

MICHIGAN STATE UNIVERSITY

August 23, 2019

MEMORANDUM

TO: Dr. Mark Largent, Interim Associate Provost for Undergraduate Education and Dean of Undergraduate Studies

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

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 September 12, 2019 meeting of Subcommittee A, University Committee on Curriculum (UCC). Requests that are approved by Subcommittee A on September 12 will be before the Full Committee, UCC, for action on September 26, 2019. Requests that are approved by the Full Committee on September 26 will be included in the October 8, 2019, 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 September 12, 2019 meeting of Subcommittee A.
2. Request for Changes in an Academic Program forms dated April 26, 2019: 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 Majors, 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 (UCUE) will consider this request.
 - a. Under the heading **Graduation Requirements for All Majors** make the following changes:
 - (1) Change item 1., paragraph one to the following:

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 Computational Data Science, 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.
 - (2) Change item 2. b., to the following:

Chemistry 141 or 151. Computational Data Science and Computer Science majors are not required to complete Chemistry 141 or 151.
 - (3) Change item 2.e. to the following:

One technical computing course depending on intended major: CMSE 202 (Computational Data Science), CSE 220 (Electrical Engineering), CSE 231 (Computer Science, Computer Engineering, Mechanical Engineering), or EGR 102 (all other engineering majors).

Effective Spring 2020.



Michigan State University Office of the Registrar

Program Name: Engineering - Graduation Requirements Degree: BS Sequence Number: 8	Program Request ID: 3910
Effective Dates: Spring 2020 - Open Status: Interim Initial Action: Change	
Requested Date: 3/26/2019 11:56:29 AM	
<p>1. Department/School/College: 16256 College of Engineering</p> <p>2. Name of Program: Engineering - Graduation Requirements</p> <p>3. Name of Degree: BS</p> <p>4. Type of Program: Major</p> <p>5. Effective Start Semester: Prev: Fall 2018 New: Spring 2020</p> <p>6. Target student audience for the program: Undergraduate engineering students</p> <p>7. Enrollment: What is the expected enrollment per year: 700 What is the minimum enrollment acceptable: 400</p> <p>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</p>	

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:

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 Computational Data Science, 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:

- a. One of the following courses: Biological Science 161; Plant Biology 105; Entomology 205; Integrative Biology 150, Microbiology and Molecular Genetics 141, 201, 301; Physiology 250.
- b. Two of the following courses: Chemistry 141, Chemistry 151, Physics 183 or 183B, Physics 184 or 184B.
- 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 majors are not required to complete Mathematics 235.
 - b. Chemistry 141 or 151. Computational Data Science and Computer Science majors are not required to complete Chemistry 141 or 151.
 - c. Physics 183 or 183B and 184 or 184B.
 - d. Engineering 100.
 - e. One technical computing course depending on intended major: CMSE 202 (Computational Data Science), CSE 220 (Electrical Engineering), CSE 231 (Computer Science, Computer Engineering, Mechanical Engineering) or EGR 102 (all other Engineering majors).

Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a Minor in Environmental and Sustainability Studies. For additional information, refer to the *Minor in Environmental and Sustainability Studies* (<https://reg.msu.edu/AcademicPrograms/ProgramDetail.aspx?Program=7118>) statement in the *College of Natural Science* (<https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=126#s126>) 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 Minor in Game Design and Development. For additional information, refer to the *Minor in Game Design and Development* (<https://reg.msu.edu/AcademicPrograms/ProgramDetail.aspx?Program=6315>) statement in the *Department of Media and Information* (<https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=118#s1215>) section of this catalog.

Students who are enrolled in bachelor's degree programs in the College of Engineering may elect a Minor in Information Technology. For additional information, refer to the *Minor in Information Technology* (<https://reg.msu.edu/AcademicPrograms/ProgramDetail.aspx?Program=6071>) statement in *The Eli Broad College of Business* (<https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=117#s117>) section of this catalog.

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".

Minimum weighted GPA depending on major

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

Computational Data Science requirements in #15

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

Computational Data Science

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):

Addition of a new major, Computational Data Science and it's requirements.

DEPARTMENT LEVEL APPROVAL STATUS

Approved: College of Engineering
4/11/2019 12:02:11 PM by Mary Pease for Amanda Idema, Acting Associate Dean

SIGNOFFS STATUS

No Response by: College of Natural Science

Signed Off: Department of Chemistry
4/11/2019 12:19:31 PM by Lynmarie Posey for Robert E. Maleczka, Chairperson

No Response by: Department of Computer Science and Engineering

No Response by: Department of Physics and Astronomy

No Response by: Department of Computational Mathematics, Science, and Engineering

No Response by: Department of Mathematics

COLLEGE LEVEL APPROVAL STATUS

Approved: College of Engineering
4/26/2019 10:43:49 AM by Amanda Idema for Amanda Idema, Acting Associate Dean

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Graduation Requirements for All Majors

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Bachelor of Science degree in Computational Data Science,

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; Integrative Biology 150; Microbiology and Molecular Genetics 141, 201, 301; Physiology 250.
- b. Two of the following courses: Chemistry 141, Chemistry 151, Physics 183 or 183B, Physics 184 or 184B.
- 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.

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Computational Data Science and

CMSE 202 (Computational Data Science)

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