Program Change Request

Date Submitted: 11/15/17 9:34 am

Viewing: **BENGMS : Biological Engineering, Master of Science in Biological Engineering**

Last approved: 05/24/17 11:21 am

Last edit: 02/12/18 4:29 pm

Changes proposed by: lpate

Catalog Pages Using
this Program
  Biological and Agricultural Engineering (BAEG)

Submitter: User ID: calison   Phone:
  575-6731

Program Status   Active

Academic Level   Graduate

Type of proposal   Major/Field of Study

Select a reason for this modification
Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours,
changing admission/graduation requirements, adding Focused Study)

Are you adding a concentration?
  No

Are you adding a track?
  No

Are you adding a focused study?
  No

Effective Catalog Year   Fall 2018

College/School Code
  College of Engineering(ENGR)

In Workflow

1. ENGR Dean Initial
2. GRAD Dean Initial
3. Director of Program Assessment and Review
4. Registrar Initial
5. BAEG Chair
6. ENGR Curriculum Committee
7. ENGR Faculty
8. ENGR Dean
9. Global Campus
10. Provost Review
11. University Course and Program Committee
12. Graduate Committee
13. Faculty Senate
14. Provost Final
15. Provost's Office-- Notification of Approval
16. Registrar Final
17. Catalog Editor Final

Approval Path

1. 10/24/17 3:28 pm
   Norman Dennis (ndennis): Rollback to Initiator
2. 10/27/17 3:32 pm
   Norman Dennis (ndennis): Rollback

Department Code

3. 11/07/17 10:42 am Norman Dennis (ndennis): Rollback to Initiator

4. 11/10/17 11:05 am Norman Dennis (ndennis): Approved for ENGR Dean Initial

5. 11/10/17 4:52 pm Patricia Koski (pkoski): Approved for GRAD Dean Initial

6. 11/14/17 11:24 am Alice Griffin (agriffin): Rollback to Initiator

7. 11/15/17 10:43 pm Norman Dennis (ndennis): Approved for ENGR Dean Initial

8. 11/16/17 9:11 am Patricia Koski (pkoski): Approved for GRAD Dean Initial

9. 11/16/17 10:03 am Alice Griffin (agriffin): Approved for Director of Program Assessment and Review

10. 11/21/17 5:52 pm Lisa Kulczak (lkulcza): Approved for Registrar Initial

11. 11/22/17 8:25 am
    Lalit Verma
    (lverma): Approved
    for BAEG Chair
12. 12/13/17 9:59 am
    Manuel Rossetti
    (rossetti): Approved
    for ENGR
    Curriculum
    Committee
13. 12/13/17 2:46 pm
    Norman Dennis
    (ndennis): Rollback
    to BAEG Chair for
    ENGR Faculty
14. 12/20/17 3:18 pm
    Lalit Verma
    (lverma): Approved
    for BAEG Chair
15. 12/20/17 3:47 pm
    Manuel Rossetti
    (rossetti): Approved
    for ENGR
    Curriculum
    Committee
16. 01/03/18 4:18 pm
    Norman Dennis
    (ndennis): Approved
    for ENGR Faculty
17. 01/03/18 4:20 pm
    Norman Dennis
    (ndennis): Approved
    for ENGR Dean
18. 01/08/18 12:37 pm
    Kiersten Bible
    (kbible): Approved
    for Global Campus
19. 01/08/18 1:00 pm
    Terry Martin
    (tmartin): Approved

for Provost Review

20. 01/29/18 9:39 am
Alice Griffin
(agriffin): Approved
for University
Course and Program
Committee

21. 02/28/18 1:45 pm
Patricia Koski
(pkoski): Approved
for Graduate
Committee

History

1. Apr 5, 2017 by
Charlie Alison
(calison)

2. May 24, 2017 by
Charlie Alison
(calison)

Department of Biological and Agricultural Engineering(BAEG)

Program Code   BENGMS

Degree   Master of Science in Biological Engineering

CIP Code
14.0301 - Agricultural Engineering.

Program Title
Biological Engineering, Master of Science in Biological Engineering

Program Delivery
Method
On Campus

Is this program interdisciplinary?
No

Does this proposal impact any courses from another College/School?
No

What are the total   **30**

hours needed to complete the program?

