a href="#">CS 460</a>	Security Laboratory	3 or 4
<a href="#">CS 461</a>	Computer Security I	4
<a href="#">CS 463</a>	Computer Security II	3 or 4
<a href="#">CS 465</a>	User Interface Design	4
<a href="#">CS 466</a>	Introduction to Bioinformatics	3 or 4
<a href="#">CS 467</a>	Social Visualization	3 or 4
<a href="#">CS 468</a>	Tech and Advertising Campaigns	3
<a href="#">CS 469</a>	<a href="#">Computational Advertising Infrastructure</a>	<a href="#">3 or 4</a>
<a href="#">CS 473</a>	Algorithms	4
<a href="#">CS 474</a>	<a href="#">Logic in Computer Science</a>	<a href="#">3 or 4</a>
<a href="#">CS 475</a>	Formal Models of Computation	3 or 4
<a href="#">CS 476</a>	Program Verification	3 or 4
<a href="#">CS 477</a>	Formal Software Development Methods	3 or 4
<a href="#">CS 481</a>	Advanced Topics in Stochastic Processes & Applications	3 or 4
<a href="#">CS 482</a>	<a href="#">Simulation</a>	<a href="#">3 or 4</a>
<a href="#">CS 483</a>	Applied Parallel Programming	4
<a href="#">CS 484</a>	Parallel Programming	3 or 4
<a href="#">CS 498</a>	Special Topics (As Approved)	1 to 4

Code	Title	Hours
<a href="#"><u>CSE 401</u></a>	Numerical Analysis	3 or 4
<a href="#"><u>CSE 402</u></a>	Parallel Progrmg: Sci & Engrg	3 or 4
<a href="#"><u>CSE 408</u></a>	<a href="#"><u>Applied Parallel Programming</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>CSE 412</u></a>	Numerical Thermo-Fluid Mechs	2 to 4
<a href="#"><u>CSE 414</u></a>	<a href="#"><u>Algorithms</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>CSE 422</u></a>	<a href="#"><u>Computer System Organization</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 423</u></a>	<a href="#"><u>Operating Systems Design</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 426</u></a>	<a href="#"><u>Software Engineering I</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 427</u></a>	<a href="#"><u>Interactive Computer Graphics</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 428</u></a>	<a href="#"><u>Statistical Computing</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 429</u></a>	<a href="#"><u>Software Engineering II</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 440</u></a>	<a href="#"><u>Statistical Data Management</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>CSE 441</u></a>	Introduction to Optimization	3 or 4
<a href="#"><u>CSE 448</u></a>	<a href="#"><u>Advanced Data Analysis</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>CSE 450</u></a>	Computational Mechanics	3 or 4
<a href="#"><u>CSE 451</u></a>	Finite Element Analysis	3 or 4
<a href="#"><u>CSE 461</u></a>	Computational Aerodynamics	3 or 4
<a href="#"><u>CSE 485</u></a>	<a href="#"><u>Atomic Scale Simulations</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>ECE 329</u></a>	Fields and Waves I	3
<a href="#"><u>ECE 330</u></a>	Power Ckts & Electromechanics	3
<a href="#"><u>ECE 333</u></a>	Green Electric Energy	3
<a href="#"><u>ECE 340</u></a>	Semiconductor Electronics	3
<a href="#"><u>ECE 342</u></a>	Electronic Circuits	3
<a href="#"><u>ECE 343</u></a>	Electronic Circuits Laboratory	1
<a href="#"><u>ECE 350</u></a>	<a href="#"><u>Fields and Waves II</u></a>	<a href="#"><u>3</u></a>
<a href="#"><u>ECE 374</u></a>	<a href="#"><u>Introduction to Algorithms &amp; Models of Computation</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>ECE 380</u></a>	Biomedical Imaging	3
<a href="#"><u>ECE 385</u></a>	Digital Systems Laboratory	3
<a href="#"><u>ECE 391</u></a>	<a href="#"><u>Computer Systems Engineering</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>ECE 395</u></a>	Advanced Digital Projects Lab	2 or 3
<a href="#"><u>ECE 401</u></a>	Signal Processing	4
<a href="#"><u>ECE 402</u></a>	Electronic Music Synthesis	3
<a href="#"><u>ECE 403</u></a>	Audio Engineering	3
<a href="#"><u>ECE 407</u></a>	<a href="#"><u>Cryptography</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>ECE 408</u></a>	Applied Parallel Programming	4
<a href="#"><u>ECE 410</u></a>	<a href="#"><u>Neural Circuits and Systems</u></a>	<a href="#"><u>3 or 4</u></a>
<a href="#"><u>ECE 411</u></a>	Computer Organization & Design	4
<a href="#"><u>ECE 412</u></a>	<a href="#"><u>Course ECE 412 Not Found</u></a>	
<a href="#"><u>ECE 414</u></a>	Biomedical Instrumentation	3
<a href="#"><u>ECE 415</u></a>	Biomedical Instrumentation Lab	2
<a href="#"><u>ECE 416</u></a>	Biosensors	3
<a href="#"><u>ECE 417</u></a>	Multimedia Signal Processing	4
<a href="#"><u>ECE 418</u></a>	Image & Video Processing	4
<a href="#"><u>ECE 419</u></a>	Security Laboratory	3 or 4
<a href="#"><u>ECE 420</u></a>	Embedded DSP Laboratory	2
<a href="#"><u>ECE 422</u></a>	Computer Security I	4
<a href="#"><u>ECE 424</u></a>	Computer Security II	3 or 4

Code	Title	Hours
<a href="#">ECE 425</a>	Intro to VLSI System Design	3
<a href="#">ECE 428</a>	Distributed Systems	3 or 4
<a href="#">ECE 431</a>	Electric Machinery	4
<a href="#">ECE 432</a>	<del>Course ECE 432 Not Found</del>	
<a href="#">ECE 435</a>	Computer Networking Laboratory	3 or 4
<a href="#">ECE 437</a>	Sensors and Instrumentation	3
<a href="#">ECE 438</a>	Communication Networks	3 or 4
<a href="#">ECE 439</a>	Wireless Networks	3 or 4
<a href="#">ECE 441</a>	Physcs & Modeling Semicond Dev	3
<a href="#">ECE 443</a>	<a href="#">LEDs and Solar Cells</a>	<a href="#">4</a>
<a href="#">ECE 444</a>	IC Device Theory & Fabrication	4
<a href="#">ECE 447</a>	Active Microwave Ckt Design	3
<a href="#">ECE 448</a>	Artificial Intelligence	3 or 4
<a href="#">ECE 449</a>	<a href="#">Machine Learning</a>	<a href="#">3 or 4</a>
<a href="#">ECE 451</a>	Adv Microwave Measurements	3
<a href="#">ECE 452</a>	Electromagnetic Fields	3
<a href="#">ECE 453</a>	Wireless Communication Systems	4
<a href="#">ECE 454</a>	Antennas	3
<a href="#">ECE 455</a>	Optical Electronics	3 or 4
<a href="#">ECE 456</a>	Global Nav Satellite Systems	4
<a href="#">ECE 457</a>	Microwave Devices & Circuits	3
<a href="#">ECE 458</a>	Applic of Radio Wave Propag	3
<a href="#">ECE 459</a>	Communications Systems	3
<a href="#">ECE 460</a>	Optical Imaging	4
<a href="#">ECE 461</a>	<a href="#">Digital Communications</a>	<a href="#">3</a>
<a href="#">ECE 462</a>	Logic Synthesis	3
<a href="#">ECE 463</a>	Digital Communications Lab	2
<a href="#">ECE 464</a>	Power Electronics	3
<a href="#">ECE 465</a>	Optical Communications Systems	3
<a href="#">ECE 466</a>	Optical Communications Lab	1
<a href="#">ECE 467</a>	Biophotonics	3
<a href="#">ECE 468</a>	Optical Remote Sensing	3
<a href="#">ECE 469</a>	Power Electronics Laboratory	2
<a href="#">ECE 470</a>	Introduction to Robotics	4
<a href="#">ECE 472</a>	Biomedical Ultrasound Imaging	3
<a href="#">ECE 473</a>	Fund of Engrg Acoustics	3 or 4
<a href="#">ECE 476</a>	Power System Analysis	3
<a href="#">ECE 478</a>	Formal Software Development Methods	3 or 4
<a href="#">ECE 479</a>	<a href="#">IoT and Cognitive Computing</a>	<a href="#">4</a>
<a href="#">ECE 480</a>	Magnetic Resonance Imaging	3 or 4
<a href="#">ECE 481</a>	Nanotechnology	4
<a href="#">ECE 482</a>	Digital IC Design	3
<a href="#">ECE 483</a>	Analog IC Design	3
<a href="#">ECE 485</a>	<del>Course ECE 485 Not Found</del>	
<a href="#">ECE 486</a>	Control Systems	4
<a href="#">ECE 487</a>	Intro Quantum Electr for EEs	3
<a href="#">ECE 488</a>	Compound Semicond & Devices	3

Code	Title	Hours
<a href="#">ECE 489</a>	Robot Dynamics and Control	4
<a href="#">ECE 490</a>	Introduction to Optimization	3 or 4
<a href="#">ECE 491</a>	Numerical Analysis	3 or 4
<a href="#">ECE 492</a>	Parallel Progrmg: Sci & Engrg	3 or 4
<a href="#">ECE 493</a>	Advanced Engineering Math	3 or 4
<a href="#">ECE 495</a>	Photonic Device Laboratory	3
<a href="#">ECE 498</a>	Special Topics in ECE (As Approved)	0 to 4
<a href="#">ECON 302</a>	Inter Microeconomic Theory (As Approved)	3
<a href="#">EPSY 456</a>	<a href="#">Human Performance and Cognition in Context (As Approved)</a>	<a href="#">3 or 4</a>
<a href="#">ETMA 430</a>	<a href="#">Project Management (As Approved)</a>	<a href="#">2</a>
<a href="#">GEOL 450</a>	<a href="#">Investigating the Earth's Interior</a>	<a href="#">3</a>
<a href="#">GEOL 451</a>	<a href="#">Environmental Geophysics</a>	<a href="#">4</a>
<a href="#">GEOL 454</a>	<a href="#">Introduction to Seismology</a>	<a href="#">3 or 4</a>
<a href="#">GEOL 460</a>	<a href="#">Geochemistry</a>	<a href="#">3</a>
<a href="#">IB 421</a>	<a href="#">Photosynthesis</a>	<a href="#">3</a>
<a href="#">IE 310</a>	Deterministic Models in Optimization	3
<a href="#">IE 311</a>	Operations Research Lab	1
<a href="#">IE 330</a>	Industrial Quality Control	3
<a href="#">IE 340</a>	Human Factors	4
<a href="#">IE 360</a>	Facilities Planning and Design	3
<a href="#">IE 361</a>	<a href="#">Production Planning &amp; Control</a>	<a href="#">3</a>
<a href="#">IE 370</a>	<a href="#">Stochastic Processes and Applications</a>	<a href="#">3</a>
<a href="#">IE 371</a>	<a href="#">Simulation Modeling with Applications for Industrial Engineering</a>	<a href="#">3</a>
<a href="#">IE 400</a>	<a href="#">Design &amp; Anlys of Experiments</a>	<a href="#">3 or 4</a>
<a href="#">IE 410</a>	Advanced Topics in Stochastic Processes & Applications	3 or 4
<a href="#">IE 411</a>	Optimization of Large Systems	3 or 4
<a href="#">IE 412</a>	OR Models for Mfg Systems	3 or 4
<a href="#">IE 413</a>	Simulation	3 or 4
<a href="#">IE 420</a>	Financial Engineering	3 or 4
<a href="#">IE 430</a>	Economic Found of Quality Syst	3 or 4
<a href="#">IE 431</a>	Design for Six Sigma	3
<a href="#">IE 434</a>	<a href="#">Deep Learning: Mathematics and Applications</a>	<a href="#">3 or 4</a>
<a href="#">IE 445</a>	Human Performance and Cognition in Context (As Approved)	3 or 4
<a href="#">IE 497</a>	Independent Study (As Approved)	1 to 4
<a href="#">IE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">MATH 314</a>	<a href="#">Introduction to Higher Mathematics</a>	<a href="#">4</a>
<a href="#">MATH 347</a>	Fundamental Mathematics	3
<a href="#">MATH 357</a>	Numerical Methods I	3
<a href="#">MATH 403</a>	Euclidean Geometry	3 or 4
<a href="#">MATH 412</a>	Graph Theory	3 or 4
<a href="#">MATH 413</a>	Intro to Combinatorics	3 or 4
<a href="#">MATH 414</a>	Mathematical Logic	3 or 4
<a href="#">MATH 417</a>	Intro to Abstract Algebra	3 or 4
<a href="#">MATH 418</a>	Intro to Abstract Algebra II	3 or 4
<a href="#">MATH 423</a>	Differential Geometry	3 or 4
<a href="#">MATH 424</a>	Honors Real Analysis	3
<a href="#">MATH 425</a>	Honors Advanced Analysis	3

Code	Title	Hours
<a href="#">MATH 427</a>	Honors Abstract Algebra	3
<a href="#">MATH 428</a>	Honors Topics in Mathematics (As Approved)	3
<a href="#">MATH 432</a>	Set Theory and Topology	3 or 4
<a href="#">MATH 442</a>	Intro Partial Diff Equations	3 or 4
<a href="#">MATH 444</a>	Elementary Real Analysis	3 or 4
<a href="#">MATH 446</a>	Applied Complex Variables	3 or 4
<a href="#">MATH 447</a>	Real Variables	3 or 4
<a href="#">MATH 448</a>	Complex Variables	3 or 4
<a href="#">MATH 450</a>	Numerical Analysis	3 or 4
<a href="#">MATH 453</a>	Number Theory	3 or 4
<a href="#">MATH 464</a>	Statistics and Probability II	3 or 4
<a href="#">MATH 466</a>	<a href="#">Applied Random Processes</a>	<a href="#">3 or 4</a>
<a href="#">MATH 473</a>	Algorithms	4
<a href="#">MATH 475</a>	Formal Models of Computation	3 or 4
<a href="#">MATH 481</a>	Vector and Tensor Analysis	3 or 4
<a href="#">MATH 482</a>	Linear Programming	3 or 4
<a href="#">MATH 484</a>	Nonlinear Programming	3 or 4
<a href="#">MATH 487</a>	Advanced Engineering Math	3 or 4
<a href="#">MATH 489</a>	Dynamics & Differential Eqns	3 or 4
<a href="#">MATH 490</a>	Advanced Topics in Mathematics (As Approved)	1 to 4
<a href="#">MATH 492</a>	Undergraduate Research in Math (As Approved)	1 to 3
<a href="#">MCB 401</a>	Cellular Physiology	3
<a href="#">MCB 402</a>	Sys & Integrative Physiology	3
<a href="#">MCB 403</a>	<a href="#">Course MCB 403 Not Found</a>	
<a href="#">MCB 404</a>	<a href="#">Course MCB 404 Not Found</a>	
<a href="#">MCB 406</a>	<a href="#">Gene Expression &amp; Regulation</a>	<a href="#">3</a>
<a href="#">MCB 419</a>	<a href="#">Brain, Behavior &amp; Info Process</a>	<a href="#">3</a>
<a href="#">MCB 446</a>	<a href="#">Physical Biochemistry</a>	<a href="#">3</a>
<a href="#">MCB 450</a>	Introductory Biochemistry	3
<a href="#">MCB 493</a>	Special Topics Mol Cell Biol (As Approved)	1 to 4
<a href="#">MSE 304</a>	Electronic Properties of Matls	3
<a href="#">MSE 307</a>	Materials Laboratory I	3
<a href="#">MSE 308</a>	Materials Laboratory II	3
<a href="#">MSE 401</a>	Thermodynamics of Materials	3
<a href="#">MSE 402</a>	Kinetic Processes in Materials	3
<a href="#">MSE 403</a>	Synthesis of Materials	3
<a href="#">MSE 405</a>	Microstructure Determination	3
<a href="#">MSE 406</a>	Thermal-Mech Behavior of Matls	3
<a href="#">MSE 420</a>	Ceramic Materials & Properties	3
<a href="#">MSE 421</a>	Ceramic Processing	3 or 4
<a href="#">MSE 422</a>	Electrical Ceramics	3
<a href="#">MSE 440</a>	Mechanical Behavior of Metals	3
<a href="#">MSE 441</a>	Metals Processing	3
<a href="#">MSE 443</a>	Design of Engineering Alloys	3
<a href="#">MSE 450</a>	Polymer Science & Engineering	3 or 4
<a href="#">MSE 453</a>	Plastics Engineering	3
<a href="#">MSE 455</a>	Macromolecular Solids	3

Code	Title	Hours
<a href="#">MSE 456</a>	Mechanics of Composites	3
<a href="#">MSE 457</a>	Polymer Chemistry	3 or 4
<a href="#">MSE 458</a>	Polymer Physics	3 or 4
<a href="#">MSE 460</a>	Electronic Materials I	3
<a href="#">MSE 461</a>	Electronic Materials II	3
<a href="#">MSE 464</a>	<a href="#">Magnetic Materials and their Applications</a>	<a href="#">3 or 4</a>
<a href="#">MSE 466</a>	Electrochemical Energy Conversion	3
<a href="#">MSE 470</a>	Design and Use of Biomaterials	3
<a href="#">MSE 473</a>	Biomolecular Materials Science	3
<a href="#">MSE 474</a>	Biomaterials and Nanomedicine	3
<a href="#">MSE 480</a>	Surfaces and Colloids	3 or 4
<a href="#">MSE 481</a>	Electron Microscopy	3 or 4
<a href="#">MSE 485</a>	Atomic Scale Simulations	3 or 4
<a href="#">MSE 487</a>	Materials for Nanotechnology	3 or 4
<a href="#">MSE 488</a>	Optical Materials	3 or 4
<a href="#">MSE 489</a>	Matl Select for Sustainability	3 or 4
<a href="#">MSE 497</a>	Independent Study (As Approved)	1 to 4
<a href="#">MSE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">NE 410</a>	<a href="#">Neural Circuits and Systems</a>	<a href="#">3 or 4</a>
<a href="#">NEUR 419</a>	<a href="#">Brain, Behavior &amp; Info Process</a>	<a href="#">3</a>
<a href="#">NPRE 321</a>	<a href="#">Introduction to Plasmas and Applications</a>	<a href="#">3</a>
<a href="#">NPRE 330</a>	Materials in Nuclear Engineering	3
<a href="#">NPRE 402</a>	Nuclear Power Engineering	3 or 4
<a href="#">NPRE 412</a>	Nuclear Power Econ & Fuel Mgmt	3 or 4
<a href="#">NPRE 413</a>	<a href="#">Nuclear Separations and Fuel Reprocessing</a>	<a href="#">2 or 3</a>
<a href="#">NPRE 421</a>	Plasma and Fusion Science	3
<a href="#">NPRE 423</a>	Plasma Laboratory	2
<a href="#">NPRE 429</a>	Plasma Engineering	3
<a href="#">NPRE 435</a>	Radiological Imaging	3
<a href="#">NPRE 441</a>	Radiation Protection	4
<a href="#">NPRE 442</a>	Radioactive Waste Management	3
<a href="#">NPRE 445</a>	<a href="#">Interaction of Radiation with Matter</a>	<a href="#">4</a>
<a href="#">NPRE 448</a>	Nuclear Syst Engrg & Design	4
<a href="#">NPRE 449</a>	<a href="#">Nuclear Systems Engineering and Design</a>	<a href="#">3</a>
<a href="#">NPRE 451</a>	NPRE Laboratory	3
<a href="#">NPRE 452</a>	<a href="#">Advanced Radiological Science Lab</a>	<a href="#">2 or 4</a>
<a href="#">NPRE 455</a>	Neutron Diffusion & Transport	4
<a href="#">NPRE 457</a>	Safety Anlys Nucl Reactor Syst	3 or 4
<a href="#">NPRE 461</a>	Probabilistic Risk Assessment	3 or 4
<a href="#">NPRE 470</a>	Fuel Cells & Hydrogen Sources	3
<a href="#">NPRE 475</a>	Wind Power Systems	3 or 4
<a href="#">NPRE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">NRES 445</a>	<a href="#">Statistical Methods</a>	<a href="#">4</a>
<a href="#">PHYS 329</a>	<a href="#">Atmospheric Dynamics I</a>	<a href="#">3</a>
<a href="#">PHYS 330</a>	Atmospheric Dynamics II	3
<a href="#">PHYS 370</a>	<a href="#">Introduction to Quantum Information and Computing</a>	<a href="#">3</a>
<a href="#">PHYS 401</a>	Classical Physics Lab	3

Code	Title	Hours
<a href="#">PHYS 402</a>	Light	3 or 4
<a href="#">PHYS 403</a>	Modern Experimental Physics	4 or 5
<a href="#">PHYS 404</a>	Electronic Circuits	4 or 5
<a href="#">PHYS 406</a>	Acoustical Physics of Music	4
<a href="#">PHYS 427</a>	Thermal & Statistical Physics	4
<a href="#">PHYS 435</a>	Electromagnetic Fields I	3
<a href="#">PHYS 436</a>	Electromagnetic Fields II	3
<a href="#">PHYS 446</a>	<a href="#">Modern Computational Physics</a>	<a href="#">3</a>
<a href="#">PHYS 460</a>	Condensed Matter Physics	4
<a href="#">PHYS 466</a>	Atomic Scale Simulations	3 or 4
<a href="#">PHYS 470</a>	Subatomic Physics	4
<a href="#">PHYS 475</a>	Introduction to Biophysics	3 or 4
<a href="#">PHYS 485</a>	Atomic Phys & Quantum Theory	3
<a href="#">PHYS 486</a>	Quantum Physics I	4
<a href="#">PHYS 487</a>	Quantum Physics II	4
<a href="#">PHYS 496</a>	Communicating in Physics—Writing Papers and Giving Talks (As Approved)	3
<a href="#">PHYS 497</a>	Individual Study (As Approved)	1 to 4
<a href="#">PHYS 498</a>	Special Topics in Physics (As Approved)	1 to 4
<a href="#">PSYC 358</a>	<a href="#">Human Factors</a>	<a href="#">4</a>
<a href="#">PSYC 456</a>	<a href="#">Human Performance and Cognition in Context (As Approved)</a>	<a href="#">3 or 4</a>
<a href="#">SE 400</a>	Engineering Law (As Approved)	3 or 4
<a href="#">SE 402</a>	Comp-Aided Product Realization	3 or 4
<a href="#">SE 411</a>	Reliability Engineering	3 or 4
<a href="#">SE 412</a>	Nondestructive Evaluation	3 or 4
<a href="#">SE 413</a>	Engineering Design Optimization	3 or 4
<a href="#">SE 420</a>	Digital Control Systems	4
<a href="#">SE 422</a>	Robot Dynamics and Control	4
<a href="#">SE 423</a>	Mechatronics	3
<a href="#">SE 424</a>	State Space Design for Control	3
<a href="#">SE 450</a>	Decision Analysis I (As Approved)	3 or 4
<a href="#">SE 497</a>	Independent Study (As Approved)	0 to 4
<a href="#">SE 498</a>	Special Topics (As Approved)	1 to 4
<a href="#">STAT 409</a>	Actuarial Statistics II	4
<a href="#">STAT 410</a>	Statistics and Probability II	3 or 4
<a href="#">STAT 420</a>	Methods of Applied Statistics	3 or 4
<a href="#">STAT 424</a>	Design of Experiments	3 or 4
<a href="#">STAT 425</a>	Statistical Modeling I	3 or 4
<a href="#">STAT 426</a>	Statistical Modeling II	3 or 4
<a href="#">STAT 428</a>	Statistical Computing	3 or 4
<a href="#">STAT 429</a>	Time Series Analysis	3 or 4
<a href="#">STAT 430</a>	Topics in Applied Statistics (As Approved)	3 or 4
<a href="#">STAT 431</a>	<a href="#">Applied Bayesian Analysis</a>	<a href="#">3 or 4</a>
<a href="#">STAT 432</a>	<a href="#">Basics of Statistical Learning</a>	<a href="#">3 or 4</a>
<a href="#">STAT 433</a>	<a href="#">Stochastic Processes</a>	<a href="#">3 or 4</a>
<a href="#">STAT 434</a>	<a href="#">Survival Analysis</a>	<a href="#">3 or 4</a>
<a href="#">STAT 437</a>	<a href="#">Unsupervised Learning</a>	<a href="#">3 or 4</a>
<a href="#">STAT 440</a>	Statistical Data Management	3 or 4

Code	Title	Hours
<a href="#">STAT 443</a>	Professional Statistics (As Approved)	3 or 4
<a href="#">STAT 448</a>	Advanced Data Analysis	4
<a href="#">STAT 458</a>	<a href="#">Course STAT 458 Not Found</a>	
<a href="#">STAT 480</a>	Big Data Analytics	3 or 4
<a href="#">TE 461</a>	Technology Entrepreneurship (As Approved)	3
<a href="#">TMGT 460</a>	Business Process Modeling	3
<a href="#">TMGT 461</a>	Tech, Eng, & Mgt Final Project	4
<a href="#">UP 430</a>	<a href="#">Urban Transportation Planning (As Approved)</a>	<a href="#">4</a>
<b><u>Free Electives</u></b>		

#### Course List

Code	Title	Hours
<a href="#">Additional course work, subject to the Grainger College of Engineering restrictions to Free Electives, so that there are at least 128 credit hours earned toward the degree.</a>		11
Total Hours of Curriculum to Graduate		128

Corresponding Degree      BS Bachelor of Science

## Program Features

Academic Level      Undergraduate

Does this major have transcripted concentrations?      No

What is the typical time to completion of this program?  
4 years

What are the minimum Total Credit Hours required for this program?  
128

CIP Code      141901 - Mechanical Engineering.

