APPROVED BY SENATE
02/10/2020

Date Submitted: 01/13/20 11:58 am

Viewing: 10KP5163BS : Agricultural & Biological Engineering, BS

Last approved: 07/31/19 3:00 pm

Last edit: 01/22/20 11:19 am

Changes proposed by: Brooke Newell

Catalog Pages Using this Program	Agricultural & Biological Engineering: Agricultural Engineering, BS Agricultural & Biological Engineering: Biological Engineering, BS

In Workflow

1. **U Program Review**
2. **1741 Committee Chair**
3. **1741 Head**
4. **KP Committee Chair**
5. **KP Dean**
6. **University Librarian**
7. **Provost**
8. **Senate EPC**
9. Senate
10. U Senate Conf
11. Board of Trustees
12. IBHE
13. DMI

Approval Path

1. 01/13/20 1:18 pm
   Deb Forgacs (dforgacs):
   Approved for U Program Review
2. 01/16/20 10:32 am
   Kent Rausch (krausch):
   Approved for 1741 Committee Chair
3. 01/17/20 1:37 pm
   Ronaldo Maghirang (ronaldom):
   Approved for 1741 Head
4. 01/21/20 4:32 pm
   Michael Hirschi (mch):
   Approved for KP Committee Chair

5. 01/22/20 7:51 am
   Candy Deaville (candyd):
   Approved for KP Dean
6. 01/22/20 8:17 am
   John Wilkin (jpwilkin):
   Approved for University Librarian
7. 01/22/20 10:53 am
   Kathy Martensen (kmartens):
   Approved for Provost

History

1. Dec 11, 2018 by Deb Forgacs (dforgacs)
2. Dec 15, 2018 by Deb Forgacs (dforgacs)
3. Jul 31, 2019 by Deb Forgacs (dforgacs)

Proposal Type

Proposal Type:
Major (ex. Special Education)

This proposal is for a:
Revision

Proposal Title:

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

Revising Gen Ed table; updated course list for electives ~~migration edit - clean up title~~

EP Control Number	**EP.20.94_original**
Official Program Name	Agricultural & Biological Engineering, BS
Effective Catalog Term	Fall 2020
Sponsor College	Grainger College of Engineering
Sponsor Department	Agricultural & Biological Engr
Sponsor Name	
Sponsor Email	
College Contact	College Contact Email

Program Description and Justification

Justification for proposal change:

Updated for Academic Catalog 2020-21 ~~migration edit - clean up title~~

Corresponding Degree	BS Bachelor of Science

Is this program interdisciplinary?

No

Academic Level	Undergraduate
Will you admit to the concentration directly?	
Is a concentration required for graduation?	
CIP Code	140301 - Agricultural Engineering.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

Admission Requirements

Desired
Admissions Term

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

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

Enrollment

Describe how this revision will impact enrollment and degrees awarded.

~~migration edit - clean up title~~

Estimated Annual Number of Degrees Awarded

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

What is the matriculation term for this program?
Fall

Delivery Method

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

This program is available:
On Campus

Budget

Are there budgetary No

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)

Resource Implications

Facilities

Will the program require new or additional facilities or significant improvements to already existing facilities?

No

Technology

Will the program need additional technology beyond what is currently available for the unit?

No

Non-Technical Resources

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

No

Resources

Faculty Resources

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

~~migration edit - clean up title~~

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.

~~migration edit - clean up title~~

Instructional Resources

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

No

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

No

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

No

Financial Resources

How does the unit intend to financially support this proposal?

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

No

Attach letters of support

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

Yes

Program Regulation and Assessment

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning. (Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable).

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

No

Program of Study

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

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

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

Catalog Page Text

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

Statement for Programs of Study Catalog

Graduation Requirements

Minimum Overall GPA: 2.0

Minimum hours required for graduation: 128 hours

General education: Students must complete the Campus General Education requirements including the campus general education language requirement. One of the SBS courses must be an introductory economics course (ECON 102 or ECON 103 or ACE 100).

Orientation and Professional Development

Course List

Code	Title	Hours
ABE 100	Intro Agric & Biological Engrg 1	1
ENG 100	Engineering Orientation 1	0
Total Orientation Hours:		1

Foundational Mathematics and Science

Course List

Code	Title	Hours
CHEM 102	General Chemistry I	3
CHEM 103	General Chemistry Lab I	1
CHEM 104	General Chemistry II	3
CHEM 105	General Chemistry Lab II	1
MATH 221	Calculus I 2	4
MATH 225	Introductory Matrix Theory	2
MATH 231	Calculus II	3
MATH 241	Calculus III	4

Code	Title	Hours
MATH 285	Intro Differential Equations	3
PHYS 211	University Physics: Mechanics	4
PHYS 212	University Physics: Elec & Mag	4
PHYS 213	Univ Physics: Thermal Physics	2
Total Foundational Mathematics and Science Hours:		34

Agricultural and Biological Engineering Technical Core

Course List

Code	Title	Hours
For Both Concentrations:		
ABE 141	ABE Principles: Biological	2
ABE 223	ABE Principles: Machine Syst	2
ABE 224	ABE Principles: Soil & Water	2
ABE 225	ABE Principles: Bioenvironment	2
ABE 226	ABE Principles: Bioprocessing	2
ABE 430	Project Management	2
ABE 469	Industry-Linked Design Project	4
CS 101	Intro Computing: Engrg & Sci	3
ECE 205	Electrical and Electronic Circuits	3
SE 101	Engineering Graphics & Design	3
TAM 210	Introduction to Statics 3	2
or TAM 211	Statics	
TAM 212	Introductory Dynamics	3
Total Agricultural and Biological Engineering Technical Core Hours:		30
Total Hours		60