Program Requirements and Description

Requirements

Admission to the Degree Program: Admission to the Biological Engineering graduate program is a three-step process. First, the prospective student must be admitted to graduate standing by the University of Arkansas Graduate School. Second, the student must be accepted into the department's program, which depends on transcripts, recommendations, a statement of purpose, and the following additional requirements:

Students with an ABET-accredited or equivalent Engineering Degree

Students to an M.S. program from a B.S. degree in engineering or to a Ph.D. program from a B.S. degree in engineering and an M.S. degree:

> A **score on** ~~score of 301 or above (verbal and quantitative) on~~ the Graduate Record Examination (GRE) **to meet the Graduate School requirement of a standardized exam.** ~~.~~
> ~~A TOEFL score of at least 550 (paper-based) or 213 (computer-based) or 80 (Internet-based).~~**For students** ~~This requirement is waived for applicants~~ whose **first** ~~native~~ language is **not English,** ~~English or who earn~~ a **demonstration of English-language proficiency which meets the requirements of the Graduate School.** ~~Bachelor's or Master's degree from a U.S. institution.~~GPA of 3.00 or higher on the last 60 hours of a B.S. degree or B.S. and/or M.S. degrees.
> B.S. degree in engineering from an ABET accredited program or equivalent.

Students to a Ph.D. program directly from a B.S. degree in engineering:

> **A score on the Graduate Record Examination (GRE) to meet the Graduate School requirement of a standardized exam.**
> ~~A score of 307 or above (verbal and quantitative) on the GRE.A TOEFL score of at least 550 (paper-based) or 213 (computer-based) or 80 (Internet-based).~~**For students** ~~This requirement is waived for applicants~~ whose **first** ~~native~~ language is **not English,** ~~English or who earn~~ a **demonstration of English-language proficiency which meets the requirements of the Graduate School.** ~~Bachelor's or Master's degree from a U.S. institution.~~A cumulative GPA of 3.5 or above for undergraduate work.
> B.S. degree in engineering from an ABET accredited program or equivalent.

Students without an Engineering Degree

Students to an M.S. program from a non-engineering B.S. degree:

> **A score on the Graduate Record Examination (GRE) to meet the Graduate School requirement of a standardized exam.**

~~A score of 301 or above (verbal and quantitative) on the GRE.A TOEFL score of at least 550 (paper-based) or 213 (computer-based) or 80 (Internet-based).~~**For students** ~~This requirement is waived for applicants~~ whose **first** ~~native~~ language is **not English,** ~~English or who earn~~ a **demonstration of English-language proficiency which meets the requirements of the Graduate School.** ~~Bachelor's or Master's degree from a U.S. institution.~~GPA of 3.00 or higher on the last 60 hours of a BS degree.

Completion of 18 hours of engineering course work.

Students to a Ph.D. program from non-engineering B.S. plus M.S. degrees:

A score on the Graduate Record Examination (GRE) to meet the Graduate School requirement of a standardized exam.

~~A score of 301 or above (verbal and quantitative) on the GRE.A TOEFL score of at least 550 (paper-based) or 213 (computer-based) or 80 (Internet-based).~~**For students** ~~This requirement is waived for applicants~~ whose **first** ~~native~~ language is **not English,** ~~English or who earn~~ a **demonstration of English-language proficiency which meets the requirements of the Graduate School.** ~~Bachelor's or Master's degree from a U.S. institution.~~GPA of 3.00 or higher on the last 60 hours of B.S. and/or M.S. degrees.

Completion of 18 hours of engineering course work.

Students to a Ph.D. program directly from a non-engineering B.S. degree:

A score on the Graduate Record Examination (GRE) to meet the Graduate School requirement of a standardized exam.

~~A score of 307 or above (verbal and quantitative) with 155 (quantitative) and 4.5 or above in writing on the GRE.A TOEFL score of at least 580 (paper-based) or 237 (computer-based) or 92 (Internet-based).~~**For students** ~~This requirement is waived for applicants~~ whose **first** ~~native~~ language is **not English,** ~~English or who earn~~ a **demonstration of English-language proficiency which meets the requirements of the Graduate School.** ~~Bachelor's or Master's degree from a U.S.~~ ~~institution.~~A cumulative GPA of 3.5 or above for undergraduate work.

Completion of 18 hours of engineering course work.

Finally, a member of the faculty who is eligible (graduate status of group II or higher) must agree to serve as the major adviser to the prospective student.

Detailed requirements are in the Biological and Agricultural Engineering Department Graduate Student Handbook, available at baeg.uark.edu.

Requirements for the Master of Science Degree: (Minimum 30 hours) In addition to the requirements of the Graduate School and the graduate faculty in Engineering, the following departmental requirements must be satisfied for the M.S.B.E. degree:

Students with an engineering B.S. degree: All students are ~~Candidates are~~ required to complete not less than 24 semester hours of course work acceptable to the committee and a minimum of six semester hours of **thesis. Of the 24 hours required for the M.S.** ~~thesis.~~ **degree, no more than 12 semester hours of course work presented for the MS degree can be at the 4000 level.**

Students with a non-engineering B.S. degree: In addition to the requirement in 1, students must complete

18 hours of deficiency engineering course work to demonstrate engineering competence.