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
  
No

## Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective      Fall 2024

## Admissions Term

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

No

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.

Requirements will not change from previous admission requirements.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

This revision will not impact enrollment nor degrees awarded.

## 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

## 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

Attach File(s)

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Engineering Differential

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

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

This revision has no impact on faculty resources.

## 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 revision has no impact on the University Library's resources, collections, and services.

## EP Documentation

EP Control Number

EP.25.035

Attach Rollback/  
Approval Notices

This proposal  
requires HLC  
inquiry

No

## DMI Documentation

Attach Final  
Approval Notices

[U Program Review Comments KEY 120 Mechanical Engineering,  
BS 8 26 2024.docx](#)

Banner/Codebook  
Name

BS:Mechanical Engineerng -UIUC

Program Code:

10KP0133BS

Minor  
Code  
0133

Conc  
Code

Degree  
Code

BS

Major  
Code

Senate Approval  
Date

Senate  
Conference  
Approval Date  
  
BOT Approval  
Date  
  
IBHE Approval  
Date  
  
HLC Approval  
Date  
  
DOE Approval  
Date

Effective Date:

Program Reviewer  
Comments

**Brooke Newell (bsnewell) (05/02/24 12:30 pm):** Rollback: Email sent to Stephanie and Ashley

**Brooke Newell (bsnewell) (05/24/24 2:51 pm):** Rollback: Per email conversation with Stephanie

**Brooke Newell (bsnewell) (08/26/24 8:05 am):** U Program Review comments are attached in the DMI Documentation section.

**Brooke Newell (bsnewell) (11/05/24 3:16 pm):** Per consultation with College and Department Sponsors, removed CHEM 474 (deactivated course) from the Program of Study table and added it into the Justification #1

Date Submitted: 11/04/24 1:40 pm

Viewing: **10KS4043MS & 10KS4043MSU  
: Recreation, Sport and Tourism, MS  
(on campus & online)**

Last approved: 09/30/21 3:19 pm

Last edit: 11/21/24 10:02 am

Changes proposed by: Monika Stodolska

Catalog Pages  
Using this  
Program

[Recreation, Sport & Tourism, MS](#)

Proposal Type:

In Workflow

1. U Program Review

2. 1714 Committee Chair

3. 1714 Head

4. KY Committee Chair

5. KY Dean

6. University Librarian

7. Grad\_College

8. COTE Programs

9. Provost

10. Senate EPC

11. Senate

12. U Senate Conf

13. Board of Trustees

14. IBHE

15. HLC

16. DOE

17. DMI

Approval Path

1. 11/07/24 4:48 pm  
Donna Butler  
(dbutler):  
Approved for U  
Program Review

2. 11/07/24 5:23 pm  
Monika Stodolska  
(stodolsk):  
Approved for 1714  
Committee Chair

3. 11/08/24 9:35 am  
Carla Santos  
(csantos):  
Approved for 1714  
Head

4. 11/08/24 10:09  
am  
Robbin King  
(rlking10):

- Approved for KY  
Committee Chair
5. 11/08/24 10:37  
am  
Steve Petruzzello  
(petruzze):  
Approved for KY  
Dean
6. 11/14/24 11:56  
am  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
7. 11/15/24 10:42  
am  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College
8. 11/15/24 2:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
9. 11/21/24 6:23 am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Sep 30, 2021 by  
Monika Stodolska  
(stodolsk)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program  
Name

Recreation, Sport and Tourism, MS (on campus &  
online)

Diploma Title

Sponsor College      Applied Health Sciences

Sponsor      Recreation, Sport & Tourism  
Department

Sponsor Name      Monika Stodolska

Sponsor Email      stodolsk@illinois.edu

College Contact      Steve Petruzzello ~~Reggie Alston~~

College Contact  
Email

petruzze@illinois.edu ~~alston@illinois.edu~~

College Budget  
Officer

College Budget  
Officer Email

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog      Spring 2025  
Term

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Master of Science in Recreation, Sport and Tourism in the College of Applied Health Sciences and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief  
description of

1. There are no changes in the Program of Study. The elective hours need to be edited from 12 to 8.

what changes are  
being made to the  
program.

2. For the elective hours in thesis and non-thesis tracks, students are allowed to choose any 500-level or 400-level (approved for graduate credit) UIUC course outside of RST. The choice will need to be made in consultation with the academic advisor.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1. It is a necessary correction to the already existing curriculum.
2. Defining additional coursework for clarity.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Learning outcomes for RST MS students are in place to assess and improve student learning. These learning outcomes are as follows:

1. Graduates will have an in-depth understanding of the conceptual and theoretical foundations (i.e., concepts, theories, applications, and principles) of recreation, sport and tourism.
2. Graduates will have an in-depth understanding of societal issues and how recreation, sport and tourism is integral to addressing contemporary societal issues.
3. Graduates will have an in-depth understanding of managing recreation, sport and tourism organizations.
4. Graduates will develop understanding and competence in marketing planning, strategy, implementation and evaluation in recreation, sport and tourism.
5. Graduates will develop understanding and competence in budgeting and finance in recreation, sport and tourism.
6. Graduates will develop understanding and competence in strategic planning and management in recreation, sport and tourism organizations.
7. Graduates will develop understanding and competence in applied evaluation and needs assessment methods in recreation, sport and tourism.

The instructor of each RST course collects direct and/or indirect evidence every year to ensure learning objectives are being met, and assessment results are used to improve student learning.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.

Revised programs     [RST side-by-side-curriculum-comparisons\\_Revised\\_Typo.docx](#)  
Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

## Catalog Page Text - Overview Tab

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

Statement for  
Programs of  
Study Catalog

Thesis Option			Other Requirements	Non-Thesis Option	Other Requirements
Course List					
Code	Title				Hours
<u>RST 501</u>	Foundations and Current Issues in Recreation, Sport & Tourism				4
Select two of the following:					8
<u>RST 512</u>	Managing Recreation, Sport & Tourism Organizations				
<u>RST 515</u>	Marketing in RST				
<u>RST 516</u>	Financial Management and Budgeting in Recreation, Sport & Tourism				
Select one Option Area Course from:					4
<u>RST 502</u>	Critical Issues Recreation Mgt				
<u>RST 520</u>	Critical Issues Sport Mgt				
<u>RST 530</u>	Critical Issues Tourism Mgt				
Additional Coursework					
<u>(500 or 400 level grad credit courses outside of RST chosen in consultation with the advisor)</u>					
Support Option					8
Research Methods					8
<u>RST 599</u>	Thesis Research				4
Total Hours					36

## Other Requirements

### Grad Other Degree Requirements

Requirement	Description
Other requirements may overlap	
Minimum Hours Overall Required Within the Unit:12 at the 500 level	
Minimum 500-level Hours Required overall:	16
Minimum GPA:	3.0

## Non-Thesis Option

Course List		
Code	Title	Hours

Code	Title	Hours
Core Coursework:		28
<a href="#">RST 501</a>	Foundations and Current Issues in Recreation, Sport & Tourism	4
<a href="#">RST 504</a>	Applied Evaluation and Needs Assessment in RST	4
<a href="#">RST 512</a>	Managing Recreation, Sport & Tourism Organizations	4
<a href="#">RST 515</a>	Marketing in RST	4
<a href="#">RST 516</a>	Financial Management and Budgeting in Recreation, Sport & Tourism	4
<a href="#">RST 519</a>	Strategic Management in RST	4
Select one Option Area Course from:		4
<a href="#">RST 502</a>	Critical Issues Recreation Mgt	
or <a href="#">RST 520</a>	Critical Issues Sport Mgt	
or <a href="#">RST 530</a>	Critical Issues Tourism Mgt	
<del>Additional Coursework</del>		<del>12</del>
<u>Additional Coursework (500 or 400 level grad credit courses outside of RST chosen in consultation with the advisor)</u>		<u>8</u>
Total Credit Hours		36

## Other Requirements

### Grad Other Degree Requirements

Requirement	Description
Other requirements may overlap	
Minimum Hours Overall Required Within the Unit: 12 at the 500 level	
Minimum 500-level Hours Required overall:	16
Minimum GPA:	3.0

Corresponding Degree      MS Master of Science

## Program Features

Academic Level	Graduate
Does this major have transcripted concentrations?	No
What is the typical time to completion of this program?	1.5 years
What are the minimum Total Credit Hours required for this program?	36 hours
What is the required GPA?	3.0
CIP Code	310101 - Parks, Recreation, and Leisure Studies.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is available:

On Campus and Online - 2 program types. Students can receive the entire program either on campus or online. Students can choose to take courses in either modality.

Describe the use of this delivery method:

The campus-based MS program is delivered in person through on campus 16-week synchronous courses taught by RST Faculty.

The online MS program is delivered online with 8-week asynchronous courses taught by RST faculty.

## Admission Requirements

Desired Effective Admissions Term

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

No

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.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

N/A

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

## Budget

Are there No

budgetary  
implications for  
this revision?

Will the program or revision require staffing (faculty, advisors, etc.)  
beyond what is currently available?

No

Additional Budget  
Information

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

This minor revision has no impact financially on RST. There are no foreseen budgetary implications to the proposed minor change in the MS Program that will require additional financial support. The number of faculty in RST is sufficient to handle the anticipated demand for the additional course.

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

No

Attach letters of  
support

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

[Graduate Base Tuition for on campus & Base+Differential Rate for online](#)

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

No

Is this program requesting self-supporting status?

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

N/A

## 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.

N/A

EP Documentation

EP Control Number                      EP.25.035

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

DMI Documentation

Attach Final                      [U Program Review Comments KEY 421 10-31-2024.docx](#)  
Approval Notices

Banner/Codebook                      MS: Rec,Sport,Tourism -UIUC  
Name

Program Code:                      10KS4043MS & 10KS4043MSU

Minor Code	Conc Code	Degree Code	MS	Major Code
4043				

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval  
Date

Effective Date:

Program Reviewer                      **Mary Lowry (lowry) (10/31/24 11:33 am):** U Program Review comments attached  
Comments                      in DMI Documentation section.  
   **Mary Lowry (lowry) (10/31/24 11:53 am):** Rollback: Please see comments

attached.

**Mary Lowry (lowry) (11/07/24 2:45 pm):** No additional U Program Review comments.

**Allison McKinney (agrindly) (11/15/24 10:42 am):** Administratively Approved

Date Submitted: 09/30/24 4:02 pm

Viewing: **1PKS6126GCRU :**  
**Compensation Best Practices, GCRT**  
**(online)**

Last approved: 06/12/24 11:42 am

Last edit: 11/21/24 10:02 am

Changes proposed by: Eden Haycraft Smothers

Compensation Best Practices, CERT

Catalog Pages  
Using this  
Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1568 Head
- 3. LG Dean
- 4. University Librarian
- 5. Grad\_College
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DOE
- 15. DMI

Approval Path

- 1. 10/15/24 9:24 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 10/31/24 1:49 pm  
Becky Barker (ebarker):  
Approved for 1568 Head
- 3. 10/31/24 1:50 pm  
Lynne HovelN (lhovelN):  
Approved for LG Dean
- 4. 11/14/24 11:57 am  
Claire Stewart (clairest):  
Approved for University Librarian
- 5. 11/15/24 10:42

am  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College  
6. 11/15/24 2:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs  
7. 11/21/24 6:23 am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Jun 7, 2022 by  
Eden Haycraft  
Smothers  
(ehaycra)
2. Sep 21, 2022 by  
Mary Lowry  
(lowry)
3. Jun 12, 2024 by  
Emily Stuby  
(eastuby)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Compensation Best Practices, GCRT (online)	
Diploma Title	Graduate Certificate in Compensation Best Practices	
Sponsor College	Labor & Empl. Relations, School of	
Sponsor Department	Labor & Employment Relations	
Sponsor Name	<a href="#">Eden Haycraft Smothers</a>	
Sponsor Email	<a href="mailto:ehaycra@illinois.edu">ehaycra@illinois.edu</a>	
College Contact	<a href="#">Eden Haycraft Smothers</a>	College Contact

Email	<a href="mailto:ehaycra@illinois.edu">ehaycra@illinois.edu</a>
College Budget Officer	Wyatt Martin
College Budget Officer Email	wjmartin@illinois.edu

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Eden Haycraft (ehaycra@illinois.edu), Becky Barker (ebarker@illinois.edu), Amit Kramer (kram@illinois.edu)

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog Term	Spring 2025
------------------------	-------------

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Graduate Certificate in Compensation Best Practices in the School of Labor and Employment Relations and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

Below are the changes outlined in the revision.

1. Changing the requirement from 3 required courses that students must take to be a choice from a list of 5 courses where students select 3 courses.
2. Adding LER 543 and LER 535 to the list of course choices.
3. Adding an updated statement in the Program of Study table regarding the coursework requirements and what requirements the certificate courses will fulfill in the master's if an individual decides to apply for the master's following a certificate.
4. Update on how the learning objectives are assessed.
5. Update to admissions requirements as we no longer have an 'interview' with applicants.
6. Update time to completion.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

Below outlines the justification for each of the outlined changes above.

1. Expanding course options will enable students to complete each certificate more quickly, resulting in a shorter overall program duration. This adjustment will help align our certificates with those offered by competing institutions. Currently, completing a certificate can take one to three semesters, with three semesters often being too lengthy. With the new course choices, students could finish the certificate in just one semester, benefiting those who need to expedite their education. Previously, the certificate was only available for completion in one semester in the spring semester, forcing those who missed the application deadline to wait for future offerings or take courses over multiple terms, which affected their access to financial aid. While the certificate programs qualify for financial aid, students must enroll in at least two courses per semester. By providing more course options, we can enhance financial aid opportunities for students. One of the main challenges LER faces when speaking with prospective certificate students is the duration of completion. This shorter completion time was also identified as an area for improvement when we had our programs evaluated by Hanover Research, which highlighted opportunities to make our programs more appealing.
2. Additional courses will allow students to pursue more than one certificate even if the certificates have an overlapping course. Currently, students are unable to pursue the Fundamentals of Human Resources and Compensation Best Practices certificates as they both require LER 561 Compensation Systems. The two additional courses added within the revision (LER 543 and LER 535) were identified by faculty as courses that could assist in building a foundation for compensation systems.
3. The Program of Study table needed revisions to accurately reflect the course additions and which master's program requirements would be fulfilled by the certificate offerings in case individuals want to explore the master's program in the future. The credit hours required to complete the certificate remains unchanged (12 total credit hours).
4. There were new questions asked regarding assessment of learning objectives that we answered on the revision.
5. LER realized that instead of using the word 'interview' we would conduct short informal info sessions with each applicant that will allow the applicant to ask questions regarding the certificate, course offerings, and what they can expect from engaging in the certificate. When listing this as an 'interview' we felt it was providing a barrier to entry that LER wants to avoid. A new statement is not needed as the informal info session is not a requirement.
6. Time to completion has improved for this certificate to allow for more flexibility for learners. Certificate students can now complete the Compensation Best Practices certificate in a maximum of 22 weeks whereas it could take up to 24 weeks previously without quicker options. The learner will have multiple opportunities to complete the certificate in 16 weeks.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Below is a subset of learning outcomes from our MHRIR degree program. These outcomes are specific to the Compensation Best Practices Certificate. LER utilized HRCI's Human Resources Body of Knowledge to inform our learning objectives and has recently (January 2022) received "exceeds expectations" score from the Office of the Provost Learning Outcomes Assessment of its MHRIR degree program.

1. Students will apply Business Management and Strategy to shape immediate and long-term HR activities, practices, and policies. Students will critically examine the complex link between strategy and business practices, understand and apply workforce metrics to drive decision-making, and apply a strategic lens to international human resources.
2. Students will understand the structural elements of compensation system design and evaluate an organization's Compensation and Benefits structure relative to market forces, union agreements, and legal requirements.
3. Students will apply and adhere to statutory and legal requirements when administering HR policies and procedures and employ Risk Management strategies to protect the employer from loss and liability and comply with labor law.
4. To support Human Resource Development, students will support organizational priorities by managing employee performance through evaluating gaps between employee performance and the desired state, building programs to address these gaps, and designing strategies for motivating employees.
5. Students will be able to use critical thinking and problem-solving skills to act strategically when making decisions in business and in life.

We have been assessing the learning outcomes through two different strategies. One being ICES evaluations at the end of the course to assess their overall course experience. We also do a sperate assessment that examines if program expectations were met in terms of content and to determine areas of improvement. This is often sent to students within two months of completing the program.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The learning outcomes are assessed at the completion of each course through ICES evaluations. They are assessed again upon completion of the certificate program through a department specific evaluation distributed through Qualtrics.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Letter grades are provided for each assignment as well as at the completion of each course.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

LER monitors course ratings each semester and connects with instructors that score lower than satisfactory on the evals. Aside from discussing formal course evaluations, LER student advisors also synthesize feedback provided informally through appointments to instructors as a way to continuously improve the course.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs    [Side by Side Compensation Best Practices.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

Catalog Page Text - Overview Tab

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

Certificate Program Website: <https://ler.illinois.edu/online-human-resources-certificate-program/>

School Faculty: <https://ler.illinois.edu/faculty/>

Program Contact: Eden Haycraft [Smothers](#)

Email: [ehaycra@illinois.edu](mailto:ehaycra@illinois.edu)

#### Program Overview:

The online certificate program consists of a variety of tracks and each track has three courses (12 credit hours total, four credit hours per course). Each course in the certificate program is either six or eight weeks long. You can choose to engage in one or more certificate program tracks. Once you have received one or more certificates, and decide you are interested in the full Master of Human Resources and Industrial Relations (MHRIR) program, you are able to apply for the online master's program.

Each certificate program track takes between 5 ~~7~~ to 10 months to complete.

How do I know if the certificate program is for me?

Are you....

-working in HR with no HR background?

-employed by an organization that provides tuition reimbursement, but the reimbursement amount isn't equivalent to a full degree program?

-seeking to gain more knowledge in HR but either unable to or prefer not to attend graduate school?

-currently in HR and seeking to freshen-up your knowledge? This group may include, for example, individuals who started in HR, left HR for different reasons or even left the labor force.

-seeking to enter the HR field or change positions within your organization to HR, but do not want to commit/can't commit to a full degree?

-an individual who wants to know more about HR in general prior to embarking on a full degree program?

If you answered 'yes' to one or more of these questions, then this certificate program may be the perfect fit for you.

What is required to apply for one of these certificate programs?

Please note all applicants must have received a bachelor’s degree prior to starting one of our certificate program tracks.

- Application
- Resume
- Official Transcripts
- English Proficiency Exam for international students

Compensation Best Practices Certificate Overview: ~~-Phone Interview—Contacted after application is reviewed for a phone conversation regarding interest in the certificate program.~~

~~Compensation Best Practices Certificate Overview:~~ Develop skills for the negotiation process as the interactive basis for union-management relations; conflict and conflict resolution as part of the negotiating process; wage and other effects of collective bargaining. Learn about hiring, promotion, evaluation, discrimination, raiding, job definition, pay schemes, benefits, and design of work.

Statement for

Programs of  
Study Catalog

### Graduation Requirements

~~Minimum Cumulative GPA:~~

Minimum Cumulative GPA: 2.75

Minimum hours required for certificate completion: 12 hours

~~-2.75 Minimum hours required for certificate completion: 12 hours~~

Students who have successfully completed the *Compensation Best Practices* certificate may use the certificate courses to satisfy the following degree requirements, provided they apply and are admitted to the degree program:

8 to 12 hours of core coursework requirements and/or 4 elective course credits of the MHRIR degree program. ~~program~~ Certificate may fulfill ~~fulfills~~ the following distribution requirements: Labor Markets and Employment, Union Management and Labor Relations Policy, and Human Resource ~~HR~~ Management and Organization Behavior

Students in the certificate program will choose three out of the five course options listed below. Behavior  
Students will need to complete 12 credit hours total to be awarded a certificate. The courses do not need to be taken in any particular order.

#### ~~Course List~~

Code	Title	Hours
<del>LER-561</del>	<del>Compensation Systems</del>	<del>4</del>
<del>LER-542</del>	<del>Collective Bargaining</del>	<del>4</del>
<del>LER-545</del>	<del>Economics of Human Resources</del>	<del>4</del>
<del>Total Hours</del>		<del>12</del>

#### Course List

Code	Title	Hours
<u>LER 561</u>	<u>Compensation Systems</u>	<u>4</u>
<u>LER 542</u>	<u>Collective Bargaining</u>	<u>4</u>
<u>LER 545</u>	<u>Economics of Human Resources</u>	<u>4</u>
<u>LER 543</u>	<u>Workplace Dispute Resolution</u>	<u>4</u>
<u>LER 535</u>	<u>Negotiation Principles in HR Context</u>	<u>4</u>

## Program Features

Academic Level Graduate

Does this major have transcribed concentrations? No

What is the typical time to completion of this program?  
22 weeks ~~6 months~~

What are the minimum Total Credit Hours required for this program?  
12

What is the required GPA? 2.75

CIP Code 521002 - Labor and Industrial Relations.