Electives

Course List

Code	Title	Hours
The Grainger College of Engineering Liberal Education course list, or additional courses from the campus General Education lists for Social and Behavioral Sciences or Humanities and the Arts 4		**6**
Free electives. Additional unrestricted course work, subject to certain exceptions as noted by the College, so that there are at least 128 credit hours earned toward the degree. 5		**6**
Total Hours of Curriculum to Graduate		**128**

1

2 *may be substituted, with four of the five credit hours applying toward the degree. MATH 220 is appropriate for students with no background in calculus.*

3

4*The Grainger College of Engineering approved liberal education course list can be found here.*

5 *The Grainger College of Engineering restrictions to free electives can be found here.*

~~Overview of Curricular Requirements The curriculum requires 128 hours for graduation and is organized as follows.Orientation and Professional Development These courses introduce the opportunities and resources that your college, department, and curriculum can offer you as you work to achieve your career goals.They also provide the skills to work effectively and successfully in the~~

engineering profession. Foundational Mathematics and Science These courses stress the basic mathematical and scientific principles upon which the engineering discipline is based.Agricultural and Biological Engineering Technical Core These courses stress fundamental concepts and basic laboratory techniques that comprise the common intellectual understanding of agricultural and biological engineering and the background for the technical courses and electives in each student's concentration.General Education Requirements

Course List

Code	Title	Hours
A minimum of six courses is required, as follows:		18
ECON 103 4		3
Social and Behavioral Sciences		3
Humanities & the Arts		6
The Grainger College of Engineering Liberal Education course list, or from the campus General Education lists for Social and Behavioral Sciences or Humanities and the Arts		6
Cultural Studies: Non-Western Cultures (1 course)		
Cultural Studies: U.S. Minorities Cultures (1 course)		
Cultural Studies: Western/Comparative Cultures (1 course)		

Non-Primary Language Requirement

Course List

Code	Title	Hours
Completion of the third semester or equivalent of a non-primary language is required. Completion of three years of a single language in high school satisfies this requirement.		0-9

University Composition These courses teach fundamentals of expository writing.

Course List

Code	Title	Hours
Choose one:		
RHET 105	Writing and Research	
CMN 111 & CMN 112	Oral & Written Comm I and Oral & Written Comm II	
ESL 111 & ESL 112	Intro to Academic Writing I and Intro to Academic Writing II	
ESL 115	Principles of Academic Writing	
Advanced Composition (satisfied by completing ABE 469)		

Free Electives

Course List

Code	Title	Hours
Free Electives		
Free electives. Additional unrestricted course work, subject to certain exceptions as noted by the College, so that there are at least 128 credit hours earned toward the degree.		6
Total Hours of Curriculum to Graduate		128

EP Documentation

Attach
Rollback/Approval

Notices

DMI Documentation

Attach Final Approval Notices

Banner/Codebook Name
BS: Agr & Biol Engr -UIUC

Program Code: 10KP5163BS

Minor Code	Conc Code	Degree Code	BS Major Code
5163			

Senate Approval Date

Senate Conference Approval Date

BOT Approval Date

IBHE Approval Date

Effective Date:

Attached Document

Justification for this request

Program Reviewer Comments

Kathy Martensen (kmartens) (01/13/20 11:54 am): Rollback: Email exchange.

Key: 507

Proposal	Degree	Footnote 1
EP.20.91	BS in Civil Engineering	External transfer students take ENG 300 instead
EP.20.92	BS in Computer Engineering	External transfer students take ENG 300 instead
EP.20.93	BSAG in Agricultural and Biological Engineering	In addition to the Biological and Natural Sciences Elective hours required for Agricultural and Biological Engineering (6 hours), a further 4 hours of biological sciences must be completed to make up a total of 10 hours.
EP.20.94	BS in Agricultural and Biological Engineering	External transfer students take ENG 300 instead
EP.20.95	BS in Agricultural and Biological Engineering: Agricultural Engineering	The extra hour of credit for this course may be used to help meet free elective requirements
EP.20.96	BS in Agricultural and Biological Engineering: Biological Engineering	May be taken for 4 credit hours; the extra hour may be used to help meet free elective requirements
EP.20.97	BS in Computer Science	External transfer students take ENG 300 instead
EP.20.98	BS in Electrical Engineering	External transfer students take ENG 300 instead
EP.20.99	BS in Engineering Mechanics	External transfer students take ENG 300 instead
EP.20.100	BS in Engineering Physics	External transfer students take ENG 300 instead
EP.20.101	BS in Systems Engineering & Design	External transfer students take ENG 300 instead
EP.20.102	BS in Nuclear, Plasma and Radiological Engineering	External transfer students take ENG 300 instead
EP.20.103	BS in Mechanical Engineering	External transfer students take ENG 300 instead
EP.20.104	BS in Materials Science & Engineering	External transfer students take ENG 300 instead
EP.20.105	BS in Industrial Engineering	External transfer students take ENG 300 instead