

# MICHIGAN STATE UNIVERSITY

February 28, 2017

## MEMORANDUM

TO: Dr. R. Sekhar Chivukula, Associate Provost for Undergraduate Education and Dean of Undergraduate Studies

FROM: Dr. John Gaboury, Associate Provost for Academic Services and Enrollment Management

RE: Request to Change the Graduation Requirements for All Majors in the College of Engineering

For Transmittal to the University Committee on Undergraduate Education (UCUE)

The request referenced above is being sent to you for action by the University Committee on Undergraduate Education (UCUE).

### UCUE Response Requested:

Please ask the UCUE to consider the request referenced above. Please mail the related materials referenced under the heading Attachments at the end of this memorandum to the members of the UCUE.

The academic program and course requests referenced above will be included on the agenda for the March 23, 2017 meeting of Subcommittee A, University Committee on Curriculum (UCC). Requests that are approved by Subcommittee A on March 23 will be before the Full Committee, UCC, for action on April 6, 2017. Requests that are approved by the Full Committee on April 6 will be included in the April 18, 2017, Report of the UCC to the Faculty Senate.

If you have any questions about this memorandum or the attached materials, please call me at 5-8420.

Thank you for your help.

### Attachments:

1. Entry for the March 23, 2017 meeting of Subcommittee A.
2. Request for Changes in an Academic Program forms dated January 12, 2017: Graduation Requirements for all Majors in the College of Engineering and attachments.
3. Draft, of the work copy for the Academic Programs section of the University catalog: Graduation Requirements for All Major, College of Engineering, page 1.

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## University Curriculum and Catalog

Hannah Admin. Building  
426 Auditorium Road  
Room 439  
East Lansing, MI 48824

517-355-8420  
Fax: 517-355-9601

## **COLLEGE OF ENGINEERING**

1. Request to change the **Graduation Requirements for All Majors** in the College of Engineering. The University Committee on Undergraduate Education will consider this request.
  - a. Under the heading **Graduation Requirements for All Majors** make the following changes:
    - (1) In item 1. a., delete Zoology 141.
    - (2) In item 2. a., delete 'and Applied Engineering Sciences'.

Effective Fall 2017.

(/)  
 Michigan State University Office of the Registrar

**Main Menu**

(ProgramsMenu.aspx)

<b>Program Name: Engineering - Graduation Requirements</b>	Program Request ID: 3429
<b>Degree: BS      Sequence Number: 6</b>	

**Effective Dates: Fall 2017 - Open      Status: Interim      Initial Action: Change**

**Requested Date: 1/10/2017 12:15:38 PM**

**1. Department/School/College:**  
 16256 .... College of Engineering

**2. Name of Program:**  
 Engineering - Graduation Requirements

**3. Name of Degree:**  
 BS

**4. Type of Program:**  
 Major

**5. Effective Start Semester:**  
 Prev: Fall 2013  
 New: Fall 2017

**6. Target student audience for the program:**  
 Undergraduate engineering students

**7. Enrollment:**  
 What is the expected enrollment per year: 700  
 What is the minimum enrollment acceptable: 400

**8. Source of budget for the program:**  
 To align academic planning and curricular change, ALL requests for NEW funds must be included in the College's annual planning letter. Provost approval of new funds and the effective date for the new program must align. If funding is not approved, then the program request will not be forwarded to Faculty Senate.

College reallocation

If new funds, was this request included in the College's annual planning letter?

Indicate yes or no. If no, then this is a department or college fund reallocation (If the program is implemented, no additional resources are required.).

**9. Projected Costs as compared to other programs in unit:**

Same

**10. Staff requirement:**

How many additional staff will be required: 0

Who will provide the primary instruction. Describe any external linkages(industry, government, etc.):

**11. Will additional equipment be required:**

Approximate cost: 0

Source of funding:

**12. Will additional library materials be required:**

Approximate cost: 0

Source of funding: current resources are sufficient

**13. Will additional space be required:**

Type:

Approximate amount:

**14. If the program requirements contain a named concentration, do you wish for the concentration to be noted on the student's transcript?:**

No

**15. Detailed Description:**

Graduation Requirements for All Majors

1. The University requirements for bachelor's degrees as described in the Undergraduate Education section of the catalog; 120 credits, including general elective credits, are required for the Bachelor of Science degree in Computer Science and the Bachelor of Science degree in Applied Engineering Sciences; and 128 credits, including general elective credits, are required for the Bachelor of Science degree in the other Engineering majors.

Students who are enrolled in majors leading to the Bachelor of Science degree in the College of Engineering may complete an alternative track to Integrative Studies

in Biological and Physical Sciences that consists of the following courses:

- \* One of the following courses: Biological Science 161; Integrative Biology 150, Plant Biology 105; Entomology 205; Microbiology and Molecular Genetics 141, 201, 301; Physiology 250; ~~Zoology 141.~~
- \* Two of the following courses: Chemistry 141, Chemistry 151, Physics 183 or 183B, Physics 184.
- \* One of the following laboratory courses: Plant Biology 106; Chemistry 161; Physics 191.