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
  
No

## Delivery Method

This program is available:

Online Only - The entire program is delivered online, students are not required to come to campus.

Describe the use of this delivery method:

The program is hybrid synchronous and asynchronous. Each course has a required, once a week two-hour live Zoom session where students gather with their peers and the instructor. These live zoom sessions include lectures, activities, students' presentations, and other interactions involving the course content.

## Admission Requirements

Desired Effective Admissions Term Spring 2025

Is this revision a change to the admission status of the program?  
  
No

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.

To apply to the certificate program within LER, prospective students must submit an updated resume and official transcripts. In order to qualify for the certificate, one must have completed an undergraduate degree. Some certificates require an undergraduate statistics course in order to proceed through the program. ~~Following the application an interview is setup with the Associate Director of Graduate Online Programs to discuss program fit and the applicant's background. An admissions decision is made after the interview with the candidate.~~ If a certificate student wants to pursue the master's degree following the completion of a certificate, they must then submit an application for the MHRIR program. That application would then require a personal statement along with three letters of recommendation. Certificate students can ask up to two of their instructors from the LER program to write letters for their master's application.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

The revision will increase enrollment and campus graduate certificates awarded by allowing for more course options which will provide more opportunities to start the program at various times throughout the year and flexibility regarding how soon the certificate can be completed.

Estimated Annual Number of Degrees Awarded

Year One Estimate	3-7	5th Year Estimate (or when fully implemented)	8
-------------------	-----	---	---

What is the matriculation term for this program?	Spring/Summer/Other
--	---------------------

Please give an explanation of why fall matriculation is not applicable:  
Students can join this certificate program in either Fall, Spring or Summer terms.

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

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

All certificate courses students are a part of the master's program, so no additional costs will be added through faculty or advisors until the program grows substantially in which case the tuition dollars will cover program expenses since our online programs are self-supporting.

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

No

Attach letters of support [Letter of Impact Library.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

MHRIR online credit hour rate

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

No

Is this program requesting self-supporting status?

Yes

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The additional courses added to the certificate program are already a part of the master's curriculum and will not come with additional faculty or departmental costs. LER his not concerned about the class sizes growing too large from this adjustment.

## 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.

The text provided below is the response from LER’s library specialist, Mandi Arlain. The full conversation can be found in the attachments under “Letter of Impact\_Library”.

"I have reviewed the information shared for the four certificate tracks offered through LER. As previously noted, given the program's current structure and enrollment numbers, the impact on library resources is expected to be minimal.

The library already has a solid collection in most areas covered by the program's course descriptions, and as a result of receiving this CIM-P proposal, I will now also keep an eye out for current and upcoming publications on these topics when purchasing for our collection. In addition to the resources found through the library's catalog, several library databases also support these certificates, including but not limited to: Human Resources Abstracts, Bloomberg Law and Nexis Uni. Students will also have access to an extensive range of related online journals, current newspapers, and video/media content.

It’s also worth mentioning that professors often benefit from collaborating with us to create a curated list of relevant library resources tailored to their specific courses in the form of a course-specific LibGuide. At the very least, they should review our collection or share their reading lists with us in advance to ensure the library has access to the necessary course materials when needed.

Thanks again for contacting the library and we're here to assist with any additional questions or concerns you may have."

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final                      [U Program Review Comments KEY 1121 10-14-2024.docx](#)  
Approval Notices                      [HLC Compensation Best Practices,GCRT Submission](#)  
   [Confirmation\\_Screening Form for Changes to Existing](#)  
   [Programs.pdf](#)

Banner/Codebook                      GCRT:CompBestPractice ONL-UIUC  
Name

Program Code:                      1PKS6126GCRU

Minor Code	Conc Code	Degree Code	GCRT	Major Code
6126				
Senate Approval Date				
Senate Conference Approval Date				
BOT Approval Date				
IBHE Approval Date				
HLC Approval Date				
DOE Approval Date				
Effective Date:				
Program Reviewer Comments	<b>Mary Lowry (lowry) (10/14/24 4:44 pm):</b> U Program Review comments attached in DMI Documentation section. <b>Allison McKinney (agrindly) (11/15/24 10:42 am):</b> Administratively Approved			

Date Submitted: 06/21/24 2:24 pm

Viewing: **5407 : Learning Design & Leadership - Floating (on campus & online)**

Last approved: 10/17/23 11:45 am

Last edit: 11/21/24 10:03 am

Changes proposed by: Laura Ketchum

Catalog Pages  
Using this  
Program

[Learning Design & Leadership Concentration](#)

Proposal Type:

- In Workflow
1. U Program Review

2. 1760 Committee Chair

3. 1760 Head

4. KN Committee Chair

5. KN Dean

6. University Librarian

7. Grad\_College

8. COTE Programs

9. Provost

10. Senate EPC

11. Senate

12. U Senate Conf

13. Board of Trustees

14. IBHE

15. HLC

16. DOE

17. DMI

- Approval Path
1. 07/01/24 2:58 pm  
Donna Butler (dbutler):  
Approved for U Program Review

2. 07/01/24 4:57 pm  
Lorenzo Baber (ldbaber):  
Approved for 1760 Committee Chair

3. 07/08/24 11:53 am  
Laura Ketchum (ketchum):  
Approved for 1760 Head

4. 09/03/24 12:24 pm  
Liv Thorstensson

Davila (livtd):  
Approved for KN  
Committee Chair

5. 11/07/24 1:54 pm  
Karla Moller  
(kjmoller):  
Approved for KN  
Dean

6. 11/14/24 11:58  
am  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian

7. 11/15/24 10:42  
am  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College

8. 11/15/24 2:10 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs

9. 11/21/24 6:23 am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Sep 11, 2020 by  
Deb Forgacs  
(dforgacs)
2. Oct 17, 2023 by  
Laura Ketchum  
(ketchum)

Concentration (ex. Dietetics)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Learning Design & Leadership - Floating (on campus & online)	
Diploma Title		
Sponsor College	Education	
Sponsor Department	Education Policy, Organization and Leadership	
Sponsor Name	Yoon Pak	
Sponsor Email	yoonpak@illinois.edu	
College Contact	Lori Fuller	College Contact Email
	harvey1@illinois.edu	
College Budget Officer	Amanda Brown	
College Budget Officer Email	acbrown1@illinois.edu	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Laura Ketchum ketchum@illinois.edu

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog Term      Fall 2024

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Concentration in Learning Design & Leadership in the College of Education and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

Revising concentration coursework to add EPOL 479.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

Yes

Why are these changes necessary?

Expands concentration course offering to cover AI in learning management systems and other educational tools.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

- Students will be able to create engaging learning environments by integrating new media technologies.
- LDL encourages students to be active designers of their own knowledge.
- Students use new digital media to enhance the ways in which they learn and understand, thus improving the learning process.
- Address the challenges of differentiating instruction to meet the needs of diverse learners.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The administration of assessment will be conducted with a comprehensive and systematic approach. The goal of our assessment is to inform the continuous improvement of our curricular and instructional activities. Our assessment activities are described below.

#### Administration of Learning Outcomes Assessment

Department: Ensure the learning outcomes at department level align with campus/ college policies, operational resources, strategic trajectory, and faculty expertise. Once a month during department leadership meeting

- Student input
- Faculty input
- College Academic Program Committee
- Campus policies

Program : Ensure the learning outcomes at program level align with departmental policies and operational capacities Once a month during department GPC meeting (AY)

- Student input
- Faculty input
- Departmental Graduate Program Committee (GPC)

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Guided by our Learning Outcomes, in what areas and to what extent are the students learning what they should learn? From Formal Learning: Students' GPAs, quality of course deliverables, publications in peer-reviewed scholarly and trade publications, awards and scholarships received by students, course evaluations, and feedback to the faculty and department; students' pass-rates on Illinois State Board of Education exams for administrative endorsement

From Non-Formal and Informal Learning: Students' initial employment placement upon graduation, students' mid-term career paths, students' participation and contribution to disciplinary scholarly and professional organizations by holding offices or providing services

In what areas and to what extent are doctoral students conducting high quality scholarly research?

- Number of students' publications and presentations in disciplinary areas of research
- Potential impact of students' publications and presentations in disciplinary areas of research

In what areas and to what extent are students collaborating with multidisciplinary areas of concentrations?

- Students' professional and academic affiliations with disciplinary areas of scholarly research or advanced practices
- Students' self-identification with EPOL concentrations
- Number of students with coursework from multiple concentrations

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

EPOL’s Graduate Programs Committee and unit leadership will review assessment results on an annual basis and adjust coursework and instruction as necessary. We will conduct review of instructor ICES scores and when applicable, consult with instructors to gain additional teaching support and resources. EPOL also has a mechanism for peer evaluation of teaching for faculty preparing for 3rd reviews and promotion (for tenure-track, tenured, and specialized faculty).

Program  
Description and  
Requirements  
Attach Documents

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/PublicAdminRules2017.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.

Revised programs     [LDL concentration revision proposal side by side 6-21-24.xlsx](#)  
Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

Catalog Page Text - Overview Tab

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

Learning Design & Leadership (LDL) provides educators and training/learning development professionals the opportunity to learn how to create more engaging learning environments by integrating new media technologies. LDL encourages students to be active designers of their own knowledge, in contrast to old teaching, in which knowledge was handed down to them. Students use new digital media to enhance the ways in which they learn and understand, thus improving the learning process. It also addresses the challenges of differentiating instruction to meet the needs of diverse learners.

Statement for  
Programs of  
Study Catalog

Course List

Code	Title	Hours
Required course:		4
<a href="#">EPOL 481</a> New Learning		
Select eight hours from the following courses:		8
<a href="#">EPOL 479</a> Machine Learning and Human Learning		
<a href="#">EPOL 486</a> New Media & Learner Differences		
<a href="#">EPOL 534</a> Assessment for Learning		

Code	Title	Hours
<a href="#">EPOL 580</a>	Ubiquitous Learning	
<a href="#">EPOL 581</a>	Knowledge, Learning and Pedagogy	
<a href="#">EPOL 582</a>	New Media and Literacies	
<a href="#">EPOL 583</a>	eLearning Ecologies	
<a href="#">ERAM 557</a>	Meaning Patterns: Semiotics and the Interpretation of Meanings in Education and the Social Sciences	
<a href="#">EPSY 408</a>	Learning and Human Development with Educational Technology	
<a href="#">EPSY 559</a>	Advanced Learning Technologies	
<a href="#">EPSY 560</a>	Technology and Educational Change	
Total Hours		12

## Program Relationships

Corresponding  
Program(s):

Corresponding Program(s)
Education Policy, Organization & Leadership, CAS (on campus & off campus)
Education Policy, Organization & Leadership, EdD (on campus, off campus & online)
Education Policy, Organization & Leadership, EdM (on campus, off campus & online)
Education Policy, Organization & Leadership, MA
Education Policy, Organization & Leadership, PhD

## Program Features

Academic Level      Graduate

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
  
No

Additional concentration notes (e.g., estimated enrollment, advising plans, etc.)

## Delivery Method

This program is available:  
On Campus and Online - 2 program types. Students can receive the entire program either on campus or online. Students can choose to take courses in either modality.

Describe the use of this delivery method:  
This program is an on campus and online program. It is not off campus.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

No changes

## 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

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

no change

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

No

Attach letters of support

Is this program requesting self-supporting status?

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

We have recently hired two additional tenure track faculty who will contribute to the LDL graduate concentration.

## 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.

Library collections, resources and services are sufficient to support this program.

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook              Learning Design and Leadership  
Name

Program Code:                      5407

Minor Code	Conc Code	5407	Degree Code	Major Code
---------------	--------------	------	----------------	---------------

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval                      NA  
Date

Effective Date:

Program Reviewer              **Mary Lowry (lowry) (06/12/24 11:10 am):** Rollback: Please see email dated  
Comments                      6-12-24.

**Mary Lowry (lowry) (06/20/24 5:06 pm):** Rollback: Please see email dated  
6-20-24 for one small request.

**Allison McKinney (agrindly) (11/15/24 10:42 am):** Administratively Approved

Date Submitted: 10/30/24 1:41 pm

Viewing: **10KM6127BS : Strategy,  
Innovation, and Entrepreneurship,  
BS**

Last approved: 05/03/24 2:09 pm

Last edit: 11/21/24 10:03 am

Changes proposed by: Brian Fulton

Catalog Pages  
Using this  
Program

[Strategy, Innovation, and Entrepreneurship, BS](#)

Proposal Type:

- In Workflow
1. U Program Review

2. 1902 Committee Chair

3. 1902 Head

4. KM Committee Chair

5. KM Dean

6. University Librarian

7. COTE Programs

8. Provost

9. Senate EPC

10. Senate

11. U Senate Conf

12. Board of Trustees

13. IBHE

14. HLC

15. DMI

- Approval Path
1. 11/01/24 12:45 pm  
Emily Stuby  
(eastuby):  
Approved for U  
Program Review

2. 11/01/24 2:19 pm  
Mark Wolters  
(mwolter):  
Approved for 1902  
Committee Chair

3. 11/02/24 12:42 pm  
Carlos Torelli  
(ctorelli):  
Approved for 1902  
Head

4. 11/12/24 10:31 pm  
Abhijeet Ghoshal  
(abhi): Approved

for KM Committee  
Chair

5. 11/13/24 10:48  
pm  
Nerissa Brown  
(nerissab):  
Approved for KM  
Dean

6. 11/14/24 11:55  
am  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian

7. 11/14/24 12:12  
pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs

8. 11/21/24 6:23 am  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. May 24, 2019 by  
Deb Forgacs  
(dforgacs)
2. Apr 16, 2021 by  
Brian Fulton  
(bfulton)
3. Jun 30, 2022 by  
Brian Fulton  
(bfulton)
4. May 3, 2024 by  
Brian Fulton  
(bfulton)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

# Administration Details

Official Program Name	Strategy, Innovation, and Entrepreneurship, BS	
Diploma Title	Bachelor of Science in Strategy, Innovation, and Entrepreneurship	
Sponsor College	Gies College of Business	
Sponsor Department	Business Administration	
Sponsor Name	Carlos Torelli	
Sponsor Email	ctorelli@illinois.edu	
College Contact	Nehemiah Scott	College Contact Email
	nehemiah@illinois.edu	
College Budget Officer	Gina Oleynichak	
College Budget Officer Email	goleynic@illinois.edu	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Brian Fulton

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog Term	Fall 2025
------------------------	-----------

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Strategy, Innovation, and Entrepreneurship in the Gies College of Business

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.

The special topics section of FIN 490 listed as an elective in this major has since received a permanent course number of FIN 380. We are only updating this one class in the degree requirements for this program.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

These changes are necessary to accurately represent the DARS records for students in the major.

Breakout of how a student gets 40 hours of 300-, 400- level coursework and/or 200 level with 2 or more preq

a. All Gies UG students have 24 required upper division hours in the business core:

i. ACCY 202 – prereq of ACCY 201 which has a prereq of ECON 102/103 – 3 hours

ii. BADM 211 – prereqs of CS105 and BADM 210 - 3 hours

iii. BUS 301 – 3 hours

iv. BUS 401 – 3 hours

v. BADM 300 – 3 hours

vi. BADM 310 – 3 hours

vii. BADM 320 – 3 hours

viii. BADM 449 – 3 hours

b. The Strategy, Innovation, and Entrepreneurship major has at least another 25 hours of upper division courses.

i. BADM 341 - 3 hours

ii. BADM 346 - 3 hours

iii. BADM 367 - 3 hours

iv. BADM 446 - 4 hours

v. at least 12 hours of skill-building and/or experiential electives at 300 or 400 level

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

Yes

Courses outside  
of the sponsoring  
department/  
interdisciplinary  
departments

~~MATH 115 - Preparation for Calculus~~

~~MATH 220 - Calculus~~

~~MATH 221 - Calculus I~~

~~MATH 231 - Calculus II~~

~~MATH 234 - Calculus for Business I~~

~~STAT 100 - Statistics~~

FIN 490 - Special Topics in Finance

FIN 380 - Entrepreneurship Thru Acquistn

Please attach any [Letter of Acknowledgement and Support FIN.pdf](#)  
letters of support/  
acknowledgement  
for any  
Instructional  
Resources  
consider faculty,  
students, and/or  
other impacted  
units as  
appropriate.

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Discipline-based competency: Students will develop knowledge and skills for (1) analyzing, formulating, and implementing strategies for new and established organizations, (2) managing technology and innovation, and (3) developing and growing new ventures.

Problem solving: Students are expected to solve complex business problems by integrating the knowledge from three core domains in strategic management, technology and innovation management, and entrepreneurship.

Strategic leadership: Students will develop skills and perspectives for organizing and directing the activities of others to pursue organizational goals.

Communication: Students will demonstrate competencies to communicate effectively, both verbally and in writing.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program  
Description and  
Requirements  
Attach Documents

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/PublicAdminRules2017.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.*

Revised programs     [Sample Sequence Strategy, Innovation, and Entrepreneurship BS.docx](#)  
[Side by Side Strategy, Innovation, and Entrepreneurship BS.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

### Catalog Page Text - Overview Tab

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

The Strategy, Innovation, and Entrepreneurship major examines how business opportunities are identified and exploited for society through existing and new organizations. Students will learn how to generate and evaluate ideas, develop those ideas into products and services, assemble resources (including finances), mitigate risks, and lead organizations that meet human needs. The degree prepares students to work within existing organizations as well as to create new organizations, both for-profit and not-for-profit.

In addition to the SIE Major requirements, students must also fulfill the University's General Education requirements and the College of Business Core Courses requirements (for more detail, refer to the Gies College of Business Undergraduate Section).

Statement for  
Programs of  
Study Catalog

#### **Graduation Requirements**

Minimum hours required for graduation: 124 hours.

#### **University Requirements**

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the [Student Code](#) (§ 3-801) and in the [Academic Catalog](#).

### General Education Requirements

Follows the [campus General Education \(Gen Ed\) requirements](#). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
Composition I		4-6
Advanced Composition		3
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
Social & Behavioral Sciences (6 hours)		6
fulfilled by <a href="#">ECON 102</a> and <a href="#">ECON 103</a>		
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: U.S. Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)		6-10
fulfilled by <a href="#">CS 105</a> ; and <a href="#">MATH 115</a> , <a href="#">MATH 220</a> , <a href="#">MATH 221</a> , <a href="#">MATH 231</a> , <a href="#">MATH 234</a> , or <a href="#">STAT 100</a>		
Language Requirement (Completion of the third semester or equivalent of a language other than English is required)		0-15

### Business Core Requirements

Course List		
Code	Title	Hours
<a href="#">ACCY 201</a>	Accounting and Accountancy I	6
& <a href="#">ACCY 202</a>	and Accounting and Accountancy II	
<a href="#">BUS 101</a>	Professional Responsibility and Business	3
<a href="#">BUS 201</a>	Business Dynamics	3
<a href="#">BUS 301</a>	Business in Action	3
<a href="#">BUS 401</a>	Crafting Your Purpose in Business	3
<a href="#">BADM 210</a>	Business Analytics I	6
& <a href="#">BADM 211</a>	and Business Analytics II	
<a href="#">BADM 275</a>	Fundamentals of Operations Management	3
<a href="#">BADM 300</a>	The Legal Environment of Bus	3
<a href="#">BADM 310</a>	Mgmt and Organizational Beh	3
<a href="#">BADM 320</a>	Principles of Marketing	3
<a href="#">BADM 449</a>	Business Policy and Strategy	3
<a href="#">CMN 101</a>	Public Speaking	3
<a href="#">CS 105</a>	Intro Computing: Non-Tech	3
<a href="#">ECON 102</a>	Microeconomic Principles	6
& <a href="#">ECON 103</a>	and Macroeconomic Principles	
<a href="#">FIN 221</a>	Corporate Finance	3
Business Core Math		3-5

Choose one course from list below:

- [MATH 115](#) Preparation for Calculus
- [MATH 220](#) Calculus

Code	Title	Hours
<a href="#"><u>MATH 221</u></a>	Calculus I	
<a href="#"><u>MATH 231</u></a>	Calculus II	
<a href="#"><u>MATH 234</u></a>	Calculus for Business I	
<a href="#"><u>STAT 100</u></a>	Statistics	
Minimum Total Hours		57

#### Course List

Code	Title	Hours
Strategy, Innovation, and Entrepreneurship, BS Major Core Requirements and Electives		
<a href="#"><u>BADM 341</u></a>	Foundations of Strategic Management	3
<a href="#"><u>BADM 346</u></a>	Introduction to Entrepreneurship	3
<a href="#"><u>BADM 367</u></a>	Mgmt of Innov and Technology	3
<a href="#"><u>BADM 446</u></a>	Entrepreneurship: New Venture Creation	4
Skill-Building Elective Choices (minimum of 9 hours):		9-15
<a href="#"><u>BADM 311</u></a>	Leading Individuals and Teams	3
<a href="#"><u>BADM 312</u></a>	Designing and Managing Orgs	3
<a href="#"><u>BADM 313</u></a>	Strategic Human Resource Management	3
<a href="#"><u>BADM 314</u></a>	Leading Negotiations	3
<a href="#"><u>BADM 322</u></a>	Marketing Research	3
<a href="#"><u>BADM 323</u></a>	Marketing Communications	3
<a href="#"><u>BADM 329</u></a>	New Product Development	3
<a href="#"><u>BADM 335</u></a>	Supply Chain Management Basics	3
<a href="#"><u>BADM 350</u></a>	IT for Networked Organizations	3
<a href="#"><u>BADM 351</u></a>	Social Media Strategy	3
<a href="#"><u>BADM 359</u></a>	Business Problem Formulation and Solution	3
<a href="#"><u>BADM 360</u></a>	Digital Marketing	3
<a href="#"><u>BADM 366</u></a>	Product Design and Development	3
<a href="#"><u>BADM 375</u></a>	Operations Strategy	3
<a href="#"><u>BADM 377</u></a>	Project Management	3
<a href="#"><u>BADM 383</u></a>	Topics in International Business (Sec. J, Int'l Mergers and Acquisitions)	3
<a href="#"><u>BADM 420</u></a>	Advanced Marketing Management	3
<a href="#"><u>BADM 447</u></a>	Legal Issues in Entrepreneurship	4
<a href="#"><u>FIN 423</u></a>	Entrepreneurial Finance	3
<a href="#"><u>FIN 424</u></a>	Mergers and Acquisition	3
<a href="#"><u>FIN 425</u></a>	Private Equity/Venture Capital	3
<a href="#"><u>FIN 433</u></a>	Corporate Risk Management	3
<a href="#"><u>FIN 464</u></a>	Applied Financial Analysis	3
<a href="#"><u>DTX 451</u></a>	Introduction to Design Thinking	3
<a href="#"><u>DTX 455</u></a>	Design for Social Impact	3
Experiential Elective Choices		0-6
<a href="#"><u>BADM 331</u></a>	Making Things	3
<a href="#"><u>BADM 357</u></a>	Digital Making Seminar	3
<a href="#"><u>BADM 420</u></a>	Advanced Marketing Management	3
<a href="#"><u>BADM 445</u></a>	Small Business Consulting	4
<a href="#"><u>BADM 463</u></a>	iVenture Accelerator Seminar I: Topics in Entrepreneurship	3
<a href="#"><u>BADM 464</u></a>	iVenture Accelerator Seminar II: Topics in Entrepreneurship	3
<a href="#"><u>SOCW 321</u></a>	Social Entre & Social Change	3
<a href="#"><u>SOCW 445</u></a>	Social Enterprise Lab	3

Code	Title	Hours
<u>FIN 380</u>	<u>Entrepreneurship through Acquisition</u>	<u>2</u>
<u>FIN 422</u>	Cases in Corporate Finance	3
<del>FIN 490</del>	<del>Special Topics in Finance (Entrepreneurship through Acquisition)</del>	<del>2</del>
Other experiential entrep. or business/product dev. course with departmental approval		
Total Hours		28

Corresponding Degree      BS Bachelor of Science

## Program Features

Academic Level      Undergraduate

Does this major have transcripted concentrations?      No

What is the typical time to completion of this program?  
4 years

What are the minimum Total Credit Hours required for this program?  
124

CIP Code      520701 - Entrepreneurship/  
Entrepreneurial Studies.