Earn a minimum cumulative grade-point average of 3.0 on all graduate courses attempted. The minimum acceptable grade on a graduate course is "C."

Prior to acceptance into the program a candidate must, in consultation with the department head, identify a professor who is willing to serve as the major professor. During the first semester, the candidate must, in consultation with the major professor and department head, select a graduate committee. The candidate will, in consultation with the committee, prepare a written graduate program of study that will achieve the candidate's objectives.

Satisfactorily pass a written thesis research proposal at least one semester before completing all other requirements. Students may retake a failed proposal defense once, contingent upon approval of the student's advisory committee. A student who fails the proposal defense twice will be terminated from the program.

Satisfactorily pass a final oral examination and complete and submit a thesis.

Candidates must prepare a paper suitable for submission to a refereed journal from research done for a **thesis.** ~~thesis Detailed requirements are in the Biological and Agricultural Engineering Department Graduate Student Handbook, available at Graduate Handbook.~~

Detailed requirements are in the Biological and Agricultural Engineering Department Graduate Student Handbook, available at bio-ag-engineering.uark.edu.

Students should also be aware of Graduate School requirements with regard to master's degrees.

Are Similar Programs available in the area?

No

Estimated Student Demand for Program	NA
Scheduled Program Review Date	**2018-2019** ~~NA~~
Program Goals and Objectives	

Program Goals and Objectives
1. Prepare students for significant applications of and contributions to Biological Engineering beyond graduation. **2. Produce theses which meet high academic standards and constitute significant applications of and contributions to Biological Engineering.** ~~NA~~

Learning Outcomes

Learning Outcomes

Learning Outcomes

1. Students will make satisfactory progress toward the completion of course requirements in preparation for conducting thesis research which constitutes a significant contribution to Biological Engineering.
2. Students will be prepared to plan thesis research which meets high academic standards and constitutes a significant contribution to Biological Engineering.
3. Students will write a thesis which meets high academic standards and constitutes a significant contribution to Biological Engineering.
4. Students will be able to communicate effectively.
~~NA~~

Description and justification of the request

Description of specific change	Justification for this change
Added the requirement to produce a journal quality paper. Set a maximum number of 4000 level course that can be used for the degree.	Changes in the graduate catalogue were made to clarify the degree requirements so students are able to better process the information. All of the changed parts had been the department policy and have been stated in the department's graduate handbook for over 7-10 years as described in the "DESCRIPTION" section. For example, the "preparation of a paper suitable for submission to a refereed journal" has been required at least for the past 7 years for both MS and PhD degrees in BENG. However, we found that the Graduate Catalogue has not clearly reflected the degree requirements, causing confusions for the students. The 4000 level course requirement aligns the program with ADHE requirements.

Upload attachments

Reviewer Comments

Norman Dennis (ndennis) (10/24/17 3:28 pm): Rollback: You are adding a requirement, not clarifying. Provide a justification for the added requirement (why are you adding the requirement)

Norman Dennis (ndennis) (10/27/17 3:32 pm): Rollback: Please see the previous rollback comment and add the program change to the description of change. You are adding a program requirement to the catalog. Describe the specific requirement and the justification for making the new requirement in the description and justification box.

Norman Dennis (ndennis) (11/07/17 10:42 am): Rollback: Come see me and lets talk about your admission and program requirements in general.

Norman Dennis (ndennis) (11/10/17 11:05 am): Revised 4000 level course statement and the description and justification blocks.

Alice Griffin (agriffin) (11/14/17 11:24 am): Rollback: Please review item 2 of requirements.

The Graduate School no longer allows the use of 4000-level courses toward graduate programs. Thus, the description and justification will also need to be changed. Consult with Dr. Dennis regarding this new policy.

Alice Griffin (agriffin) (11/16/17 10:02 am): Inserted scheduled program review date.

Norman Dennis (ndennis) (12/13/17 2:46 pm): Rollback: While were are making these separate changes for MS and PhD programs please separate MS and PhD admission requirements. Currently, the mixture of requirements is confusing and possibly contradictory. Also, the grad school is encouraging us not to rely on a combined GRE score for admission, therefore publishing a mandatory minimum score is contradictory to their guidance.

Norman Dennis (ndennis) (01/03/18 4:18 pm): Modified language in the requirements section to clarify meaning

Alice Griffin (agriffin) (01/26/18 2:55 pm): UCPC changed the language regarding the GRE requirement.

Key: 274