

MICHIGAN STATE UNIVERSITY

September 16, 2016

MEMORANDUM

TO: Dr. 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 Phase Out and Discontinue the Bachelor of Science Degree in Electrical and Computer Engineering

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

The request referenced above is being sent to the University Committee on Undergraduate Education (UCUE) in accordance with the *Bylaws for Academic Governance*, 4.4.

UCUE Response Requested:

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

After receiving UCUE's consultative response, the Provost will make a determination to discontinue or not to discontinue this program. If the Provost determines that the program will be discontinued, the request will be forwarded to the University Committee on Curriculum for deletion of curriculum and degree requirements.

If you have any questions, please call Joy Speas, University Curriculum Administrator at 5-8420.

Thank you.

Attachments:

1. Request to Discontinue an Academic Program form dated June 6, 2016: Bachelor of Science Degree in Electrical and Computer Engineering and attachments.
2. Student Enrollments by Program; Student Awards by Programs (for the request referenced above).

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University Curriculum and Catalog

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COLLEGE OF ENGINEERING

1. Request to delete the curriculum and degree requirements for the **Bachelor of Science** degree in **Electrical and Computer Engineering** in the Department of Electrical and Computer Engineering. The University Committee on Undergraduate Education (UCUE) will provide consultative commentary to the Provost after considering this request. The Provost will make a determination after considering the consultative commentary from the University Committee on Undergraduate Education.

No new students are to be admitted to the program effective Summer 2015. No students are to be readmitted to the program effective Summer 2015. Effective Fall 2016, coding for the program will be discontinued and the program will no longer be available in the Department of Electrical and Computer Engineering. Students who have not met the requirements for the Bachelor of Science degree in Electrical and Computer Engineering through the Department of Electrical and Computer Engineering prior to Fall 2016 will have to change their major.



Michigan State University - Office of the Registrar

View a Program		Main Menu
Joy Speas, RO	Friday, 6/10/2016	
Program Name: Electrical and Computer Engineering Degree: BS Sequence Number: 3	Program Request ID: 3282	
Effective Dates: Fall 2016 Status: Interim Initial Action: Deleted	Requested Date: 6/6/2016 10:33:36 AM	
<p>1. Department/School/College: 16250 Department of Electrical and Computer Engineering</p> <p>2. Name of Program: Electrical and Computer Engineering</p> <p>3. Name of Degree: BS</p> <p>4. Type of Program: Major</p> <p>5. Effective Start Semester: Fall 2016</p> <p>Effective End date: Fall 2016</p> <p>Will the proposed change(s) have a negative impact on students? If so, which ones?: None</p> <p>Describe impact and explain what accommodations will be made: not applicable</p> <p>Reason(s) for change(s): program has ended.</p>		
<p>DEPARTMENT LEVEL APPROVAL STATUS</p> <p>Approved: Department of Electrical and Computer Engineering 6/6/2016 10:34:23 AM by Neeraj Buch for John Papapolymerou, Chairperson</p>		
<p>COLLEGE LEVEL APPROVAL STATUS</p> <p>Approved: College of Engineering 6/6/2016 10:38:35 AM by Neeraj Buch for Neeraj Buch, Associate Dean</p>		

*Moratorium approved
US15-US16*



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Enrollments and Awards By Program Engineering

Program - Description	Span		FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total	10 yr Diff.	
MS - Master of Science															
2335 - Computer Science	FQ69-	Enrollments	48	45	41	53	59	55	42	50	50	51	494	3	
		Awards	11	20	14	10	24	25	13	19	12	24	172	13	
		%	23%	44%	34%	19%	41%	45%	31%	38%	24%	47%	35%	24%	
NOGR - No Degree - Graduate															
8060 - Linked BS/MS Cmptr E/Cmptr Sci	US11-	Enrollments												0	
8046 - Linked BS/MS Computer Sci Trk	FS09-	Enrollments	0	0	0	0	2	1	1	3	4	6	17	6	
PHD - Doctor of Philosophy															
2336 - Computer Science	FQ69-	Enrollments	85	81	89	103	109	106	116	103	103	99	994	14	
		Awards	16	12	7	13	11	13	13	15	21	11	132	-5	
		%	19%	15%	8%	13%	10%	12%	11%	15%	20%	11%	13%	-8%	
<i>Electrical and Computer Engineering</i>															
ADDU - Additional Major Undergraduate															
2355 - Computer Engineering	WQ89-	Enrollments	1	2	3	1	2	1	1	1	6	3	21	2	
		Awards	1	0	1	0	0	1	0	0	0	3	0	6	-1
		%	100%	0%	33%	0%	0%	100%	0%	0%	0%	50%	0%	29%	-100%
→ 8054 - Electrical and Computer Engr	FS10-FS10	Enrollments												0	
2351 - Electrical Engineering	FQ68-	Enrollments	0	1	0	5	4	3	3	1	2	3	22	3	
		Awards	0	1	0	2	1	0	2	0	0	0	6	0	
		%	0%	100%	0%	40%	25%	0%	67%	0%	0%	0%	27%	0%	
BS - Bachelor of Science															
2354 - Computer Engineering	WQ89-	Enrollments	205	193	189	207	221	227	230	278	331	353	2,434	148	
		Awards	23	34	18	20	24	25	22	29	22	37	254	14	
		%	11%	18%	10%	10%	11%	11%	10%	10%	7%	10%	10%	-1%	

Fiscal Year (FY) counts are distinct student counts within the Summer, Fall, and Spring terms.
e.g. FY07=distinct student count within Summer 06, Fall 06, and Spring 07.
If a student changed majors within the FY, he/she is counted under both majors.