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective Admissions Term

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

No

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.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

This revision will have no change on the enrollment. We are simply giving the permanent class number to a course that has already existed.

Estimated Annual Number of Degrees Awarded

Year One Estimate	see attached.	5th Year Estimate (or when fully implemented)	see attached.
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What is the matriculation term for this program?  
Fall

## 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

Attach File(s)

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Business Differential

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

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

This revision will have no change on the faculty resources. We are simply giving the permanent class number to a course that has already existed.

## 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 revision will have no change on the library resources. We are simply giving the permanent class number to a course that has already existed.

## EP Documentation

EP Control Number

EP.25.035

Attach Rollback/  
Approval Notices

This proposal requires HLC inquiry

No

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook Name

BS:Strategy, Innov & Ent-UIUC

Program Code:

10KM6127BS

Minor Code	Conc Code	Degree Code	BS	Major Code
6127				

Senate Approval Date

Senate Conference Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval  
Date

Effective Date:

Program Reviewer	<b>Brooke Newell (bsnewell) (10/23/24 1:41 pm):</b> Rollback: Per discussion
Comments	<b>Brooke Newell (bsnewell) (10/23/24 4:03 pm):</b> Rollback: Per request from Brian
	<b>Brooke Newell (bsnewell) (11/01/24 10:10 am):</b> No U Program Review
	Comments

Date Submitted: 10/10/24 11:55 am

Viewing: **10KP0408BS : Bioengineering,  
BS**

Last approved: 09/30/24 11:34 am

Last edit: 11/27/24 9:16 am

Changes proposed by: Maddie Darling

Catalog Pages [Bioengineering, BS](#)  
Using this  
Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1343 Head
- 3. KP Committee Chair
- 4. KP Dean
- 5. University Librarian
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DMI

Approval Path

- 1. 10/11/24 1:47 pm  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 10/14/24 8:50 pm  
Rebecca Reck (rreck): Approved for 1343 Head
- 3. 11/19/24 11:21 am  
Keri Pipkins (kcp): Approved for KP Committee Chair
- 4. 11/19/24 11:26 am  
Cindy Pruitt (cpruitt): Approved for KP Dean
- 5. 11/21/24 2:32 pm  
Claire Stewart (clairest):

Approved for  
University  
Librarian

6. 11/21/24 6:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
7. 11/26/24 2:29 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Dec 13, 2018 by  
Deb Forgacs  
(dforgacs)
2. Apr 9, 2019 by  
Deb Forgacs  
(dforgacs)
3. Jul 23, 2019 by  
Brooke Newell  
(bsnewell)
4. Jul 31, 2019 by  
Deb Forgacs  
(dforgacs)
5. Aug 12, 2019 by  
Deb Forgacs  
(dforgacs)
6. Jan 27, 2020 by  
Maddie Darling  
(darling4)
7. Apr 2, 2020 by  
Maddie Darling  
(darling4)
8. Apr 16, 2021 by  
Maddie Darling  
(darling4)
9. Oct 8, 2021 by  
Brooke Newell  
(bsnewell)
10. Apr 5, 2022 by  
Maddie Darling  
(darling4)
11. Apr 7, 2023 by  
Maddie Darling

- (darling4)
12. Oct 23, 2023 by  
Maddie Darling  
(darling4)
13. Sep 30, 2024 by  
Maddie Darling  
(darling4)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Bioengineering, BS	
Diploma Title	Bachelor of Science in Bioengineering	
Sponsor College	Grainger College of Engineering	
Sponsor Department	Bioengineering	
Sponsor Name	Maddie Darling	
Sponsor Email	darling4@illinois.edu	
College Contact	<u>Katherine Freeman; Keri Carter Pipkins</u> <del>Jonathan Makela</del> <u>katefree@illinois.edu; kcp@illinois.edu</u> <del>jmakela@illinois.edu</del>	College Contact Email
College Budget Officer	Tessa Hile	
College Budget Officer Email	tmhile@illinois.edu	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Maddie Darling (darling4@illinois.edu), BIOE; Katherine Freeman (katefree@illinois.edu) GCOE; Keri Carter Pipkins (kcp@illinois.edu) GCOE ~~Maddie Darling (darling4@illinois.edu), BIOE~~

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog      Fall 2025

Term

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Bioengineering in the Grainger College of Engineering

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

No

## Program Justification

Provide a brief description of what changes are being made to the program.

1. The five separate track elective categories have been merged into a single "technical electives" category, which will include all previously available track electives.
2. Track-specific recommended free electives have been excluded from the technical elective course list (SE 101, MCB 450, CHEM 442).
3. Duplicate courses have been eliminated from the technical elective course list.
4. BIOE 416: Biosensors has been removed.
5. Reorganized the technical elective course list in alphanumeric order.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1. This change is necessary because it gives students more flexibility to customize their course selections according to their specific educational goals, rather than being restricted to a single subdiscipline (track). By consolidating the electives, students can explore a broader range of subjects that align with their individual interests and career goals.
2. Since tracks have been eliminated, it is no longer appropriate to include track-specific free elective course recommendations (SE 101, MCB 450, CHEM 442) in the technical elective course list.
3. Previously, a course could be listed under multiple track elective areas. With the removal of tracks, each course will now only need to appear once in the technical elective category list.
4. BIOE 416: Biosensors has been removed to reduce redundancy, as it is already listed under the home department rubric, ECE 416: Biosensors.
5. Reorganizing the technical elective course list in alphanumeric order enhances clarity and accessibility for students and advisors. Alphanumeric order creates an easier user experience in locating courses quickly, reducing time spent searching through a disorganized list.

The 40 hours of upper-division classes for IBHE requirement are met by:

- 26 hours of 300 & 400 level classes individually specified in the Bioengineering Technical Core
  - o BIOE 476 (3 credit hours)
  - o BIOE 302 (3 credit hours)
  - o BIOE 303 (2 credit hours)
  - o BIOE 310 (3 credit hours)
  - o BIOE 360 (3 credit hours)
  - o BIOE 414 (3 credit hours)
  - o BIOE 415 (2 credit hours)
  - o BIOE 400 (4 credit hours)
  - o BIOE 420 (3 credit hours)
- 15 hours of 200 level coursework with 2 or more prerequisites in Foundational Mathematics and Science
  - o MATH 241 (4 credit hours) - prerequisites of MATH 231 and MATH 220 or 221
  - o MATH 285 (3 credit hours) - prerequisites of MATH 241, MATH 231 and MATH 220 or 221
  - o PHYS 211 (4 credit hours) - prerequisites of MATH 231 and MATH 220 or 221
  - o PHYS 212 (4 credit hours) - prerequisites of PHYS 211, MATH 241, MATH 231 and MATH 220 or 221

## 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?

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

No

No

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

Yes

Courses outside  
of the sponsoring  
department/  
interdisciplinary  
departments

~~CPSC 440 - Applied Statistical Methods I~~

SE 101 - Engineering Graphics & Design

MCB 450 - Introductory Biochemistry

CHEM 442 - Physical Chemistry I

Please attach any  
letters of support/  
acknowledgement  
for any  
Instructional  
Resources  
consider faculty,  
students, and/or  
other impacted  
units as  
appropriate.

[Letter of Acknowledgement\\_Industrial and Enterprise Systems Engineering.pdf](#)

[Letter of Acknowledgement\\_Chemistry.pdf](#)

[Letter of Acknowledgement\\_Molecular and Cellular Biology.pdf](#)

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

The Bioengineering Program prepares graduates to achieve the following student outcomes by the time of graduation:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs     [Side by Side Bioengineering BS.xlsx](#)

[Sample Sequence\\_Bioengineering  
BS.docx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

Catalog Page Text - Overview Tab

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

Statement for

Programs of

**Graduation Requirements**

Study Catalog

Minimum hours required for graduation: 128 hours.

Minimum Overall GPA: 2.0

**University Requirements**

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the [Student Code](#) (§ 3-801) and in the [Academic Catalog](#).

**General Education Requirements**

Follows the [campus General Education \(Gen Ed\) requirements](#). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
Composition I		4-6
Advanced Composition		3
fulfilled by <a href="#">BIOE 400</a>		
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
fulfilled by <a href="#">CHEM 102</a> , <a href="#">CHEM 104</a> , <a href="#">MCB 150</a> , <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a>		
Social & Behavioral Sciences (6 hours)		6
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: US Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)		6-10
fulfilled by <a href="#">MATH 220</a> or <a href="#">MATH 221</a> ; and <a href="#">MATH 231</a> , <a href="#">MATH 241</a> , <a href="#">MATH 285</a> , <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a> ; and <a href="#">CS 101</a> or <a href="#">CS 124</a>		
Language Requirement (Completion of the third semester or equivalent of a language other than English is required)		0-15

**Major Requirements**

**Orientation and Professional Development**

Course List		
Code	Title	Hours
<a href="#">ENG 100</a>	Grainger Engineering Orientation Seminar (External transfer students take <a href="#">ENG 300</a> .)	1
<a href="#">BIOE 100</a>	Bioengineering Seminar	1
<a href="#">BIOE 120</a>	Introduction to Bioengineering	1
Total Hours		3

## Foundational Mathematics and Science

### Course List

Code	Title	Hours
<a href="#">CHEM 102</a>	General Chemistry I	3
<a href="#">CHEM 103</a>	General Chemistry Lab I	1
<a href="#">CHEM 104</a>	General Chemistry II	3
<a href="#">CHEM 105</a>	General Chemistry Lab II	1
<a href="#">MATH 221</a>	Calculus I ( <a href="#">MATH 220</a> may be substituted. <a href="#">MATH 220</a> is appropriate for students with no background in calculus. 4 of 5 credit hours count towards degree.)	4
<a href="#">MATH 231</a>	Calculus II	3
<a href="#">MATH 241</a>	Calculus III	4
<a href="#">MATH 285</a>	Intro Differential Equations	3
<a href="#">PHYS 211</a>	University Physics: Mechanics	4
<a href="#">PHYS 212</a>	University Physics: Elec & Mag	4
Total Hours		30

## Bioengineering Technical Core

### Course List

Code	Title	Hours
<a href="#">BIOE 201</a>	Conservation Principles Bioeng	3
<a href="#">BIOE 202</a>	Cell & Tissue Engineering Lab	2
<a href="#">BIOE 205</a>	Signals & Systems in Bioengrg	3
<a href="#">BIOE 206</a>	Cellular Bioengineering	3
<a href="#">BIOE 210</a>	Linear Algebra for Biomedical Data Science	3
<a href="#">BIOE 302</a>	Modeling Human Physiology	3
<a href="#">BIOE 303</a>	Quantitative Physiology Lab	2
<a href="#">BIOE 310</a>	Computational Tools for Biological Data	3
<a href="#">BIOE 360</a>	Transport & Flow in Bioengrg	3
<a href="#">BIOE 400</a>	Bioengineering Senior Design	4
<a href="#">BIOE 414</a>	Biomedical Instrumentation	3
<a href="#">BIOE 415</a>	Biomedical Instrumentation Lab	2
<a href="#">BIOE 420</a>	Intro Bio Control Systems	3
<a href="#">BIOE 476</a>	Tissue Engineering	3
<a href="#">CHEM 232</a>	Elementary Organic Chemistry I	4
<a href="#">CS 101</a>	Intro Computing: Engrg & Sci	3
or <a href="#">CS 124</a> Introduction to Computer Science I		
<a href="#">MCB 150</a>	Molec & Cellular Basis of Life	4
Total Hours		51

## Technical ~~Track~~ Electives

### Course List

Code	Title	Hours
<del>Students are required to complete 15 hours of credit from one track area listed below.</del>		<del>15</del>
<del>Biomechanics Track</del>		
<del>Required courses:-</del>		
<u>Students are required to complete 15 hours of credit from the course options listed below.</u>		<u>15</u>
<a href="#">ABE 446</a>	Biological Nanoengineering	3
<del><a href="#">BIOE 306</a></del>	<del>Biofabrication Lab</del>	<del>3</del>
<del><a href="#">BIOE 424</a></del>	<del>Preclinical Molecular Imaging</del>	<del>3</del>
<del><a href="#">BIOE 430</a></del>	<del>Intro Synthetic Biology</del>	<del>3</del>

Code	Title	Hours
<del>BIOE 432</del>	<del>Systems Biology: Uncovering Design Principles of Biological Networks</del>	<del>3</del>
<del>BIOE 434</del>	<del>Immunoengineering</del>	<del>3</del>
<del>BIOE 450</del>	<del>Introduction to Quantitative Pharmacology</del>	<del>3</del>
<del>BIOE 460</del>	<del>Gene Editing Lab</del>	<del>3</del>
BIOE 306	Biofabrication Lab	3
<del>BIOE 416</del>	<del>Biosensors</del>	<del>3</del>
BIOE 424	Preclinical Molecular Imaging	3
BIOE 430	Intro Synthetic Biology	3
BIOE 432	Systems Biology: Uncovering Design Principles of Biological Networks	3
BIOE 434	Immunoengineering	3
<del>BIOE 450</del>	<del>Introduction to Quantitative Pharmacology</del>	<del>3</del>
BIOE 450	Introduction to Quantitative Pharmacology	3
BIOE 460	Gene Editing Lab	3
<del>BIOE 461</del>	<del>Cellular Biomechanics</del>	<del>4</del>
BIOE 461	Cellular Biomechanics	4
BIOE 479	Cancer Nanotechnology	3
<del>BIOE 498</del>	<del>Special Topics (Regulatory Safety Issues in Bioengineering)</del>	<del>3</del>
<del>BIOE 498</del>	<del>Special Topics (Surgical Technologies)</del>	<del>3</del>
BIOE 483	Biomedical Computed Imaging Systems	3
BIOE 484	Statistical Analysis of Biomedical Images	3
BIOE 485	Computational Mathematics for Machine Learning and Imaging	4
BIOE 486	Applied Deep Learning for Biomedical Imaging	3
<del>BIOE 498</del>	<del>Special Topics (Regulatory Safety Issues in Bioengineering)</del>	<del>3</del>
BIOE 487	Stem Cell Bioengineering	3
<del>BIOE 498</del>	<del>Special Topics (Regulatory Safety Issues in Bioengineering)</del>	<del>3</del>
BIOE 498	Special Topics (Technologies for Cancer Diagnosis and Therapy)	3
<del>CHBE 472</del>	<del>Techniques in Biomolecular Eng</del>	<del>3</del>
BIOE 498	Special Topics (Regulatory Safety Issues in Bioengineering)	3
BIOE 498	Special Topics (Surgical Techniques)	3
<del>CHBE 471</del>	<del>Biochemical Engineering</del>	<del>3</del>
<del>CHBE 472</del>	<del>Techniques in Biomolecular Eng</del>	<del>3</del>
CS 128	Introduction to Computer Science II	3
CS 225	Data Structures	4
<del>Select the remaining 8 hours from the list below:</del>		
<del>BIOE 430</del>	<del>Intro Synthetic Biology</del>	<del>3</del>
<del>BIOE 432</del>	<del>Systems Biology: Uncovering Design Principles of Biological Networks</del>	<del>3</del>
CS 411	Database Systems	3
CS 412	Introduction to Data Mining	3
CS 440	Artificial Intelligence	3
CS 446	Machine Learning	3 or 4
CS 465	User Interface Design	4
CS 466	Introduction to Bioinformatics	3
CS 498	Special Topics (Intro to Deep Learning)	3
ECE 210	Analog Signal Processing	4
ECE 310	Digital Signal Processing	3
ECE 311	Digital Signal Processing Lab	1
ECE 329	Fields and Waves I	3

Code	Title	Hours
<a href="#"><u>ECE 365</u></a>	Data Science and Engineering	3
<a href="#"><u>ECE 380</u></a>	Biomedical Imaging	3
<a href="#"><u>ECE 416</u></a>	Biosensors	3
<a href="#"><u>ECE 417</u></a>	Multimedia Signal Processing	4
<a href="#"><u>ECE 418</u></a>	Image & Video Processing	4
<a href="#"><u>ECE 437</u></a>	Sensors and Instrumentation	3
<a href="#"><u>ECE 365</u></a>	Data Science and Engineering	3
<a href="#"><u>ECE 460</u></a>	Optical Imaging	4
<a href="#"><u>ECE 467</u></a>	Biophotonics	3
<a href="#"><u>ECE 472</u></a>	Biomedical Ultrasound Imaging	3
<a href="#"><u>ECE 473</u></a>	Fund of Engrg Acoustics	3
<a href="#"><u>ECE 480</u></a>	Magnetic Resonance Imaging	3
<a href="#"><u>ECE 481</u></a>	Nanotechnology	4
<a href="#"><u>ECE 490</u></a>	Introduction to Optimization	3
<a href="#"><u>ECE 498</u></a>	Special Topics in ECE (Deep Learning in Hardware)	3
<a href="#"><u>IE 310</u></a>	Deterministic Models in Optimization	3
<a href="#"><u>IE 330</u></a>	Industrial Quality Control	3
<a href="#"><u>IE 370</u></a>	Stochastic Processes and Applications	3
<a href="#"><u>ME 330</u></a>	Engineering Materials	4
<a href="#"><u>ME 481</u></a>	Whole-Body Musculoskel Biomech	3
<a href="#"><u>ME 482</u></a>	Musculoskel Tissue Mechanics	3
<a href="#"><u>ME 483</u></a>	Mechanobiology	4
<del>NPRE 461</del>	<del>Probabilistic Risk Assessment</del>	<del>3</del>
<a href="#"><u>ME 487</u></a>	MEMS-NEMS Theory & Fabrication	4
<del>NPRE 461</del>	<del>Probabilistic Risk Assessment</del>	<del>3</del>
<del>SE 423</del>	<del>Mechatronics</del>	<del>3</del>
<del>TMGT 461</del>	<del>Tech, Eng, &amp; Mgt Final Project</del>	<del>4</del>
<del>Recommended Free Elective</del>		
<del>CHEM 442</del>	<del>Physical Chemistry I</del>	<del>4</del>
<a href="#"><u>MSE 403</u></a>	Synthesis of Materials	3
<del>MSE 404</del>	<del>Laboratory Studies in Materials Science and Engineering</del>	<del>1.5</del>
<a href="#"><u>MSE 404</u></a>	Laboratory Studies in Materials Science and Engineering	1.5
<a href="#"><u>MSE 450</u></a>	Polymer Science & Engineering	3
<a href="#"><u>MSE 457</u></a>	Polymer Chemistry	3 or 4
<del>MSE 470</del>	<del>Design and Use of Biomaterials</del>	<del>3</del>
<a href="#"><u>MSE 470</u></a>	Design and Use of Biomaterials	3
<a href="#"><u>MSE 473</u></a>	Biomolecular Materials Science	3
<del>MSE 474</del>	<del>Biomaterials and Nanomedicine</del>	<del>3</del>
<a href="#"><u>MSE 474</u></a>	Biomaterials and Nanomedicine	3
<del>ME 483</del>	<del>Mechanobiology</del>	<del>4</del>
<del>TMGT 461</del>	<del>Tech, Eng, &amp; Mgt Final Project</del>	<del>4</del>
<del>Recommended free elective</del>		
<del>MCB 450</del>	<del>Introductory Biochemistry</del>	<del>3</del>
<del>Therapeutics Engineering Track</del>		
<del>Select 15 hours from the list below:</del>		
<a href="#"><u>MSE 480</u></a>	Surfaces and Colloids	3
<del>TMGT 461</del>	<del>Tech, Eng, &amp; Mgt Final Project</del>	<del>4</del>

Code	Title	Hours
<del>Computational and Systems Biology Track</del>		
<del>Required courses:</del>		
<del>NPRE 461</del>	<del>Probabilistic Risk Assessment</del>	<del>3 or 4</del>
<del>SE 423</del>	<del>Mechatronics</del>	<del>3</del>
<del>TMGT 461</del>	<del>Tech, Eng, &amp; Mgt Final Project</del>	<del>4</del>
<del>Imaging and Sensing Track</del>		
<del>Select 15 hours from the list below:</del>		
<del>BIOE 424</del>	<del>Preclinical Molecular Imaging</del>	<del>3</del>
<del>BIOE 432</del>	<del>Systems Biology: Uncovering Design Principles of Biological Networks</del>	<del>3</del>
<del>BIOE 434</del>	<del>Immunoengineering</del>	<del>3</del>
<del>BIOE 450</del>	<del>Introduction to Quantitative Pharmacology</del>	<del>3</del>
<del>BIOE 484</del>	<del>Statistical Analysis of Biomedical Images</del>	<del>3</del>
<del>BIOE 486</del>	<del>Applied Deep Learning for Biomedical Imaging</del>	<del>3</del>
<del>BIOE 498</del>	<del>Special Topics (Regulatory Safety Issues in Bioengineering)</del>	<del>3</del>
<del>BIOE 498</del>	<del>Special Topics (Surgical Techniques)</del>	<del>3</del>
<del>BIOE 498</del>	<del>Special Topics (Technologies for Cancer Diagnosis and Therapy)</del>	<del>3</del>
<del>SE 402</del>	<del>Comp-Aided Product Realization</del>	<del>3</del>
<del>SE 423</del>	<del>Mechatronics</del>	<del>3</del>
<del>TAM 211</del>	<del>Statics</del>	<del>3</del>
<del>TAM 212</del>	<del>Introductory Dynamics</del>	<del>3</del>
<del>TAM 251</del>	<del>Introductory Solid Mechanics</del>	<del>3</del>
<del>Select the remaining 6 hours from the below list:</del>		
<del>TAM 445</del>	<del>Continuum Mechanics</del>	<del>4</del>
<del>TMGT 461</del>	<del>Tech, Eng, &amp; Mgt Final Project</del>	<del>4</del>
<del>Recommended free elective:</del>		
<del>SE 101</del>	<del>Engineering Graphics &amp; Design</del>	<del>3</del>
<del>Cell and Tissue Engineering Track</del>		
<del>Select 15 hours from the list below:</del>		
<b>Free Electives</b>		
Course List		
Code	Title	Hours
<u>Additional coursework, subject to the Grainger College of Engineering restrictions to Free Electives, so that there are at least 128 credit hours earned toward the degree.</u>		9
Total Hours of Curriculum to Graduate		128

Corresponding Degree      BS Bachelor of Science

## Program Features

Academic Level      Undergraduate

Does this major have transcribed concentrations?      No

What is the typical time to completion of this program?  
4 years

128  
CIP Code            140501 - Bioengineering and Biomedical  
Engineering.

Will specialized accreditation be sought for this program?