Credits earned in the alternative track may also be counted toward college and major requirements for the Bachelor of Science degree.

2. The requirements of the College of Engineering for the Bachelor of Science degree that are listed below:

- \* Mathematics 132, 133, 234, and 235. Computer Science, ~~and Applied Engineering Sciences~~ majors are not required to complete Mathematics 235.
- \* Chemistry 141 or 151. Computer Science majors are not required to complete Chemistry 141 or 151.
- \* Physics 183 or 183B and 184.
- \* Engineering 102. Computer Science, Computer Engineering, ~~and~~ Electrical Engineering and Mechanical Engineering majors are not required to complete Engineering 102.
- \* Engineering 100.

~~Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a Specialization in Environmental Studies. For additional information, refer to the Specialization in Environmental Studies statement in the College of Natural Science section of this catalog.~~

Students who are enrolled in the Bachelor of Science Degree in Computer Science in the College of Engineering may elect a ~~Specialization~~ Minor in Game Design and Development. For additional information, refer to the ~~Specialization~~ Minor in Game Design and Development statement in the Department of ~~Telecommunication, Information Studies and Media~~ *Media and Information* section of this catalog.

Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a ~~Specialization~~ *minor* in Information Technology. For additional information, refer to the ~~Specialization~~ *minor* in Information Technology statement in The Eli Broad College of Business section of this catalog.

Let me know if you have questions.

#### 16. Are there admissions requirements for this program?:

Grade or grade-point average requirements and if so in which course(s), portfolio requirement, audition, essay, etc. If there are not admission requirements other than those required by the University policy indicate "none".

Prev: no change

New: Minimum weighted GPA depending on major

*Please  
now  
minor  
ENV + Sust  
Studies*

**17. Type(s) of change(s):**

Beginning FS17 Applied Engineering Sciences majors are required to take MTH 235

**18. Students who will be affected by the proposed changes:**

Applied Engineering Sciences majors

**19. Will the proposed change(s) have a negative impact on students? If so, which ones?:**

Describe impact and explain what accommodations will be made:

**20. Reason(s) for change(s):**

Stakeholders in the Applied Engineering Sciences degree (alumni, employers and students) would like to see the program return to a solid core of math courses that includes differential equations.

**DEPARTMENT LEVEL APPROVAL STATUS**

Approved: College of Engineering  
1/12/2017 12:18:56 PM by Mary Pease for Neeraj Buch, Associate Dean

**SIGNOFFS STATUS**

Signed Off: Department of Mathematics  
1/12/2017 1:04:46 PM by Bruce Sagan for Keith Promislow, Chairperson

**COLLEGE LEVEL APPROVAL STATUS**

Approved: College of Engineering  
1/12/2017 1:08:46 PM by Neeraj Buch for Neeraj Buch, Associate Dean

**Call us: (517) 355-3300**

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### Graduation Requirements for All Majors

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Students who are enrolled in majors leading to the Bachelor of Science degree in the College of Engineering may complete an alternative track to Integrative Studies in Biological and Physical Sciences that consists of the following courses:

- a. One of the following courses: Biological Science 161; Plant Biology 105; Entomology 205; Microbiology and Molecular Genetics 201, 301; Physiology 250; ~~Zoology 141~~ Zoology 141.
- b. Two of the following courses: Chemistry 141, Chemistry 151, Physics 183 or 183B, Physics 184.
- c. One of the following laboratory courses: Plant Biology 106; Chemistry 161; Physics 191.

Credits earned in the alternative track may also be counted toward college and major requirements for the Bachelor of Science degree.

2. The requirements of the College of Engineering for the Bachelor of Science degree that are listed below:
  - a. Mathematics 132, 133, 234, and 235. Computer Science ~~and Applied Engineering Sciences~~ majors are not required to complete Mathematics 235.
  - b. Chemistry 141 or 151. Computer Science majors are not required to complete Chemistry 141 or 151.
  - c. Physics 183 or 183B and 184.
  - d. Engineering 102. Computer Science, Computer Engineering, and Electrical Engineering majors are not required to complete Engineering 102.
  - e. Engineering 100.

Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a ~~Specialization in Environmental Studies~~ Minor. For additional information, refer to the ~~Specialization in Environmental Studies~~ and Sustainability statement in the *College of Natural Science* section of this catalog.

Students who are enrolled in the Bachelor of Science Degree in Computer Science in the College of Engineering may elect a ~~Specialization in Game Design and Development~~ Minor. For additional information, refer to the ~~Specialization in Game Design and Development~~ Media and Information statement in the *Department of Telecommunication, Information Studies and Media* section of this catalog.

Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a ~~Specialization in Information Technology~~ Minor. For additional information, refer to the ~~Specialization in Information Technology~~ statement in *The Eli Broad College of Business* section of this catalog.