Enrollments and Awards By Program Engineering

Program - Description	Span		FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total	10 yr Diff.
2356 - Computer Engineering - Second Degree	WQ89-	Enrollments	3	1	1	3	6	7	8	6	10	5	50	2
		Awards	2	0	0	0	2	0	2	0	3	2	11	0
		%	67%	0%	0%	0%	33%	0%	25%	0%	30%	40%	22%	-27%
→ 8053 - Electrical and Computer Engr	FS10-FS10	Enrollments												0
→ 8055 - Electrical and Computer Engr - Second Degree	FS10-FS10	Enrollments												0
2350 - Electrical Engineering	FQ68-	Enrollments	367	340	313	300	348	417	440	477	504	497	4,003	130
		Awards	79	80	55	40	45	52	79	62	96	87	675	8
		%	22%	24%	18%	13%	13%	12%	18%	13%	19%	18%	17%	-4%
2352 - Electrical Engineering - Second Degree	FQ68-	Enrollments	8	7	8	5	5	6	9	10	9	8	75	0
		Awards	4	2	3	3	2	0	1	1	2	2	20	-2
		%	50%	29%	38%	60%	40%	0%	11%	10%	22%	25%	27%	-25%
CNCU - Concentration Undergraduate														
8049 - Biomedical Engineering	FS09-	Enrollments	0	0	0	5	7	5	7	7	6	10	47	10
		Awards	0	0	0	1	3	0	3	3	3	7	20	7
		%	0%	0%	0%	20%	43%	0%	43%	43%	50%	70%	43%	70%
8069 - Biomedical Engineering	FS13-	Enrollments	0	0	0	0	0	0	0	0	0	2	2	2
DUAL - Dual Major														
9844 - Electrical Engineering	FQ68-	Enrollments	0	0	0	1	1	1	4	4	4	4	19	4
		Awards	0	0	0	0	0	0	0	0	0	1	1	1
		%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	5%	25%
MS - Master of Science														
2348 - Electrical Engineering	FQ68-	Enrollments	71	67	56	66	77	82	82	76	71	54	702	-17
		Awards	21	34	17	16	19	25	31	29	24	22	238	1
		%	30%	51%	30%	24%	25%	30%	38%	38%	34%	41%	34%	11%

Fiscal Year (FY) counts are distinct student counts within the Summer, Fall, and Spring terms.
e.g. FY07=distinct student count within Summer 06, Fall 06, and Spring 07.
If a student changed majors within the FY, he/she is counted under both majors.

ELECTRICAL AND COMPUTER ENGINEERING

The Bachelor of Science degree in Electrical and Computer Engineering is offered only at the MSU Dubai instructional site. The program is designed to provide students with an opportunity to study electrical engineering and computer engineering including exploration of both hardware and software.

Requirements for the Bachelor of Science Degree in Electrical and Computer Engineering

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

The University's Tier II writing requirement for the Electrical and Computer Engineering major is met by completing Electrical and Computer Engineering 480. That course is referenced in item 3. b. below.

Students who are enrolled in the College of Engineering may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading **Graduation Requirements for All Majors** in the College statement. Certain courses referenced in requirement 3. below may be used to satisfy the alternative track.

2. The requirements of the College of Engineering for the Bachelor of Science degree. The credits earned in certain courses referenced in requirement 3. below may be counted toward College requirements as appropriate.

3. The following requirements for the major:

	CREDITS
a. One of the following courses:	1
CEM 161 Chemistry Laboratory I	1
PHY 191 Physics Laboratory for Scientists, I	1
b. All of the following courses:	43
CSE 232 Introduction to Programming II	4
CSE 260 Discrete Structures in Computer Science	4
CSE 331 Algorithms and Data Structures	3
ECE 201 Circuits and Systems I	3
ECE 202 Circuits and Systems II	3
ECE 203 Circuits and Systems Laboratory	1
ECE 230 Digital Logic Fundamentals	3
ECE 280 Electrical Engineering Analysis	3
ECE 302 Electronic Circuits	3
ECE 303 Electronics Laboratory	1
ECE 313 Control Systems	3
ECE 331 Microprocessors and Digital Systems	4
ECE 366 Introduction to Signal Processing	3
ECE 390 Ethics, Professionalism and Contemporary Issues	1
ECE 480 Senior Design	4
c. Complete a minimum of 21 credits from the following courses. Specific courses offered at the Dubai instructional site can be expected to be a subset of this list during an individual student's degree pursuit.	
(1) At least one of the following laboratory courses:	
ECE 402 Applications of Analog Integrated Circuits	4
ECE 404 Radio Frequency Electronic Circuits	4
ECE 410 VLSI Design	4
ECE 411 Electronic Design Automation	4
ECE 412 Introduction to Mixed-Signal Integrated Circuits	4
ECE 416 Digital Control	3
ECE 458 Communication Systems Laboratory	1
(2) At least one of the following courses:	
CSE 335 Object-oriented Software Design	3
CSE 410 Operating Systems	3
CSE 420 Computer Architecture	3
CSE 450 Translation of Programming Languages	3
CSE 471 Media Processing and Multimedia Computing	3
(3) At least one of the following courses:	
ECE 305 Electromagnetic Fields and Waves I	4
ECE 320 Energy Conversion and Power Electronics	3
ECE 423 Power System Analysis	3
ECE 442 Introduction to Communication Networks	3
ECE 457 Communication Systems	3
ECE 466 Digital Signal Processing and Filter Design	3
ECE 474 Principles of Electronic Devices	3

Students may use registered 'out of classroom' experiences to substitute for credits in this requirement. Students who complete a total of three experiences documented by pre-approved Engineering 393 or Electrical and Computer Engineering 490 or 499 credits, may reduce this requirement to 18 credits. All substitutions must be approved by the student's academic advisor.