No

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

Are there budgetary implications for

this revision?

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget  
Information

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

No changes

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

No

Attach letters of  
support

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Engineering Differential

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

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

There will not be an impact on faculty resources, class size, teaching loads, or student-faculty ratios as a result of this revision.

## 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.

The proposal team consulted with Anna Liss Jacobsen and, based upon their input, determined that the Library's resources, collections, and services are sufficient to meet the needs of the program outlined in this proposal.

## EP Documentation

EP Control

EP.25.035

Number

Attach Rollback/  
Approval Notices

This proposal            No  
requires HLC  
inquiry

## DMI Documentation

Attach Final            [U Program Review Comments KEY 112 Bioengineering, BS](#)  
Approval Notices       [10\\_10\\_2024.docx](#)

Banner/Codebook       BS:Bioengineering - UIUC  
Name

Program Code:           10KP0408BS

Minor Code	Conc Code	Degree Code	BS	Major Code
0408				

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval           NA  
Date

Effective Date:

Program Reviewer       **Brooke Newell (bsnewell) (09/30/24 4:06 pm):** Rollback: per discussion with  
Comments                Maddie  
                                 **Brooke Newell (bsnewell) (10/10/24 9:50 am):** U Program Review Comments  
                                 attached in the DMI Documentation section.  
                                 **Brooke Newell (bsnewell) (10/10/24 10:06 am):** Rollback: per request by Maddie  
                                 **Brooke Newell (bsnewell) (10/10/24 11:45 am):** Rollback: per discussion with  
                                 Maddie  
                                 **Brooke Newell (bsnewell) (10/11/24 1:37 pm):** No U Program Review Comments  
                                 **Katherine Freeman (katefree) (11/08/24 11:48 am):** checked Review comments  
                                 with proposal, all issues are addressed provided catalog will reflect the requested  
                                 changes in review notes.

Date Submitted: 11/12/24 2:32 pm

Viewing: **10KT5201BS : Media and Cinema Studies, BS**

Last approved: 02/29/24 9:08 am

Last edit: 11/27/24 9:16 am

Changes proposed by: Carrie Wilson

Catalog Pages [Media & Cinema Studies, BS](#)  
Using this Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1436 Committee Chair
- 3. 1436 Head
- 4. KT Committee Chair
- 5. KT Dean
- 6. University Librarian
- 7. COTE Programs
- 8. Provost
- 9. Senate EPC
- 10. Senate
- 11. U Senate Conf
- 12. Board of Trustees
- 13. IBHE
- 14. HLC
- 15. DMI

Approval Path

- 1. 11/18/24 12:57 pm  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 11/18/24 2:02 pm  
Derek Long (drlong):  
Approved for 1436 Committee Chair
- 3. 11/18/24 2:10 pm  
Cheryl Cole (clcole): Approved for 1436 Head
- 4. 11/19/24 3:18 pm  
Jenny Oyallon-Koloski (joyallon):  
Approved for KT Committee Chair
- 5. 11/19/24 4:35 pm

Katie Clark  
(keclark):  
Approved for KT  
Dean

6. 11/21/24 2:44 pm  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian

7. 11/21/24 6:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs

8. 11/26/24 2:29 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Nov 17, 2021 by  
Katie Clark  
(keclark)
2. Apr 21, 2022 by  
Josh Heuman  
(jmheuman)
3. May 10, 2022 by  
Deb Forgacs  
(dforgacs)
4. Feb 29, 2024 by  
Derek Long  
(drlong)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Media and Cinema Studies, BS
Diploma Title	Bachelor of Science in Media and Cinema Studies
Sponsor College	Media, College of

Sponsor	Media & Cinema Studies	
Department		
Sponsor Name	Derek Long and Carrie Wilson-Brown	
Sponsor Email	drlong@illinois.edu; carrieaw@illinois.edu	
College Contact	Katie Clark	College Contact Email
	keclark@illinois.edu	
College Budget Officer		
College Budget Officer Email		

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

KT Dean

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog Term	Fall 2025
------------------------	-----------

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Media and Cinema Studies in the College of Media

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief description of what changes are being made to the program.	<p>(1) Added MACS 205: Introduction to Documentary to the history course options in the Critical Media Production track.</p> <p>(2) Added MACS 284: Animated Media from Mickey to GIFs to the history course options in the Critical Media Production track.</p> <p>(3) Added MACS 317: Media History to the history course options in the Critical Media</p>
--	---

Production track.

(4) Added MACS 317: Media History to the history course options in the General track.

(5) Updated program of study to include general education requirements.

40 hours of Advanced Coursework

6 hours - Core Courses

3 hours - Capstone Course

3 hours - MACS Electives

28 hours - Free Electives

Please note that the side-by-side appears that general education requirements were added in the new curriculum. They are no different than the previous curriculum but have been added to the Program of Study table to reflect new campus guidelines.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

Yes

Why are these changes necessary?

(1) Adding MACS 205 allows Critical Media Production students an opportunity to explore the history of documentary film and offers flexibility in the track's history course offerings.

(2) Adding MACS 284 allows Critical Media Production students an opportunity to explore the history of animation and offers flexibility in the history course offerings.

(3) Adding MACS 317 allows Critical Media Production students an opportunity to survey media history and offers flexibility in the history course offerings.

(4) Adding MACS 317 allows students in the General track an opportunity to survey media history and offers flexibility in the history course offerings.

(5) Updated program of study to include general education requirements to align with updated campus guidelines.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Students in Media and Cinema Studies will be able to:

1. Demonstrate an understanding of media and cinema studies' subject areas, and their respective concepts, theories, and methods.
2. Demonstrate critical thinking skills.
3. Demonstrate an ability to identify and explain problems of social power and social justice across media products and processes.
4. Demonstrate the ability to successfully communicate research outcomes and/or creative expressions across a range of modalities.
5. Demonstrate the ability to collaborate successfully and inclusively on research and/or creative projects.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Students' learning outcomes will be assessed through individual assignments (papers, presentations, exams, and creative projects) as part of their required coursework in cinema studies, media studies, and/or media production methods, history, theory, and production.

Student will submit self-reflections in production courses to assess their individual performance when collaborating.

Student will submit peer reviews in production courses to offer peer feedback when collaborating.

External metrics (job placement statistics, alumni engagement) will be used to assess how our graduates are applying the knowledge and skills acquired from their major.

Students in Media and Cinema Studies are required to complete a 400-level capstone project. The instructor of the course will assess whether students are meeting the learning outcomes stated above. The department will review final projects or portfolios from these courses and make adjustments to courses and curriculum as necessary.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program

Description and

Requirements

Attach Documents

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/PublicAdminRules2017.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.*

Revised programs     [SampleSequence\\_MACS\\_FA25.pdf](#)  
[MACS, BS\\_SideBySide\\_FA25.xlsx](#)

Attach a revised Sample Sequence (for undergraduate program)  
or college-level forms.

### Catalog Page Text - Overview Tab

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

~~<https://media.illinois.edu/> for the degree of Bachelor of Science Major in Media & Cinema Studies department website: <https://media.illinois.edu/media-cinema-studies> department faculty: <https://media.illinois.edu/media-cinema-studies/faculty-overview-of> college admissions & requirements: College of Media collegewebsite: MEDIA AND CINEMA STUDIES (MACS), prepares students with dynamic skills for careers in media, information, creative, and visual industries, as well as informed interaction with everyday media technologies. Majors have the opportunity to participate in original research, mixed media production, internships, study abroad, and public engagement through a transformative learning environment. [Programs in Cinema Studies](#) Undergraduate Programs: major: Media & Cinema Studies, BS minors: Cinema Studies | Critical Film Production | Media Graduate Programs: minor: Cinema Studies~~

Statement for

Programs of

Study Catalog

**Graduation Requirements**

Minimum hours required for graduation: 124 hours.

### **University Requirements**

~~Students must complete the Campus General Education requirements including the campus general education language requirement, all of which must be taken for a traditional letter grade Minimum A~~

~~minimum of 124 hours are required for graduation, including at least~~ 40 hours of upper-division ~~coursework, coursework~~ generally at the 300- ~~or and~~ 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (§ 3-801) and in the Academic Catalog.

### **General Education Requirements**

Follows the campus General Education (Gen Ed) requirements. Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
<u>Composition I</u>		<u>4-6</u>
<u>Advanced Composition</u>		<u>3</u>
<u>fulfilled by MACS 101</u>		
<u>Humanities &amp; the Arts (6 hours)</u>		<u>6</u>
<u>Natural Sciences &amp; Technology (6 hours)</u>		<u>6</u>
<u>Social &amp; Behavioral Sciences (6 hours)</u>		<u>6</u>
<u>Cultural Studies: Non-Western Cultures (1 course)</u>		<u>3</u>
<u>Cultural Studies: US Minority Cultures (1 course)</u>		<u>3</u>
<u>Cultural Studies: Western/Comparative Cultures (1 course)</u>		<u>3</u>
<u>Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)</u>		<u>6-10</u>
<u>Language Requirement (Completion of the third semester or equivalent of a language other than English is required)</u>		<u>0-15</u>

### **Major Requirements**

Course List		
Code	Title	Hours
Foundation Course		3
<u>MACS 101</u>	Introduction to the Media	3
Core Requirements: Theory, History, Methods, and Production		12-13
Students must choose a track for core requirements and are encouraged to select one of the specific tracks. Each track requires students to complete at least one course each in Theory, History, Methods, and Production appropriate to their track.		
Cinema Studies Track		
Theory		
<u>MACS 361</u>	Film Theory	
History		
Choose 1:		
<u>MACS 261</u>	Survey of World Cinema I	
<u>MACS 262</u>	Survey of World Cinema II	
Methods		
<u>MACS 350</u>	Film Analysis and Criticism	
Production		
Choose 1:		
<u>MACS 150</u>	Introduction to Digital Media Production	
<u>MACS 205</u>	Introduction to Documentary	
<u>MACS 260</u>	Film Production	
Critical Media Production Track		
Theory		

Code	Title	Hours
Choose 1:		
<a href="#">MACS 320</a>	Popular Culture	
<a href="#">MACS 326</a>	New Media, Culture & Society	
<a href="#">MACS 356</a>	Sex & Gender in Popular Media	
<a href="#">MACS 361</a>	Film Theory	
History		
Choose 1:		
<a href="#">MACS 205</a>	Introduction to Documentary	
<a href="#">MACS 261</a>	Survey of World Cinema I	
<a href="#">MACS 262</a>	Survey of World Cinema II	
<a href="#">MACS 284</a>	Animated Media from Mickey to GIFs	
<a href="#">MACS 317</a>	Media History	
Methods		
Choose 1:		
<a href="#">MACS 350</a>	Film Analysis and Criticism	
<a href="#">MACS 351</a>	Media Analysis	
Production		
<a href="#">MACS 260</a>	Film Production	
Media Studies Track		
Theory		
Choose 1:		
<a href="#">MACS 320</a>	Popular Culture	
<a href="#">MACS 326</a>	New Media, Culture & Society	
<a href="#">MACS 356</a>	Sex & Gender in Popular Media	
History		
<a href="#">MACS 317</a>	<a href="#">Media History</a>	
Methods		
<a href="#">MACS 351</a>	Media Analysis	
Production		
Choose 1:		
<a href="#">MACS 140</a>	Smartphone Cinema	
<a href="#">MACS 150</a>	Introduction to Digital Media Production	
<a href="#">MACS 205</a>	Introduction to Documentary	
<a href="#">MACS 260</a>	Film Production	
<a href="#">MACS 264</a>	Media Industries	
General Track		
While a specific track is strongly preferred, students may fulfill the following core requirements for the general track:		
Theory		
Choose 1:		
<a href="#">MACS 320</a>	Popular Culture	
<a href="#">MACS 326</a>	New Media, Culture & Society	
<a href="#">MACS 356</a>	Sex & Gender in Popular Media	
<a href="#">MACS 361</a>	Film Theory	
History		
Choose 1:		
<a href="#">MACS 205</a>	Introduction to Documentary	

Code	Title	Hours
<a href="#">MACS 261</a>	Survey of World Cinema I	
<a href="#">MACS 262</a>	Survey of World Cinema II	
<a href="#">MACS 284</a>	<a href="#">Animated Media from Mickey to GIFs</a>	
<a href="#">MACS 317</a>	<a href="#">Media History</a>	
Methods		
Choose 1:		
<a href="#">MACS 350</a>	Film Analysis and Criticism	
<a href="#">MACS 351</a>	Media Analysis	
Production		
Choose 1:		
<a href="#">MACS 140</a>	Smartphone Cinema	
<a href="#">MACS 150</a>	Introduction to Digital Media Production	
<a href="#">MACS 205</a>	<a href="#">Introduction to Documentary</a>	
<a href="#">MACS 260</a>	Film Production	
<a href="#">MACS 264</a>	Media Industries	
Capstone Course		3
Students should complete at least 3 hours of MACS coursework at the 400-level from the following list:		
<a href="#">MACS 408</a>	TV Studies	
<a href="#">MACS 410</a>	Media Ethics	
<a href="#">MACS 466</a>	Japanese Cinema	
<a href="#">MACS 480</a>	Advanced Filmmaking ( <a href="#">MACS 480</a> and <a href="#">MACS 481</a> must be taken concurrently)	
<a href="#">MACS 481</a>	Advanced Filmmaking Studio ( <a href="#">MACS 480</a> and <a href="#">MACS 481</a> must be taken concurrently)	
<a href="#">MACS 484</a>	Media Professionalization	
<a href="#">MACS 485</a>	Making Video Essays	
<a href="#">MACS 496</a>	Advanced Media/Cinema Topics	
Media and Cinema Studies Electives		12
Students must complete at least 12 hours of MACS coursework that is in addition to the requirements above. At least 3 hours must be at the 300-level or above.		
College of Media Electives		6
Students should complete at least 6 hours of coursework from courses in the College of Media, in addition to the requirements above. These can be Media and Cinema Studies (MACS), Journalism (JOUR), Advertising (ADV), or Media (MDIA).		
Total hours required for graduation		124

Corresponding Degree      BS Bachelor of Science

## Program Features

Academic Level      Undergraduate

Does this major have transcripted concentrations?      No

What is the typical time to completion of this program?

4 years

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

124

CIP Code                      090102 - Mass Communication/Media  
Studies.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

## Delivery Method

This program is  
available:

On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective  
Admissions Term

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

No

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.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

No impact on enrollment.

Estimated Annual Number of Degrees Awarded

Year One Estimate

5th Year Estimate (or when  
fully implemented)

What is the                      Fall  
matriculation  
term for this  
program?

## Budget

Are there ☐ No  
budgetary  
implications for  
this revision?

Will the program or revision require staffing (faculty, advisors, etc.)  
beyond what is currently available?

☐ No

Additional Budget  
Information

Attach File(s)

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base  
Tuition, or Engineering Differential, or Social Work Online (no dollar amounts  
necessary)

☐ Media Rate

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

☐ No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size,  
teaching loads, student-faculty ratios, etc.

☐ No additional impact on faculty resources.

## 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.

☐ Library collections, resources and services are sufficient to support these changes to  
the BS in Media and Cinema Studies.

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

DMI Documentation

Attach Final                      [U Program Review Comments KEY 290 Media and Cinema  
Approval Notices                      Studies, BS 11\\_18\\_2024.docx](#)

Banner/Codebook                      BS: Media and Cinema St -UIUC  
Name

Program Code:                      10KT5201BS

Minor	Conc	Degree	BS	Major
Code	Code	Code		Code
5201				

Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

DOE Approval                      n/a  
Date

Effective Date:

Program Reviewer                      **Brooke Newell (bsnewell) (11/18/24 8:00 am):** U Program Review comments  
Comments                      attached in DMI Documentation section

Date Submitted: 11/11/24 8:51 am

Viewing: **10KV0300BS : Chemical Engineering, BS**

Last approved: 10/23/24 9:26 am

Last edit: 11/27/24 9:17 am

Changes proposed by: Kathy Thomas-Stagg

Catalog Pages [Chemical Engineering, BS](#)  
Using this Program

Proposal Type:

In Workflow

- 1. U Program Review
- 2. 1687 Head
- 3. SOCS Head
- 4. KV Dean
- 5. University Librarian
- 6. COTE Programs
- 7. Provost
- 8. Senate EPC
- 9. Senate
- 10. U Senate Conf
- 11. Board of Trustees
- 12. IBHE
- 13. HLC
- 14. DMI

Approval Path

- 1. 11/13/24 10:04 am  
Donna Butler (dbutler):  
Approved for U Program Review
- 2. 11/18/24 12:40 pm  
Christopher Rao (cvrao): Rollback to U Program Review for 1687 Head
- 3. 11/18/24 2:53 pm  
Donna Butler (dbutler):  
Approved for U Program Review
- 4. 11/18/24 2:54 pm  
Christopher Rao (cvrao): Approved for 1687 Head
- 5. 11/18/24 2:55 pm  
Karla Denzler

- (denzler):  
Approved for  
SOCS Head
6. 11/20/24 1:47 pm  
Stephen Downie  
(sdownie):  
Approved for KV  
Dean
7. 11/21/24 2:45 pm  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
8. 11/21/24 6:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
9. 11/26/24 2:29 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Mar 30, 2019 by  
Deb Forgacs  
(dforgacs)
2. Oct 23, 2024 by  
Kathy Thomas-  
Stagg (klt7)

Major (ex. Special Education)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Chemical Engineering, BS
Diploma Title	Bachelor of Science in Chemical Engineering
Sponsor College	Liberal Arts & Sciences
Sponsor	Chemical and Biomolecular Engineering

Department

Sponsor Name Chris Rao

Sponsor Email cvrao@illinois.edu

College Contact Stephen R. Downie

College Contact  
Email

sdownie@illinois.edu

College Budget Officer Michael Wellens

College Budget Officer Email wellens@illinois.edu

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Baron Peters - DUS head - baronp@illinois.edu

Kathy Thomas-Stagg - CHBE Undergraduate Coordinator - chbe-  
ugprogramoffice@illinois.edu

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog Term Spring 2025

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Bachelor of Science in Chemical Engineering in the College of Liberal Arts and Sciences

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

This BS revision (key 268) is related to the the Biomolecular Concentration proposal (key 734).

## Program Justification

Provide a brief description of what changes are

1) Removing STAT 400 from the List 2 technical electives list for both the standard ChemE and the Biomolecular concentration.

being made to the program. 2) Removing CHBE 411 from the List 1 technical electives list for both the standard ChemE and the Biomolecular concentration by adding it to the list of excluded core course, i.e CHBE 411,421,422,424,430,431,440 do not count as technical electives.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1) The revision improves transparency for students. STAT 400 is accepted as an option for our Analysis of Data requirement, but hours cannot be double counted toward technical electives. With the recent overhaul of CHBE elective lists, inclusion of STAT 400 was an oversight. Any one of CHBE 411, IE 300 or STAT 400 may be used for the Analysis of Data requirement, but these courses share sufficient material that no two are acceptable by CHBE for degree credit. This exclusion is explicitly stated in the Syllabus for CHBE 411, but removal of STAT 400 eliminates confusion.

2) This revision corrects an oversight. All 400 level CHBE courses are acceptable as 400 level List 1 technical electives except those explicitly used to satisfy other degree requirements. CHBE 411 was accidentally omitted from this excluded list.

List of upper-division courses (Note: 200-level courses having two or more prerequisites also constitute upper-division (upper-level) courses and are not indicated in the list below.):

2 hrs CHEM 315: Instrumental Chem Systems Lab  
2 hrs CHEM 420: Instrumental Characterization  
3 hrs MCB 450: Introductory Biochemistry  
4 hrs CHEM 442: Physical Chemistry I  
4 hrs CHBE 321: Thermodynamics  
3 hrs CHBE 411 Probability and Statistics  
4 hrs CHBE 421: Momentum and Heat Transfer  
4 hrs CHBE 422: Mass Transfer Operations  
3 hrs CHBE 424: Chemical Reaction Engineering  
4 hrs CHBE 430: Unit Operations Laboratory  
4 hrs CHBE 431: Process Design  
3 hrs CHBE 440: Process Control and Dynamics  
3 hrs Technical Elective (list 2, 400 level)  
3 hrs Technical Elective (CHBE 400 level)  
3 hrs Technical Elective (CHBE 400 level)  
3 hrs Technical Elective (list 1, 400 level)

-52 hrs of Upper-Level Course

-NOTE: Total credit hours of program remain unchanged with this revision.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

Yes

Courses outside  
of the sponsoring  
department/  
interdisciplinary  
departments

~~ABE 436 - Renewable Energy Systems~~  
~~ABE 483 - Engr Props Food Materials~~  
~~ABE 488 - Bioprocessing Biomass for Fuel~~  
~~ABE 425 - Engrg Measurement Systems~~  
~~ABE 430 - Project Management~~  
~~ABE 497 - Independent Study~~  
~~ABE 498 - Special Topics~~  
~~ANSC 445 - Statistical Methods~~  
~~ANSC 450 - Comparative Immunobiology~~  
~~ATMS 420 - Atmospheric Chemistry~~  
~~ATMS 421 - Earth Systems Modeling~~  
~~BADM 461 - Tech, Eng, & Mgt Final Project~~  
~~BIOC 446 - Physical Biochemistry~~  
~~BIOE 476 - Tissue Engineering~~  
~~CEE 320 - Construction Engineering~~  
~~CEE 330 - Environmental Engineering~~  
~~CEE 350 - Water Resources Engineering~~  
~~CEE 407 - Airport Design~~  
~~CEE 440 - Fate Cleanup Environ Pollutant~~  
~~CEE 442 - Env Eng Principles, Physical~~  
~~CEE 443 - Env Eng Principles, Chemical~~  
~~CEE 450 - Surface Hydrology~~  
~~CEE 452 - Hydraulic Analysis and Design~~  
~~CEE 497 - Independent Study~~  
~~CEE 498 - Special Topics~~  
~~CHEM 436 - Fundamental Organic Chem II~~  
~~CHEM 437 - Organic Chemistry Lab~~  
~~CHEM 444 - Physical Chemistry II~~  
~~CHEM 445 - Physical Principles Lab I~~  
~~CHEM 483 - Solid State Structural Anlys~~  
~~CHEM 497 - Individual Study Senior~~  
~~CPSC 414 - Forage Crops & Pasture Ecology~~  
~~CPSC 415 - Bioenergy Crops~~  
~~CPSC 418 - Crop Growth and Management~~

CPSC 419 - Midwest Agricultural Practices  
CPSC 453 - Principles of Plant Breeding  
CS 357 - Numerical Methods I  
CS 411 - Database Systems  
CS 427 - Software Engineering I  
CS 440 - Artificial Intelligence  
CS 446 - Machine Learning  
CS 498 - Special Topics  
ECE 304 - Photonic Devices  
ECE 313 - Probability with Engrg Applic  
ECE 333 - Green Electric Energy  
ECE 380 - Biomedical Imaging  
ECE 416 - Biosensors  
ECE 444 - IC Device Theory & Fabrication  
ECE 481 - Nanotechnology  
ECE 490 - Introduction to Optimization  
FSHN 414 - Food Chemistry  
FSHN 418 - Food Analysis  
FSHN 426 - Biochemical Nutrition I  
FSHN 428 - Community Nutrition  
FSHN 460 - Food Processing Engineering  
FSHN 465 - Principles of Food Technology  
FSHN 471 - Food & Industrial Microbiology  
FSHN 480 - Basic Toxicology  
FSHN 481 - Food Processing Unit Ops I  
FSHN 483 - Food Processing Unit Ops II  
GEOL 450 - Investigating Earth's Interior  
GEOL 451 - Environmental Geophysics  
GEOL 454 - Introduction to Seismology  
GEOL 470 - Introduction to Hydrogeology  
IB 451 - Conservation Biology  
IS 467 - Ethics & Policy for Data Scien  
MATH 402 - Non-Euclidean Geometry  
MATH 413 - Intro to Combinatorics  
MATH 417 - Intro to Abstract Algebra  
MATH 442 - Intro Partial Diff Equations  
MATH 446 - Applied Complex Variables  
MATH 461 - Probability Theory  
MATH 487 - Advanced Engineering Math  
MCB 408 - Immunology  
MCB 424 - Microbial Biochemistry  
MCB 436 - Global Biosecurity  
MCB 450 - Introductory Biochemistry  
MCB 462 - Integrative Neuroscience  
ME 400 - Energy Conversion Systems  
ME 471 - Finite Element Analysis  
ME 482 - Musculoskel Tissue Mechanics  
ME 483 - Mechanobiology

~~ME 487 - MEMS-NEMS Theory & Fabrication~~  
~~MSE 304 - Electronic Properties of Matls~~  
~~MSE 307 - Materials Laboratory I~~  
~~MSE 308 - Materials Laboratory II~~  
~~MSE 401 - Thermodynamics of Materials~~  
~~MSE 402 - Kinetic Processes in Materials~~  
~~MSE 403 - Synthesis of Materials~~  
~~MSE 406 - Thermal-Mech Behavior of Matls~~  
~~MSE 420 - Ceramic Materials & Properties~~  
~~MSE 441 - Metals Processing~~  
~~MSE 450 - Polymer Science & Engineering~~  
~~MSE 457 - Polymer Chemistry~~  
~~MSE 458 - Polymer Physics~~  
~~MSE 460 - Electronic Materials I~~  
~~MSE 470 - Design and Use of Biomaterials~~  
~~MSE 473 - Biomolecular Materials Science~~  
~~MSE 480 - Surfaces and Colloids~~  
~~MSE 487 - Materials for Nanotechnology~~  
~~MSE 489 - Matl Select for Sustainability~~  
~~MSE 497 - Independent Study~~  
~~MSE 498 - Special Topics~~  
~~NPRE 201 - Energy Systems~~  
~~NPRE 402 - Nuclear Power Engineering~~  
~~NPRE 412 - Nuclear Power Econ & Fuel Mgmt~~  
~~NPRE 441 - Radiation Protection~~  
~~NPRE 442 - Radioactive Waste Management~~  
~~NPRE 457 - Safety Anlys Nucl Reactor Syst~~  
~~NPRE 461 - Probabilistic Risk Assessment~~  
~~NPRE 470 - Fuel Cells & Hydrogen Sources~~  
~~NPRE 475 - Wind Power Systems~~  
~~NPRE 480 - Energy and Security~~  
~~NPRE 483 - Seminar on Security~~  
~~NPRE 498 - Special Topics~~  
~~NRES 488 - Soil Fertility and Fertilizers~~  
~~PHYS 435 - Electromagnetic Fields I~~  
~~PHYS 470 - Subatomic Physics~~  
~~SE 400 - Engineering Law~~  
~~SE 411 - Reliability Engineering~~  
STAT 400 - Statistics and Probability I  
~~STAT 410 - Statistics and Probability II~~  
~~STAT 420 - Methods of Applied Statistics~~  
~~STAT 430 - Topics in Applied Statistics~~  
~~STAT 440 - Statistical Data Management~~  
~~TAM 211 - Statics~~  
~~TAM 251 - Introductory Solid Mechanics~~  
~~TAM 461 - Cellular Biomechanics~~  
~~UP 406 - Urban Ecology~~  
~~UP 430 - Urban Transportation Planning~~

~~CEE-421 - Construction Planning~~  
~~CEE-422 - Construction Cost Analysis~~  
~~CEE-432 - Stream Ecology~~  
~~CEE-437 - Water Quality Engineering~~  
~~RHET-105 - Writing and Research~~  
~~MATH-257 - Linear Algebra w Computat Appl~~  
~~IE-300 - Analysis of Data~~  
~~CS-450 - Numerical Analysis~~  
~~MSE-474 - Biomaterials and Nanomedicine~~

Please attach any [STAT 400 Letter of Acknowledgement of Removal.pdf](#)  
letters of support/  
acknowledgement  
for any  
Instructional  
Resources  
consider faculty,  
students, and/or  
other impacted  
units as  
appropriate.

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Student learning outcomes are based on learning outcomes in line with the Accreditation Board for Engineering and Technology (ABET) accreditation process.

Upon completing this program, students are expected to be able to:

- 1) Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- 2) Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- 3) Communicate effectively with a range of audiences.
- 4) Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- 5) Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- 6) Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- 7) Acquire and apply new knowledge as needed, using appropriate learning strategies.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Course and Student Outcomes are directly and quantitatively measured in undergraduate core chemical engineering courses each semester. Adjustments and changes to lectures, problem sets, course projects and course emphasis are based on student performance on specific outcomes. The assessment process was applied to the core courses and quantitative and qualitative assessment of student performance, based on specific outcomes, have significantly shaped course improvement and instruction.

At the individual course level, course outcomes are developed by the faculty teaching that course with input from the entire faculty and are described within the individual course syllabi. Each of the course outcomes are matched with relevant student outcomes. Our approach for evaluating student achievement of outcomes involves instructors completing spreadsheets each semester for core courses. In their entirety, the documentation contained within the outcomes assessment spreadsheets directly and quantitatively demonstrates the achievement of student outcomes and tracks course improvement. Our spreadsheet-based process for documenting and measuring the achievement of our outcomes involves several steps:

1. Each instructor or teaching team develops and documents their course outcomes, with input from the faculty.
2. Each instructor designs assessment tools (exams, quizzes, projects, homework assignments, etc.) for each course outcome. These course outcomes are then mapped to student outcomes.
3. Each instructor determines the acceptable level of achievement for each outcome for which students as a whole will be assessed. These attainment levels typically range from 60% to 75% depending upon the type and difficulty of the assessment tool and course material.
4. Each instructor, with the help of a TA, compiles overall student achievement levels for each assessment tool and compares this average to the predetermined minimum achievement level.
5. If any outcome is not achieved, instructors suggest changes or possible reasons for the achievement level below the minimum acceptable level. These course improvements can also be prompted by lower than expected student performance on specific assessment instruments, instructor observations of the course, or best practices in engineering education.
6. In subsequent semesters, the instructors or teaching team close the loop and implement their suggested changes. Individual instructors adjust lectures, problem sets and course deliverables in response to course assessments. Once a change has been implemented, it is evaluated for efficacy. If an outcome is still not being achieved, further modifications are considered. These suggestions for modification can be instructor-derived, or solicited from other faculty, from a faculty subcommittee, annual Curriculum Assessment and Review meeting, or from one of the various teaching support resources available to faculty outlined in Criterion 8. This process of iterative

continuous improvement is performed each time the course is offered.

7. Faculty members submit spreadsheets documenting items 1 through 6 as well as graded samples of all assessment tools which directly measure the achievement of one or more course outcomes tied to one or more student outcomes. This documentation is reviewed for completeness and archived by the Assessment Committee.

Extensive quantitative assessment of student outcomes is reviewed every six years.

Additional qualitative assessment are performed based on instructor observation, which prompt additional course improvements. Individual course spreadsheets, along with course improvement suggestions, samples of graded student work, and annual curriculum meeting minutes are collected and archived by the Assessment Committee every semester and can be made available if desired.

#### Graduating Student Survey

Senior students are surveyed starting 1-2 months before graduation to collect feedback on outcomes achievement and overall perception of the program. The graduating senior survey is kept open and available for completion for 1-2 months after graduation. This survey is conducted twice a year to allow every student an opportunity to provide feedback, as some students graduate in December. One important aspect of this survey is collecting feedback on the students' own perceived level of achievement of the student outcomes. Though these data are self-reflective, it is an important aspect of assessment since it helps us gauge the students' perceived level of preparedness, achievement and confidence at the time of graduation.

Students are asked to rate on a 1-5 scale their perceived level of achievement of the student outcomes.

For all surveys, any qualitative suggestions are documented and grouped based on topic. The quantitative and qualitative results of the Graduating Senior Survey are compiled, documented, and presented to the faculty once a year. Faculty discussion and resulting action items are documented in the Faculty Curriculum meeting minutes. Often action items are delegated to a sub group of faculty, such as the Undergraduate Curriculum Committee, for further analysis and suggested action if warranted.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Additional qualitative assessment are performed based on instructor observation, which prompt additional course improvements. Individual course spreadsheets, along with course improvement suggestions, samples of graded student work, and annual curriculum meeting minutes are collected and archived by the Assessment Committee every semester and can be made available if desired.

#### Graduating Student Survey

Senior students are surveyed starting 1-2 months before graduation to collect feedback

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.	<p>on outcomes achievement and overall perception of the program. The graduating senior survey is kept open and available for completion for 1-2 months after graduation. This survey is conducted twice a year to allow every student an opportunity to provide feedback, as some students graduate in December. One important aspect of this survey is collecting feedback on the students' own perceived level of achievement, or the student outcomes. Though these data are self-reflective, it is an important aspect of assessment since it helps us gauge the students' perceived level of preparedness, achievement and confidence at the time of graduation.</p> <p>Facilitating smooth transitions from a prerequisite class to a higher level course are discussed and improvements to strengthen the prerequisite course or its structure are evaluated. Specifically, students are asked to rate on a 1-5 scale their perceived level of achievement of the evaluations of overall student strengths and areas in need of improvement are conducted by the faculty teaching the capstone courses, design (CHBE 431) and unit operations (CHBE 430) who continuously evaluate and improve the curriculum through a holistic approach. If the results of this annual Curriculum Assessment and Review meeting suggest the need for significant changes in course structure or coverage, these concerns are referred to the Undergraduate Curriculum Committee for consideration and resulting action items are documented in the Faculty Curriculum meeting minutes. Often action items are delegated to a sub group of faculty, such as the Undergraduate Curriculum Committee, for further analysis and suggested action if warranted.</p>
Program Description and Requirements	Indirect Assessments/Informal Data Sources
Attach Documents	To augment Alumni and Employer Surveys which often have very low response rates, the department head and other faculty meet with alumni and recruiters/employers, as many are alumni, when they visit campus. Representatives from industry visit faculty
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/PublicAdminRules2017.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.*

Revised programs      Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

Catalog Page Text - Overview Tab

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

The first two years of the Chemical Engineering curriculum provide a strong foundation in basic sciences through Physics, Mathematics, Chemistry, an introduction to what Chemical Engineers do, and the fundamental basis of Chemical Engineering (Mass and Energy Balances and Thermodynamics.) In the third year, students delve deeper into more specialized Chemistry courses such as Physical and Analytical Chemistry, while exploring fundamental Chemical Engineering courses such as Momentum Transfer, Separations, and Reactor Design. The Senior year incorporates all of this learning through high level technical electives, Process Control, Capstone Lab, and Capstone Design courses. It is through the lab and design class that students apply everything they have learned in previous Chemical Engineering courses to real-world team projects and presentations.

The Chemical Engineering specialized curriculum provides a concentration in Biomolecular Engineering, with the Biomolecular concentration's technical electives focusing more on bio-applied processing and technology.

Statement for  
Programs of  
Study Catalog

### **Graduation Requirements**

Minimum hours required for graduation: 129 hours.

A grade point average of 2.5 or higher in all courses required for the major earned on the UIUC campus is required in order to be accepted by the department as juniors and seniors.

### **University Requirements**

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the [Student Code](#) (§ 3-801) and in the [Academic Catalog](#).

### **General Education Requirements**

Follows the [campus General Education \(Gen Ed\) requirements](#). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
Composition I		4-6
Advanced Composition		3
fulfilled by <a href="#">CHBE 431</a>		
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
fulfilled by <a href="#">CHEM 202</a> and <a href="#">CHEM 204</a> , or <a href="#">CHEM 102</a> and <a href="#">CHEM 104</a> ; and <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a>		
Social & Behavioral Sciences (6 hours)		6
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: US Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)		6-10
fulfilled by <a href="#">MATH 220</a> or <a href="#">MATH 221</a> ; and <a href="#">MATH 231</a> , <a href="#">MATH 241</a> , <a href="#">MATH 285</a> , <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a> , <a href="#">CS 101</a>		

Code	Title	Hours
Language Requirement (Completion of the third semester or equivalent of a language other than English is required.)		0-15

### Orientation and Professional Development

These courses introduce opportunities and resources the college, department, and curriculum offers students. They also provide background on the Chemical Engineering curriculum, what chemical engineers do, and the skills to work effectively and successfully in the engineering profession.

#### Course List

Code	Title	Hours
<a href="#">CHBE 121</a>	CHBE Profession	1
For non-first-year students, <a href="#">CHBE 121</a> can be replaced with 1 hour of credit from Technical Elective List 1 or List 2. (Ref List 1 and List 2 below.)		
<a href="#">ENG 100</a>	Grainger Engineering Orientation Seminar	1
Total Hours		2

### Foundational Mathematics and Science

These courses stress the basic mathematical and scientific principles upon which the engineering discipline is based.

#### Course List

Code	Title	Hours
Select one group of courses (Accelerated or General Chemistry)		10-12
<a href="#">CHEM 202</a>	Accelerated Chemistry I	
& <a href="#">CHEM 203</a>	and Accelerated Chemistry Lab I	
& <a href="#">CHEM 204</a>	and Accelerated Chemistry II	
& <a href="#">CHEM 205</a>	and Accelerated Chemistry Lab II	
OR		
<a href="#">CHEM 102</a>	General Chemistry I	
& <a href="#">CHEM 103</a>	and General Chemistry Lab I	
& <a href="#">CHEM 104</a>	and General Chemistry II	
& <a href="#">CHEM 105</a>	and General Chemistry Lab II	
& <a href="#">CHEM 222</a>	and Quantitative Analysis Lecture	
& <a href="#">CHEM 223</a>	and Quantitative Analysis Lab	
<a href="#">MATH 221</a>	Calculus I ( <a href="#">MATH 220</a> may be substituted. <a href="#">MATH 220</a> is appropriate for students with no background in calculus. 4 or 5 credit hours count towards the degree.)	4
<a href="#">MATH 231</a>	Calculus II	3
<a href="#">MATH 241</a>	Calculus III	4
<a href="#">MATH 257</a>	Linear Algebra with Computational Applications	3
or <a href="#">MATH 415</a>	Applied Linear Algebra	
<a href="#">MATH 285</a>	Intro Differential Equations	3
or <a href="#">MATH 441</a>	Differential Equations	
<a href="#">PHYS 211</a>	University Physics: Mechanics	4
<a href="#">PHYS 212</a>	University Physics: Elec & Mag	4
<a href="#">PHYS 214</a>	Univ Physics: Quantum Physics	2

Code	Title	Hours
Total Hours		37-39

### Chemical Engineering Technical Core

These courses stress fundamental concepts and basic laboratory techniques that comprise the common intellectual understanding of chemical engineering and chemical science.

Course List		
Code	Title	Hours
<a href="#">CHBE 221</a>	Principles of CHE	3
<a href="#">CHBE 321</a>	Thermodynamics	4
<a href="#">CHBE 421</a>	Momentum and Heat Transfer	4
<a href="#">CHBE 422</a>	Mass Transfer Operations	4
<a href="#">CHBE 424</a>	Chemical Reaction Engineering	3
<a href="#">CHBE 430</a>	Unit Operations Laboratory	4
<a href="#">CHBE 431</a>	Process Design	4
<a href="#">CHBE 440</a>	Process Control and Dynamics	3
<a href="#">CHEM 236</a>	Fundamental Organic Chem I	4
<a href="#">CHEM 237</a>	Structure and Synthesis	2
<a href="#">CHEM 315</a>	Instrumental Chem Systems Lab	2
Students must register in one of the Chemical Engineering-specific <a href="#">CHEM 315</a> lab sections.		
<a href="#">CHEM 420</a>	Instrumental Characterization	2
<a href="#">CHEM 442</a>	Physical Chemistry I	4
<a href="#">CS 101</a>	Intro Computing: Engrg & Sci	3
<a href="#">CHBE 411</a>	Probability and Statistics for ChBE	3-4
or <a href="#">IE 300</a>	Analysis of Data	
or <a href="#">STAT 400</a>	Statistics and Probability I	
Total Hours		49-50

**Note: An optional Biomolecular Engineering concentration can be elected. See [Chemical Engineering: Biomolecular Engineering, BS](#). Those who do not elect the optional concentration are required to take the coursework below.**

### Chemical Engineering Technical Core (cont.)

Course List		
Code	Title	Hours
<a href="#">CHEM 436</a>	Fundamental Organic Chem II	3
or <a href="#">MCB 450</a>	Introductory Biochemistry	
Total Hours for Chemical Engineering Technical Core		52-53

### Chemical Engineering Technical Electives

These courses stress the rigorous analysis and design principles practiced in the major subdisciplines of

chemical engineering, embodied in the standard chemical engineering program and biomolecular engineering concentration.

### Course List

Code	Title	Hours
Select 18 credit hours from List 1 and List 2, with specific requirements noted below.		
Note: A maximum of 10 credit hours of undergraduate research may be counted toward Technical Elective credit.		
Two 400-level ChBE courses from List 1, with not more than 3 hours being <a href="#">CHBE 497</a> or <a href="#">CHBE 499</a>		6
One Additional 400-level course from List 1		3
Two Additional courses from List 1		6
One Additional 400-level course from List 1 or List 2		3
Total Hours for Chemical Engineering Technical Electives		18

#### LIST 1

Any 400-level ChBE Course, excluding ChBE core courses [CHBE 411](#), [CHBE 421](#), [CHBE 422](#), [CHBE 424](#), [CHBE 430](#), [CHBE 431](#), and [CHBE 440](#)

<a href="#">ABE 436</a>	Renewable Energy Systems
<a href="#">ABE 483</a>	Engineering Properties of Food Materials
<a href="#">ABE 488</a>	Bioprocessing Biomass for Fuel
<a href="#">ATMS 420</a>	Atmospheric Chemistry
<a href="#">BIOE 476</a>	Tissue Engineering
<a href="#">CEE 320</a>	Construction Engineering
<a href="#">CEE 330</a>	Environmental Engineering
<a href="#">CEE 350</a>	Water Resources Engineering
<a href="#">CEE 421</a>	Construction Planning
<a href="#">CEE 422</a>	Construction Cost Analysis
<a href="#">CEE 432</a>	Stream Ecology
<a href="#">CEE 437</a>	Water Quality Engineering
<a href="#">CEE 440</a>	Fate Cleanup Environ Pollutant
<a href="#">CEE 442</a>	Environmental Engineering Principles, Physical
<a href="#">CEE 443</a>	Env Eng Principles, Chemical
<a href="#">CEE 450</a>	Surface Hydrology
<a href="#">CEE 452</a>	Hydraulic Analysis and Design
<a href="#">CHBE 297</a>	Individual Study Sophomores
<a href="#">CHBE 397</a>	Individual Study for Juniors
<a href="#">CS 357</a>	Numerical Methods I
<a href="#">CS 411</a>	Database Systems
<a href="#">CS 427</a>	Software Engineering I
<a href="#">CS 440</a>	Artificial Intelligence
<a href="#">CS 446</a>	Machine Learning
<a href="#">CS 450</a>	Numerical Analysis
<a href="#">CS 498</a>	Special Topics
<a href="#">ECE 304</a>	Photonic Devices
<a href="#">ECE 313</a>	Probability with Engrg Applic
<a href="#">ECE 333</a>	Green Electric Energy
<a href="#">ECE 380</a>	Biomedical Imaging
<a href="#">ECE 416</a>	Biosensors
<a href="#">ECE 444</a>	IC Device Theory & Fabrication
<a href="#">ECE 481</a>	Nanotechnology

Code	Title	Hours
<a href="#">ECE 490</a>	Introduction to Optimization	
<a href="#">ME 400</a>	Energy Conversion Systems	
<a href="#">ME 471</a>	Finite Element Analysis	
<a href="#">ME 482</a>	Musculoskel Tissue Mechanics	
<a href="#">ME 483</a>	Mechanobiology	
<a href="#">ME 487</a>	MEMS-NEMS Theory & Fabrication	
<a href="#">MSE 304</a>	Electronic Properties of Matls	
<a href="#">MSE 307</a>	Materials Laboratory I	
<a href="#">MSE 308</a>	Materials Laboratory II	
<a href="#">MSE 401</a>	Thermodynamics of Materials	
<a href="#">MSE 402</a>	Kinetic Processes in Materials	
<a href="#">MSE 403</a>	Synthesis of Materials	
<a href="#">MSE 406</a>	Thermal-Mech Behavior of Matls	
<a href="#">MSE 420</a>	Ceramic Materials & Properties	
<a href="#">MSE 441</a>	Metals Processing	
<a href="#">MSE 450</a>	Polymer Science & Engineering	
<a href="#">MSE 457</a>	Polymer Chemistry	
<a href="#">MSE 458</a>	Polymer Physics	
<a href="#">MSE 460</a>	Electronic Materials I	
<a href="#">MSE 470</a>	Design and Use of Biomaterials	
<a href="#">MSE 473</a>	Biomolecular Materials Science	
<a href="#">MSE 474</a>	Biomaterials and Nanomedicine	
<a href="#">MSE 480</a>	Surfaces and Colloids	
<a href="#">MSE 487</a>	Materials for Nanotechnology	
<a href="#">MSE 489</a>	Matl Select for Sustainability	
<a href="#">NPRE 201</a>	Energy Systems	
<a href="#">NPRE 402</a>	Nuclear Power Engineering	
<a href="#">NPRE 412</a>	Nuclear Power Econ & Fuel Mgmt	
<a href="#">NPRE 441</a>	Radiation Protection	
<a href="#">NPRE 442</a>	Radioactive Waste Management	
<a href="#">NPRE 457</a>	Safety Anlys Nucl Reactor Syst	
<a href="#">NPRE 461</a>	Probabilistic Risk Assessment	
<a href="#">NPRE 470</a>	Fuel Cells & Hydrogen Sources	
<a href="#">NPRE 475</a>	Wind Power Systems	
<a href="#">NPRE 480</a>	Energy and Security	
<a href="#">SE 411</a>	Reliability Engineering	
<a href="#">TAM 211</a>	Statics	
<a href="#">TAM 251</a>	Introductory Solid Mechanics	
<a href="#">TAM 461</a>	Cellular Biomechanics	
LIST 2		
<a href="#">ABE 425</a>	Engrg Measurement Systems	
<a href="#">ABE 430</a>	Project Management	
<a href="#">ABE 497</a>	Independent Study	
<a href="#">ABE 498</a>	Special Topics	
<a href="#">ANSC 445</a>	Statistical Methods	
<a href="#">ANSC 450</a>	Comparative Immunobiology	
<a href="#">ATMS 421</a>	Earth Systems Modeling	

Code	Title	Hours
<a href="#"><u>BADM 461</u></a>	Tech, Eng, & Mgt Final Project	
<a href="#"><u>BIOC 446</u></a>	Physical Biochemistry	
<a href="#"><u>CEE 407</u></a>	Airport Design	
<a href="#"><u>CEE 497</u></a>	Independent Study	
<a href="#"><u>CEE 498</u></a>	Special Topics	
<a href="#"><u>CHEM 436</u></a>	Fundamental Organic Chem II	
<a href="#"><u>CHEM 437</u></a>	Organic Chemistry Lab	
<a href="#"><u>CHEM 444</u></a>	Physical Chemistry II	
<a href="#"><u>CHEM 445</u></a>	Physical Principles Lab I	
<a href="#"><u>CHEM 483</u></a>	Solid State Structural Anlys	
<a href="#"><u>CHEM 497</u></a>	Individual Study Senior	
<a href="#"><u>CPSC 414</u></a>	Forage Crops & Pasture Ecology	
<a href="#"><u>CPSC 415</u></a>	Bioenergy Crops	
<a href="#"><u>CPSC 418</u></a>	Crop Growth and Management	
<a href="#"><u>CPSC 419</u></a>	Midwest Agricultural Practices	
<a href="#"><u>CPSC 453</u></a>	Principles of Plant Breeding	
<a href="#"><u>FSHN 414</u></a>	Food Chemistry	
<a href="#"><u>FSHN 418</u></a>	Food Analysis	
<a href="#"><u>FSHN 426</u></a>	Biochemical Nutrition I	
<a href="#"><u>FSHN 428</u></a>	Community Nutrition	
<a href="#"><u>FSHN 460</u></a>	Food Processing Engineering	
<a href="#"><u>FSHN 465</u></a>	Principles of Food Technology	
<a href="#"><u>FSHN 471</u></a>	Food & Industrial Microbiology	
<a href="#"><u>FSHN 480</u></a>	Basic Toxicology	
<a href="#"><u>FSHN 481</u></a>	Food Processing Unit Operations I	
<a href="#"><u>FSHN 483</u></a>	Food Processing Unit Operations II	
<a href="#"><u>GEOL 450</u></a>	Investigating the Earth's Interior	
<a href="#"><u>GEOL 451</u></a>	Environmental Geophysics	
<a href="#"><u>GEOL 454</u></a>	Introduction to Seismology	
<a href="#"><u>GEOL 470</u></a>	Introduction to Hydrogeology	
<a href="#"><u>IB 451</u></a>	Conservation Biology	
<a href="#"><u>IS 467</u></a>	Ethics and Policy for Data Science	
<a href="#"><u>MATH 402</u></a>	Non Euclidean Geometry	
<a href="#"><u>MATH 413</u></a>	Intro to Combinatorics	
<a href="#"><u>MATH 417</u></a>	Intro to Abstract Algebra	
<a href="#"><u>MATH 442</u></a>	Intro Partial Diff Equations	
<a href="#"><u>MATH 446</u></a>	Applied Complex Variables	
<a href="#"><u>MATH 461</u></a>	Probability Theory	
<a href="#"><u>MATH 487</u></a>	Advanced Engineering Math	
<a href="#"><u>MCB 408</u></a>	Immunology	
<a href="#"><u>MCB 424</u></a>	Microbial Biochemistry	
<a href="#"><u>MCB 436</u></a>	Global Biosecurity	
<a href="#"><u>MCB 450</u></a>	Introductory Biochemistry	
<a href="#"><u>MCB 462</u></a>	Integrative Neuroscience	
<a href="#"><u>MSE 497</u></a>	Independent Study	
<a href="#"><u>MSE 498</u></a>	Special Topics	
<a href="#"><u>NPRE 483</u></a>	Seminar on Security	

Code	Title	Hours
<a href="#">NPRE 498</a>	Special Topics	
<a href="#">NRES 488</a>	Soil Fertility and Fertilizers	
<a href="#">PHYS 435</a>	Electromagnetic Fields I	
<a href="#">PHYS 470</a>	Subatomic Physics	
<a href="#">SE 400</a>	Engineering Law	
<a href="#">STAT 400</a>	<del>Statistics and Probability I</del>	
<a href="#">STAT 410</a>	Statistics and Probability II	
<a href="#">STAT 420</a>	Methods of Applied Statistics	
<a href="#">STAT 430</a>	Topics in Applied Statistics	
<a href="#">STAT 440</a>	Statistical Data Management	
<a href="#">UP 406</a>	Urban Ecology	
<a href="#">UP 430</a>	Urban Transportation Planning	

Corresponding Degree      BS Bachelor of Science

## Program Features

Academic Level      Undergraduate

Does this major have transcripted concentrations?      Yes

Will you admit to the concentration directly?      No

Is a concentration required for graduation?      No

What is the typical time to completion of this program?  
4 years

What are the minimum Total Credit Hours required for this program?  
129

CIP Code      140701 - Chemical Engineering.

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
No

## Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

## Admission Requirements

Desired Effective      Spring 2025  
Admissions Term

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

No

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.

First-year applicants will continue to be evaluated holistically before a decision is made. Several factors such as courses taken in high school, grades, extracurricular activities, information submitted in essays, and test scores (if provided) are considered. Transfer applicants will continue to be evaluated based on the graded transferable college credit received from previous colleges and/or universities attended. Prerequisite coursework includes a non-accelerated (or accelerated) general chemistry sequence, a 3-semester calculus and analytic geometry sequence, and a 3-semester calculus-based physics sequence (or a 2-semester non-calculus-based physics sequence).

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

This revision does not impact enrollment and/or degrees awarded.

Estimated Annual Number of Degrees Awarded

Year One Estimate

5th Year Estimate (or when  
fully implemented)

What is the              Fall  
matriculation  
term for this  
program?

## Budget

Are there              No  
budgetary  
implications for  
this revision?

Will the program or revision require staffing (faculty, advisors, etc.)  
beyond what is currently available?

No

Additional Budget  
Information

## 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

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Engineering Differential

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

No

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

There will be no impact on faculty resources for the creation and sustainability of this program/courses due to this revision.

## 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.

There is no significant impact on Library resources for revisions to course programs.

## EP Documentation

EP Control Number

EP.25.035

Attach Rollback/Approval Notices

This proposal requires HLC inquiry

No

## DMI Documentation

Attach Final

## Approval Notices

Banner/Codebook Name BS:Chemical Engineering -UIUC

Program Code: 10KV0300BS

Minor Code	Conc Code	Degree Code	BS	Major Code
0300				

Senate Approval Date

Senate Conference Approval Date

BOT Approval Date

IBHE Approval Date

HLC Approval Date

DOE Approval Date

Effective Date:

Program Reviewer Comments **Brooke Newell (bsnewell) (11/04/24 8:29 am):** Rollback: Per conversation and request from Kathy Thomas-Stagg  
**Brooke Newell (bsnewell) (11/11/24 10:58 am):** Per discussion with Kathy Thomas Stagg, I revised the proposal to remove courses in the Instructional Resources section that persisted with this revision and shouldn't have.  
**Brooke Newell (bsnewell) (11/13/24 8:08 am):** No U Program Review Comments  
**Christopher Rao (cvrao) (11/18/24 12:40 pm):** Rollback: Was reuested.

Date Submitted: 11/11/24 8:53 am

Viewing: **10KV5029BS : Chemical Engineering: Biomolecular Engineering, BS**

Last approved: 10/23/24 9:27 am

Last edit: 11/27/24 9:17 am

Changes proposed by: Kathy Thomas-Stagg

Catalog Pages

Using this Program

[Chemical Engineering: Biomolecular Engineering, BS](#)

Proposal Type:

In Workflow

1. U Program Review

2. 1687 Head

3. SOCS Head

4. KV Dean

5. University Librarian

6. COTE Programs

7. Provost

8. Senate EPC

9. Senate

10. U Senate Conf

11. Board of Trustees

12. IBHE

13. HLC

14. DMI

Approval Path

1. 11/13/24 10:04 am  
Donna Butler (dbutler):  
Approved for U Program Review

2. 11/18/24 12:40 pm  
Christopher Rao (cvrao): Rollback to U Program Review for 1687 Head

3. 11/18/24 2:53 pm  
Donna Butler (dbutler):  
Approved for U Program Review

4. 11/18/24 2:54 pm  
Christopher Rao (cvrao): Approved for 1687 Head

5. 11/18/24 2:55 pm  
Karla Denzler

- (denzler):  
Approved for  
SOCS Head
6. 11/20/24 1:50 pm  
Stephen Downie  
(sdownie):  
Approved for KV  
Dean
7. 11/21/24 2:46 pm  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
8. 11/21/24 6:09 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
9. 11/26/24 2:29 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost

## History

1. Apr 29, 2019 by  
Deb Forgacs  
(dforgacs)
2. Oct 23, 2024 by  
Kathy Thomas-  
Stagg (klt7)

Concentration (ex. Dietetics)

This proposal is  
for a:  
Revision

## Administration Details

Official Program Name	Chemical Engineering: Biomolecular Engineering, BS
Diploma Title	Bachelor of Science in Chemical Engineering
Sponsor College	Liberal Arts & Sciences
Sponsor	Chemical and Biomolecular Engineering

Department

Sponsor Name Chris Rao

Sponsor Email cvrao@illinois.edu

College Contact Stephen R. Downie

College Contact  
Email

sdownie@illinois.edu

College Budget Officer Michael Wellens

College Budget Officer Email wellens@illinois.edu

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Baron Peters - DUS head - baronp@illinois.edu

Kathy Thomas-Stagg - CHBE Undergraduate Coordinator - chbe-  
ugprogramoffice@illinois.edu

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog Term Spring 2025

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Concentration in Biomolecular Engineering in the Bachelor of Science in  
Chemical Engineering in the College of Liberal Arts and Sciences

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

This BS revision (key 734) is related to the the Chemical Engineering proposal (key 268).

## Program Justification

Provide a brief  
description of  
what changes are

1) Removing STAT 400 from the List 2 technical electives list for both the standard  
ChemE and the Biomolecular concentration.

being made to the program. 2) Removing CHBE 411 from the List 1 technical electives list for both the standard ChemE and the Biomolecular concentration by adding it to the list of excluded core course, i.e. CHBE 411,421,422,424,430,431,440 do not count as technical electives.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (<http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/>)

No

Why are these changes necessary?

1) The revision improves transparency for students. STAT 400 is accepted as an option for our Analysis of Data requirement, but hours cannot be double counted toward technical electives. With the recent overhaul of CHBE elective lists, inclusion of STAT 400 was an oversight. Any one of CHBE 411, IE 300 or STAT 400 may be used for the Analysis of Data requirement, but these courses share sufficient material that no two are acceptable by CHBE for degree credit. This exclusion is explicitly stated in the Syllabus for CHBE 411, but removal of STAT 400 eliminates confusion.

2) This revision corrects an oversight. All 400 level CHBE courses are acceptable as 400 level List 1 technical electives except those explicitly used to satisfy other degree requirements. CHBE 411 was accidentally omitted from this excluded list.

List of upper-division courses (Note: 200-level courses having two or more prerequisites also constitute upper-division (upper-level) courses and are not indicated in the list below.):

2 hrs CHEM 315: Instrumental Chem Systems Lab  
2 hrs CHEM 420: Instrumental Characterization  
3 hrs MCB 450: Introductory Biochemistry  
4 hrs CHEM 442: Physical Chemistry I  
4 hrs CHBE 321: Thermodynamics  
3 hrs CHBE 411 Probability and Statistics  
4 hrs CHBE 421: Momentum and Heat Transfer  
4 hrs CHBE 422: Mass Transfer Operations  
3 hrs CHBE 424: Chemical Reaction Engineering  
4 hrs CHBE 430: Unit Operations Laboratory  
4 hrs CHBE 431: Process Design  
3 hrs CHBE 440: Process Control and Dynamics  
9 hrs Technical Elective (Category A)  
6 hrs Technical Elective (Category A or B)  
3 hrs Technical Elective (List 1 or 2, 400 level)

-58 hrs of Upper-Level Course

-NOTE: Total credit hours of program remain unchanged with this revision.

## 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 outside of the sponsoring department impacted by the creation/revision of this program?

Yes

Courses outside  
of the sponsoring  
department/  
interdisciplinary  
departments

~~ABE-436 - Renewable Energy Systems~~  
~~ABE-483 - Engr Props Food Materials~~  
~~ABE-488 - Bioprocessing Biomass for Fuel~~  
~~ABE-497 - Independent Study~~  
~~ABE-498 - Special Topics~~  
~~ANSC-450 - Comparative Immunobiology~~  
~~ATMS-420 - Atmospheric Chemistry~~  
~~ATMS-421 - Earth Systems Modeling~~  
~~BIOC-446 - Physical Biochemistry~~  
~~BIOE-476 - Tissue Engineering~~  
~~CEE-320 - Construction Engineering~~  
~~CEE-330 - Environmental Engineering~~  
~~CEE-350 - Water Resources Engineering~~  
~~CEE-421 - Construction Planning~~  
~~CEE-422 - Construction Cost Analysis~~  
~~CEE-432 - Stream Ecology~~  
~~CEE-437 - Water Quality Engineering~~  
~~CEE-440 - Fate Cleanup Environ Pollutant~~  
~~CEE-442 - Env Eng Principles, Physical~~  
~~CEE-450 - Surface Hydrology~~  
~~CEE-452 - Hydraulic Analysis and Design~~  
~~CEE-497 - Independent Study~~  
~~CEE-498 - Special Topics~~  
~~CHEM-436 - Fundamental Organic Chem II~~  
~~CHEM-437 - Organic Chemistry Lab~~  
~~CHEM-444 - Physical Chemistry II~~  
~~CHEM-445 - Physical Principles Lab I~~  
~~CHEM-497 - Individual Study Senior~~  
~~CPSC-414 - Forage Crops & Pasture Ecology~~  
~~CPSC-415 - Bioenergy Crops~~  
~~CPSC-418 - Crop Growth and Management~~  
~~CPSC-419 - Midwest Agricultural Practices~~  
~~CPSC-453 - Principles of Plant Breeding~~  
~~CS-357 - Numerical Methods I~~  
~~CS-411 - Database Systems~~

CS-427 - Software Engineering-I  
CS-440 - Artificial Intelligence  
CS-446 - Machine Learning  
CS-450 - Numerical Analysis  
CS-498 - Special Topics  
ECE-304 - Photonic Devices  
ECE-313 - Probability with Engrg Applic  
ECE-333 - Green Electric Energy  
ECE-380 - Biomedical Imaging  
ECE-416 - Biosensors  
ECE-444 - IC Device Theory & Fabrication  
ECE-481 - Nanotechnology  
ECE-490 - Introduction to Optimization  
FSHN-414 - Food Chemistry  
FSHN-418 - Food Analysis  
FSHN-426 - Biochemical Nutrition-I  
FSHN-428 - Community Nutrition  
FSHN-460 - Food Processing Engineering  
FSHN-465 - Principles of Food Technology  
FSHN-471 - Food & Industrial Microbiology  
FSHN-480 - Basic Toxicology  
FSHN-481 - Food Processing Unit Ops-I  
FSHN-483 - Food Processing Unit Ops-II  
GEOL-450 - Investigating Earth's Interior  
GEOL-451 - Environmental Geophysics  
GEOL-454 - Introduction to Seismology  
GEOL-470 - Introduction to Hydrogeology  
IB-451 - Conservation Biology  
MATH-402 - Non-Euclidean Geometry  
MATH-413 - Intro to Combinatorics  
MATH-417 - Intro to Abstract Algebra  
MATH-442 - Intro Partial Diff Equations  
MATH-446 - Applied Complex Variables  
MATH-461 - Probability Theory  
MATH-487 - Advanced Engineering Math  
MCB-408 - Immunology  
MCB-424 - Microbial Biochemistry  
MCB-436 - Global Biosecurity  
MCB-450 - Introductory Biochemistry  
MCB-462 - Integrative Neuroscience  
ME-400 - Energy Conversion Systems  
ME-471 - Finite Element Analysis  
ME-482 - Musculoskel Tissue Mechanics  
ME-483 - Mechanobiology  
ME-487 - MEMS-NEMS Theory & Fabrication  
MSE-304 - Electronic Properties of Matls  
MSE-307 - Materials Laboratory-I  
MSE-308 - Materials Laboratory-II

~~MSE 401 - Thermodynamics of Materials~~  
~~MSE 402 - Kinetic Processes in Materials~~  
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~~MSE 450 - Polymer Science & Engineering~~  
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~~NPRE 201 - Energy Systems~~  
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~~NPRE 470 - Fuel Cells & Hydrogen Sources~~  
~~NPRE 475 - Wind Power Systems~~  
~~NPRE 480 - Energy and Security~~  
~~NPRE 483 - Seminar on Security~~  
~~NPRE 498 - Special Topics~~  
~~NRES 488 - Soil Fertility and Fertilizers~~  
~~PHYS 435 - Electromagnetic Fields I~~  
~~PHYS 470 - Subatomic Physics~~  
~~SE 400 - Engineering Law~~  
STAT 400 - Statistics and Probability I  
~~STAT 410 - Statistics and Probability II~~  
~~STAT 420 - Methods of Applied Statistics~~  
~~STAT 430 - Topics in Applied Statistics~~  
~~STAT 440 - Statistical Data Management~~  
~~TAM 211 - Statics~~  
~~TAM 251 - Introductory Solid Mechanics~~  
~~TAM 461 - Cellular Biomechanics~~  
~~RHET 105 - Writing and Research~~  
~~MATH 257 - Linear Algebra w Computat Appl~~  
~~ABE 425 - Engrg Measurement Systems~~  
~~ABE 430 - Project Management~~  
~~ANSC 445 - Statistical Methods~~  
~~BADM 461 - Tech, Eng, & Mgt Final Project~~

~~CEE-407 - Airport Design~~  
~~CEE-443 - Env Eng Principles, Chemical~~  
~~CHEM-483 - Solid State Structural Anlys~~  
~~IS-467 - Ethics & Policy for Data Scien~~  
~~SE-411 - Reliability Engineering~~  
~~IE-300 - Analysis of Data~~  
~~UP-406 - Urban Ecology~~  
~~UP-430 - Urban Transportation Planning~~  
~~ECE-467 - Biophotonics~~  
~~ECE-480 - Magnetic Resonance Imaging~~

Please attach any [STAT 400 Letter of Acknowledgement of Removal.pdf](#)  
letters of support/  
acknowledgement  
for any  
Instructional  
Resources  
consider faculty,  
students, and/or  
other impacted  
units as  
appropriate.

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

Student learning outcomes are based on learning outcomes in line with the Accreditation Board for Engineering and Technology (ABET) accreditation process.

Upon completing this program, students are expected to be able to:

- 1) Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- 2) Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- 3) Communicate effectively with a range of audiences.
- 4) Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- 5) Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- 6) Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- 7) Acquire and apply new knowledge as needed, using appropriate learning strategies.
- 8) An ability to analyze the chemistry and metabolism of macromolecules in biological processes and their relation to the regulation and processes of organisms, cells, and subcellular components.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Course and Student Outcomes are directly and quantitatively measured in undergraduate core chemical engineering courses each semester. Adjustments and changes to lectures, problem sets, course projects and course emphasis are based on student performance on specific outcomes. The assessment process was applied to the core courses and quantitative and qualitative assessment of student performance, based on specific outcomes, have significantly shaped course improvement and instruction.

At the individual course level, course outcomes are developed by the faculty teaching that course with input from the entire faculty and are described within the individual course syllabi. Each of the course outcomes are matched with relevant student outcomes. Our approach for evaluating student achievement of outcomes involves instructors completing spreadsheets each semester for core courses. In their entirety, the documentation contained within the outcomes assessment spreadsheets directly and quantitatively demonstrates the achievement of student outcomes and tracks course improvement. Our spreadsheet-based process for documenting and measuring the achievement of our outcomes involves several steps:

1. Each instructor or teaching team develops and documents their course outcomes, with input from the faculty.
2. Each instructor designs assessment tools (exams, quizzes, projects, homework assignments, etc.) for each course outcome. These course outcomes are then mapped to student outcomes.
3. Each instructor determines the acceptable level of achievement for each outcome for which students as a whole will be assessed. These attainment levels typically range from 60% to 75% depending upon the type and difficulty of the assessment tool and course material.
4. Each instructor, with the help of a TA, compiles overall student achievement levels for each assessment tool and compares this average to the predetermined minimum achievement level.
5. If any outcome is not achieved, instructors suggest changes or possible reasons for the achievement level below the minimum acceptable level. These course improvements can also be prompted by lower than expected student performance on specific assessment instruments, instructor observations of the course, or best practices in engineering education.
6. In subsequent semesters, the instructors or teaching team close the loop and implement their suggested changes. Individual instructors adjust lectures, problem sets and course deliverables in response to course assessments. Once a change has been implemented, it is evaluated for efficacy. If an outcome is still not being achieved, further modifications are considered. These suggestions for modification can be instructor-derived, or solicited from other faculty, from a faculty subcommittee, annual Curriculum Assessment and Review meeting, or from one of the various teaching support resources available to faculty outlined in Criterion 8. This process of iterative

continuous improvement is performed each time the course is offered.

7. Faculty members submit spreadsheets documenting items 1 through 6 as well as graded samples of all assessment tools which directly measure the achievement of one or more course outcomes tied to one or more student outcomes. This documentation is reviewed for completeness and archived by the Assessment Committee.

Extensive quantitative assessment of student outcomes is reviewed every six years.

Additional qualitative assessment are performed based on instructor observation, which prompt additional course improvements. Individual course spreadsheets, along with course improvement suggestions, samples of graded student work, and annual curriculum meeting minutes are collected and archived by the Assessment Committee every semester and can be made available if desired.

#### Graduating Student Survey

Senior students are surveyed starting 1-2 months before graduation to collect feedback on outcomes achievement and overall perception of the program. The graduating senior survey is kept open and available for completion for 1-2 months after graduation. This survey is conducted twice a year to allow every student an opportunity to provide feedback, as some students graduate in December. One important aspect of this survey is collecting feedback on the students' own perceived level of achievement of the student outcomes. Though these data are self-reflective, it is an important aspect of assessment since it helps us gauge the students' perceived level of preparedness, achievement and confidence at the time of graduation.

Students are asked to rate on a 1-5 scale their perceived level of achievement of the student outcomes.

For all surveys, any qualitative suggestions are documented and grouped based on topic. The quantitative and qualitative results of the Graduating Senior Survey are compiled, documented, and presented to the faculty once a year. Faculty discussion and resulting action items are documented in the Faculty Curriculum meeting minutes. Often action items are delegated to a sub group of faculty, such as the Undergraduate Curriculum Committee, for further analysis and suggested action if warranted.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Additional qualitative assessment are performed based on instructor observation, which prompt additional course improvements. Individual course spreadsheets, along with course improvement suggestions, samples of graded student work, and annual curriculum meeting minutes are collected and archived by the Assessment Committee every semester and can be made available if desired.

#### Graduating Student Survey

Senior students are surveyed starting 1-2 months before graduation to collect feedback

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.	<p>on outcomes achievement and overall perception of the program. The graduating senior survey is kept open and available for completion for 1-2 months after graduation. This survey is conducted twice a year to allow every student an opportunity to provide feedback, as some students graduate in December. One important aspect of this survey is collecting feedback on the students' own perceived level of achievement, or the student outcomes. Though these data are self-reflective, it is an important aspect of an assessment since it helps us gauge the students' perceived level of preparedness, achievement and confidence at the time of graduation.</p> <p>Facilitating smooth transitions from a prerequisite class to a higher level course are discussed and improvements to strengthen the prerequisite course or its structure are evaluated. Specifically, students are asked to rate on a 1-5 scale their perceived level of achievement of the evaluations of overall student strengths and areas in need of improvement are conducted by the faculty teaching the capstone courses, design (CHBE 431) and unit operations (CHBE 430) who continuously evaluate and improve the curriculum through a holistic approach. If the results of this annual Curriculum Assessment and Review meeting suggest the need for significant changes in course structure or coverage, these concerns are referred to the Undergraduate Curriculum Committee for consideration and resulting action items are documented in the Faculty Curriculum meeting minutes. Often action items are delegated to a sub group of faculty, such as the Undergraduate Curriculum Committee, for further analysis and suggested action if warranted.</p>
Program Description and Requirements	Indirect Assessments/Informal Data Sources
Attach Documents	To augment Alumni and Employer Surveys which often have very low response rates, the department head and other faculty meet with alumni and recruiters/employers, as many are alumni, when they visit campus. Representatives from industry visit faculty
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/PublicAdminRules2017.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.*

Revised programs      Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

### Catalog Page Text - Overview Tab

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

For those students who are pursuing a B.S. Degree in Chemical Engineering, students can choose to earn a concentration in Biomolecular Engineering, as well. This concentration builds upon the traditional principles of chemical engineering but specializes in biological and biotechnological systems to better prepare students who are interested in or plan to seek employment in the food, pharmaceutical, and biotechnology industries.

Statement for  
Programs of  
Study Catalog

#### **Graduation Requirements**

Minimum hours required for graduation: 129 hours

A grade point average of 2.5 or higher in all courses required for the major earned on the UIUC campus is

required in order to be accepted by the department as juniors and seniors.

### University Requirements

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the [Student Code](#) (§ 3-801) and in the [Academic Catalog](#).

### General Education Requirements

Follows the [campus General Education \(Gen Ed\) requirements](#). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Course List		
Code	Title	Hours
Composition I		4-6
Advanced Composition		3
fulfilled by <a href="#">CHBE 431</a>		
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
fulfilled by <a href="#">CHEM 202</a> and <a href="#">CHEM 204</a> , or <a href="#">CHEM 102</a> and <a href="#">CHEM 104</a> ; and <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a>		
Social & Behavioral Sciences (6 hours)		6
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: US Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)		6-10
fulfilled by <a href="#">MATH 220</a> or <a href="#">MATH 221</a> and <a href="#">MATH 231</a> , <a href="#">MATH 241</a> , <a href="#">MATH 285</a> , <a href="#">PHYS 211</a> , <a href="#">PHYS 212</a> , <a href="#">CS 101</a>		
Language Requirement (Completion of the third semester or equivalent of a language other than English is required)		0-15

### Orientation and Professional Development

These courses introduce opportunities and resources the college, department, and curriculum offers students. They also provide background on the Chemical Engineering curriculum, what chemical engineers do, and the skills to work effectively and successfully in the engineering profession.

Course List		
Code	Title	Hours
<a href="#">CHBE 121</a>	CHBE Profession	1
For non-first-year students, <a href="#">CHBE 121</a> can be replaced with 1 hour of credit from Technical Elective List 1 or List 2. (Ref List 1 and List 2 below.)		
<a href="#">ENG 100</a>	Grainger Engineering Orientation Seminar	1
Total Hours		2

### Foundational Mathematics and Science

These courses stress the basic mathematical and scientific principles upon which the engineering discipline is based.

## Course List

Code	Title	Hours
Select one group of courses (Accelerated or General Chemistry)		10-12
<a href="#">CHEM 202</a>	Accelerated Chemistry I	
& <a href="#">CHEM 203</a>	and Accelerated Chemistry Lab I	
& <a href="#">CHEM 204</a>	and Accelerated Chemistry II	
& <a href="#">CHEM 205</a>	and Accelerated Chemistry Lab II	
OR		
<a href="#">CHEM 102</a>	General Chemistry I	
& <a href="#">CHEM 103</a>	and General Chemistry Lab I	
& <a href="#">CHEM 104</a>	and General Chemistry II	
& <a href="#">CHEM 105</a>	and General Chemistry Lab II	
& <a href="#">CHEM 222</a>	and Quantitative Analysis Lecture	
& <a href="#">CHEM 223</a>	and Quantitative Analysis Lab	
<a href="#">MATH 221</a>	Calculus I ( <a href="#">MATH 220</a> may be substituted. <a href="#">MATH 220</a> is appropriate for students with no background in calculus. 4 or 5 credit hours count towards the degree.)	4
<a href="#">MATH 231</a>	Calculus II	3
<a href="#">MATH 241</a>	Calculus III	4
<a href="#">MATH 257</a>	Linear Algebra with Computational Applications	3
or <a href="#">MATH 415</a>	Applied Linear Algebra	
<a href="#">MATH 285</a>	Intro Differential Equations	3
or <a href="#">MATH 441</a>	Differential Equations	
<a href="#">PHYS 211</a>	University Physics: Mechanics	4
<a href="#">PHYS 212</a>	University Physics: Elec & Mag	4
<a href="#">PHYS 214</a>	Univ Physics: Quantum Physics	2
Total Hours		37-39

### Chemical Engineering Technical Core

These courses stress fundamental concepts and basic laboratory techniques that comprise the common intellectual understanding of chemical engineering and chemical science.

#### Course List

Code	Title	Hours
<a href="#">CHBE 221</a>	Principles of CHE	3
<a href="#">CHBE 321</a>	Thermodynamics	4
<a href="#">CHBE 421</a>	Momentum and Heat Transfer	4
<a href="#">CHBE 422</a>	Mass Transfer Operations	4
<a href="#">CHBE 424</a>	Chemical Reaction Engineering	3
<a href="#">CHBE 430</a>	Unit Operations Laboratory	4
<a href="#">CHBE 431</a>	Process Design	4
<a href="#">CHBE 440</a>	Process Control and Dynamics	3
<a href="#">CHEM 236</a>	Fundamental Organic Chem I	4
<a href="#">CHEM 237</a>	Structure and Synthesis	2
<a href="#">CHEM 315</a>	Instrumental Chem Systems Lab	2
Students must register in one of the Chemical Engineering-specific <a href="#">CHEM 315</a> lab sections.		
<a href="#">CHEM 420</a>	Instrumental Characterization	2
<a href="#">CHEM 442</a>	Physical Chemistry I	4

Code	Title	Hours
<a href="#">CS 101</a>	Intro Computing: Engrg & Sci	3
<a href="#">CHBE 411</a>	Probability and Statistics for ChBE	3-4
or <a href="#">IE 300</a>	Analysis of Data	
or <a href="#">STAT 400</a>	Statistics and Probability I	
Total Hours		49-50

### **Biomolecular Engineering Concentration Technical Core**

#### Course List

Code	Title	Hours
<a href="#">MCB 450</a>	Introductory Biochemistry	3
Total Hours for Chemical Engineering with Biomolecular Concentration Technical Core		52-53

### **Biomolecular Engineering Concentration Technical Electives**

These courses stress the rigorous analysis and design principles practiced in the major subdisciplines of chemical engineering, embodied in the standard chemical engineering major and biomolecular engineering concentration.

#### Course List

Code	Title	Hours
Select 18 hours from Category A, Category B, List 1 and List 2, with specific requirements listed below.		
Three Courses from Category A		9
Two Additional Courses from Category A or Category B		6
One additional 400-level course from List 1 or List 2		3
Note: A maximum of 9 hours of UG research credit in <a href="#">CHBE 497</a> or <a href="#">CHBE 499</a> may be applied to the total 18 hours of technical elective credit with only 3 of those hours allowed use for Category A requirements. Consult with your advisor to make sure that your research contains sufficient biomolecular content to count as Category A credit.		
Total Hours for Biomolecular Engineering Concentration Technical Electives		18

#### CATEGORY A

<a href="#">CHBE 471</a>	Biochemical Engineering
<a href="#">CHBE 472</a>	Techniques in Biomolecular Eng
<a href="#">CHBE 473</a>	Biomolecular Engineering
<a href="#">CHBE 474</a>	Metabolic Engineering
<a href="#">CHBE 475</a>	Tissue Engineering
<a href="#">CHBE 476</a>	Biotransport
<a href="#">CHBE 478</a>	Bioenergy Technology
<a href="#">CHBE 497</a>	Individual Study for Seniors
<a href="#">CHBE 499</a>	Senior Thesis

#### CATEGORY B

<a href="#">ABE 436</a>	Renewable Energy Systems
<a href="#">ABE 483</a>	Engineering Properties of Food Materials
<a href="#">ABE 488</a>	Bioprocessing Biomass for Fuel
<a href="#">BIOE 476</a>	Tissue Engineering

Code	Title	Hours
<a href="#">ECE 467</a>	Biophotonics	
<a href="#">ECE 480</a>	Magnetic Resonance Imaging	
<a href="#">MSE 470</a>	Design and Use of Biomaterials	
<a href="#">MSE 473</a>	Biomolecular Materials Science	
<a href="#">MSE 474</a>	Biomaterials and Nanomedicine	
<a href="#">TAM 461</a>	Cellular Biomechanics	
LIST 1		
Any 400-level CHBE courses, excluding CHBE core courses <a href="#">CHBE 411</a> , <a href="#">CHBE 421</a> , <a href="#">CHBE 422</a> , <a href="#">CHBE 424</a> , <a href="#">CHBE 430</a> , <a href="#">CHBE 431</a> , & <a href="#">CHBE 440</a> .		
<a href="#">ABE 436</a>	Renewable Energy Systems	
<a href="#">ABE 483</a>	Engineering Properties of Food Materials	
<a href="#">ABE 488</a>	Bioprocessing Biomass for Fuel	
<a href="#">ATMS 420</a>	Atmospheric Chemistry	
<a href="#">BIOE 476</a>	Tissue Engineering	
<a href="#">CEE 320</a>	Construction Engineering	
<a href="#">CEE 330</a>	Environmental Engineering	
<a href="#">CEE 350</a>	Water Resources Engineering	
<a href="#">CEE 421</a>	Construction Planning	
<a href="#">CEE 422</a>	Construction Cost Analysis	
<a href="#">CEE 432</a>	Stream Ecology	
<a href="#">CEE 437</a>	Water Quality Engineering	
<a href="#">CEE 440</a>	Fate Cleanup Environ Pollutant	
<a href="#">CEE 442</a>	Environmental Engineering Principles, Physical	
<a href="#">CEE 443</a>	Env Eng Principles, Chemical	
<a href="#">CEE 450</a>	Surface Hydrology	
<a href="#">CEE 452</a>	Hydraulic Analysis and Design	
<a href="#">CHBE 297</a>	Individual Study Sophomores	
<a href="#">CHBE 397</a>	Individual Study for Juniors	
<a href="#">CS 357</a>	Numerical Methods I	
<a href="#">CS 411</a>	Database Systems	
<a href="#">CS 427</a>	Software Engineering I	
<a href="#">CS 440</a>	Artificial Intelligence	
<a href="#">CS 446</a>	Machine Learning	
<a href="#">CS 450</a>	Numerical Analysis	
<a href="#">CS 498</a>	Special Topics	
<a href="#">ECE 304</a>	Photonic Devices	
<a href="#">ECE 313</a>	Probability with Engrg Applic	
<a href="#">ECE 333</a>	Green Electric Energy	
<a href="#">ECE 380</a>	Biomedical Imaging	
<a href="#">ECE 416</a>	Biosensors	
<a href="#">ECE 444</a>	IC Device Theory & Fabrication	
<a href="#">ECE 481</a>	Nanotechnology	
<a href="#">ECE 490</a>	Introduction to Optimization	
<a href="#">ME 400</a>	Energy Conversion Systems	
<a href="#">ME 471</a>	Finite Element Analysis	
<a href="#">ME 482</a>	Musculoskel Tissue Mechanics	
<a href="#">ME 483</a>	Mechanobiology	

Code	Title	Hours
<a href="#"><u>ME 487</u></a>	MEMS-NEMS Theory & Fabrication	
<a href="#"><u>MSE 304</u></a>	Electronic Properties of Matls	
<a href="#"><u>MSE 307</u></a>	Materials Laboratory I	
<a href="#"><u>MSE 308</u></a>	Materials Laboratory II	
<a href="#"><u>MSE 401</u></a>	Thermodynamics of Materials	
<a href="#"><u>MSE 402</u></a>	Kinetic Processes in Materials	
<a href="#"><u>MSE 403</u></a>	Synthesis of Materials	
<a href="#"><u>MSE 406</u></a>	Thermal-Mech Behavior of Matls	
<a href="#"><u>MSE 420</u></a>	Ceramic Materials & Properties	
<a href="#"><u>MSE 441</u></a>	Metals Processing	
<a href="#"><u>MSE 450</u></a>	Polymer Science & Engineering	
<a href="#"><u>MSE 457</u></a>	Polymer Chemistry	
<a href="#"><u>MSE 458</u></a>	Polymer Physics	
<a href="#"><u>MSE 460</u></a>	Electronic Materials I	
<a href="#"><u>MSE 470</u></a>	Design and Use of Biomaterials	
<a href="#"><u>MSE 473</u></a>	Biomolecular Materials Science	
<a href="#"><u>MSE 474</u></a>	Biomaterials and Nanomedicine	
<a href="#"><u>MSE 480</u></a>	Surfaces and Colloids	
<a href="#"><u>MSE 487</u></a>	Materials for Nanotechnology	
<a href="#"><u>MSE 489</u></a>	Matl Select for Sustainability	
<a href="#"><u>NPRE 201</u></a>	Energy Systems	
<a href="#"><u>NPRE 402</u></a>	Nuclear Power Engineering	
<a href="#"><u>NPRE 412</u></a>	Nuclear Power Econ & Fuel Mgmt	
<a href="#"><u>NPRE 441</u></a>	Radiation Protection	
<a href="#"><u>NPRE 442</u></a>	Radioactive Waste Management	
<a href="#"><u>NPRE 457</u></a>	Safety Anlys Nucl Reactor Syst	
<a href="#"><u>NPRE 461</u></a>	Probabilistic Risk Assessment	
<a href="#"><u>NPRE 470</u></a>	Fuel Cells & Hydrogen Sources	
<a href="#"><u>NPRE 475</u></a>	Wind Power Systems	
<a href="#"><u>NPRE 480</u></a>	Energy and Security	
<a href="#"><u>SE 411</u></a>	Reliability Engineering	
<a href="#"><u>TAM 211</u></a>	Statics	
<a href="#"><u>TAM 251</u></a>	Introductory Solid Mechanics	
<a href="#"><u>TAM 461</u></a>	Cellular Biomechanics	
LIST 2		
<a href="#"><u>ABE 425</u></a>	Engrg Measurement Systems	
<a href="#"><u>ABE 430</u></a>	Project Management	
<a href="#"><u>ABE 497</u></a>	Independent Study	
<a href="#"><u>ABE 498</u></a>	Special Topics	
<a href="#"><u>ANSC 445</u></a>	Statistical Methods	
<a href="#"><u>ANSC 450</u></a>	Comparative Immunobiology	
<a href="#"><u>ATMS 421</u></a>	Earth Systems Modeling	
<a href="#"><u>BADM 461</u></a>	Tech, Eng, & Mgt Final Project	
<a href="#"><u>BIOC 446</u></a>	Physical Biochemistry	
<a href="#"><u>CEE 407</u></a>	Airport Design	
<a href="#"><u>CEE 497</u></a>	Independent Study	
<a href="#"><u>CEE 498</u></a>	Special Topics	

Code	Title	Hours
<a href="#"><u>CHEM 436</u></a>	Fundamental Organic Chem II	
<a href="#"><u>CHEM 437</u></a>	Organic Chemistry Lab	
<a href="#"><u>CHEM 444</u></a>	Physical Chemistry II	
<a href="#"><u>CHEM 445</u></a>	Physical Principles Lab I	
<a href="#"><u>CHEM 483</u></a>	Solid State Structural Anlysis	
<a href="#"><u>CHEM 497</u></a>	Individual Study Senior	
<a href="#"><u>CPSC 414</u></a>	Forage Crops & Pasture Ecology	
<a href="#"><u>CPSC 415</u></a>	Bioenergy Crops	
<a href="#"><u>CPSC 418</u></a>	Crop Growth and Management	
<a href="#"><u>CPSC 419</u></a>	Midwest Agricultural Practices	
<a href="#"><u>CPSC 453</u></a>	Principles of Plant Breeding	
<a href="#"><u>FSHN 414</u></a>	Food Chemistry	
<a href="#"><u>FSHN 418</u></a>	Food Analysis	
<a href="#"><u>FSHN 426</u></a>	Biochemical Nutrition I	
<a href="#"><u>FSHN 428</u></a>	Community Nutrition	
<a href="#"><u>FSHN 460</u></a>	Food Processing Engineering	
<a href="#"><u>FSHN 465</u></a>	Principles of Food Technology	
<a href="#"><u>FSHN 471</u></a>	Food & Industrial Microbiology	
<a href="#"><u>FSHN 480</u></a>	Basic Toxicology	
<a href="#"><u>FSHN 481</u></a>	Food Processing Unit Operations I	
<a href="#"><u>FSHN 483</u></a>	Food Processing Unit Operations II	
<a href="#"><u>GEOL 450</u></a>	Investigating the Earth's Interior	
<a href="#"><u>GEOL 451</u></a>	Environmental Geophysics	
<a href="#"><u>GEOL 454</u></a>	Introduction to Seismology	
<a href="#"><u>GEOL 470</u></a>	Introduction to Hydrogeology	
<a href="#"><u>IB 451</u></a>	Conservation Biology	
<a href="#"><u>IS 467</u></a>	Ethics and Policy for Data Science	
<a href="#"><u>MATH 402</u></a>	Non Euclidean Geometry	
<a href="#"><u>MATH 413</u></a>	Intro to Combinatorics	
<a href="#"><u>MATH 417</u></a>	Intro to Abstract Algebra	
<a href="#"><u>MATH 442</u></a>	Intro Partial Diff Equations	
<a href="#"><u>MATH 446</u></a>	Applied Complex Variables	
<a href="#"><u>MATH 461</u></a>	Probability Theory	
<a href="#"><u>MATH 487</u></a>	Advanced Engineering Math	
<a href="#"><u>MCB 408</u></a>	Immunology	
<a href="#"><u>MCB 424</u></a>	Microbial Biochemistry	
<a href="#"><u>MCB 436</u></a>	Global Biosecurity	
<a href="#"><u>MCB 450</u></a>	Introductory Biochemistry	
<a href="#"><u>MCB 462</u></a>	Integrative Neuroscience	
<a href="#"><u>MSE 497</u></a>	Independent Study	
<a href="#"><u>MSE 498</u></a>	Special Topics	
<a href="#"><u>NPRE 483</u></a>	Seminar on Security	
<a href="#"><u>NPRE 498</u></a>	Special Topics	
<a href="#"><u>NRES 488</u></a>	Soil Fertility and Fertilizers	
<a href="#"><u>PHYS 435</u></a>	Electromagnetic Fields I	
<a href="#"><u>PHYS 470</u></a>	Subatomic Physics	
<a href="#"><u>SE 400</u></a>	Engineering Law	

Code	Title	Hours
<del>STAT 400</del>	<del>Statistics and Probability I</del>	
<u>STAT 410</u>	Statistics and Probability II	
<u>STAT 420</u>	Methods of Applied Statistics	
<u>STAT 430</u>	Topics in Applied Statistics	
<u>STAT 440</u>	Statistical Data Management	
<u>UP 406</u>	Urban Ecology	
<u>UP 430</u>	Urban Transportation Planning	

## Program Relationships

Corresponding  
Program(s):

Corresponding Program(s)
Chemical Engineering, BS

## Program Features

Academic Level      Undergraduate

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
  
No

Additional concentration notes (e.g., estimated enrollment, advising plans, etc.)

## Delivery Method

This program is  
available:  
On Campus - Students are required to be on campus, they may take some online courses.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.  
There will be no impact on enrollment or degrees awarded.

## Budget

Are there      No  
budgetary  
implications for  
this revision?

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget  
Information

Attach File(s)

## 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

## Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

There will be no impact on faculty resources for the creation and sustainability of this program/courses due to this revision.

## 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.

There is no significant impact on Library resources for revisions to course programs.

## EP Documentation

EP Control                      EP.25.035  
Number

Attach Rollback/  
Approval Notices

This proposal                      No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook Name	BS:Chem E: Biomlcr Eng -UIUC				
Program Code:	10KV5029BS				
Minor Code	Conc Code	5029	Degree Code	BS	Major Code
0300					
Senate Approval Date					
Senate Conference Approval Date					
BOT Approval Date					
IBHE Approval Date					
HLC Approval Date					
DOE Approval Date					
Effective Date:					
Program Reviewer Comments	<b>Brooke Newell (bsnewell) (11/04/24 8:29 am):</b> Rollback: Per conversation and request from Kathy Thomas-Stagg <b>Brooke Newell (bsnewell) (11/11/24 10:54 am):</b> Per discussion with Kathy Thomas Stagg, I revised the proposal to copy the 40 hour statement from previous revision into Justification and remove courses in the Instructional Resources section that persisted with this revision and shouldn't have. <b>Brooke Newell (bsnewell) (11/13/24 8:08 am):</b> No U Program Review Comments <b>Christopher Rao (cvrao) (11/18/24 12:40 pm):</b> Rollback: Was reuested				