MICHIGAN STATE UNIVERSITY

January 15, 2018

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, Enrollment Management, and Academic Initiatives

RE: Request to Phase Out and Discontinue the Bachelor of Science Degree in Computational Chemistry

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 University Committee on Undergraduate Education (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 committee members.

After receiving UCUE's consultative response, the Provost will make a determination to discontinue/not discontinue this program. Then, the program's curriculum and degree requirements referenced above will be included on the agenda for the April 17, 2018 meeting of Subcommittee A, University Committee on Curriculum (UCC). Requests that are approved by Subcommittee A on April 17 will be before the Full Committee, UCC, for action on April 26, 2018. Requests that are approved by the Full Committee on April 26 will be included in the September, 2018, Report of the UCC to the Faculty Senate.

If you have any questions about this memorandum or the attached materials, please contact Joy Speas, University Curriculum Administrator, at 5-8420.

Thank you.

Attachments:

1. Request for Discontinuation form dated December 12, 2017; Bachelor of Science Degree in Computational Chemistry 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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426 Auditorium Road
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517-355-8420
Fax: 517-355-9601

COLLEGE OF NATURAL SCIENCE

1. Request to delete the curriculum and degree requirements for the **Bachelor of Science** degree in **Computational Chemistry** in the Department of Chemistry. 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 2013. No students are to be readmitted to the program effective Summer 2018. Effective Spring 2021, coding for the program will be discontinued and the program will no longer be available in the Department of Chemistry. Students who have not met the requirements for the Bachelor of Science degree in Computational Chemistry through the Department of Chemistry prior to Spring 2021 will have to change their major.

(/)

Michigan State University Office of the Registrar

Main Menu

(ProgramsMenu.aspx)

Program Name: Computational Chemistry
Degree: BS Sequence Number: 3

Program Request ID: 3517

Effective Dates: Spring 2021 Status: Interim Initial Action: Deleted

Requested Date: 6/15/2017 10:18:50 AM

1. Department/School/College:

32142 .... Department of Chemistry

2. Name of Program:

Computational Chemistry

3. Name of Degree:

BS

4. Type of Program:

5. Effective Start Semester:

Spring 2021

Effective End date:

Spring 2021

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

None. The was one additional major in 2013 and no majors for the past 10 years.

Describe impact and explain what accommodations will be made:

n/a

Reason(s) for change(s):

There have been no majors in the degree for the past 10 years.

DEPARTMENT LEVEL APPROVAL STATUS

Approved: Department of Chemistry
10/24/2017 8:09:32 AM by Lynmarie Posey for Robert E. Maleczka, Chairperson

COLLEGE LEVEL APPROVAL STATUS

Approved: College of Natural Science
12/12/2017 8:58:59 AM by Shelby Gombosi for Gerard Mark Voit, Associate Dean

Enrollments and Awards By Program
Natural Science

Program - Description	Span		FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total	10 yr Diff.
3578 - Chemistry - Second Degree	FQ68-	Enrollments	16	15	11	12	16	17	12	13	6	6	124	-10
		Awards	2	6	5	3	2	2	2	4	3	0	29	-2
		%	13%	40%	45%	25%	13%	12%	17%	31%	50%	0%	23%	-13%
BS - Bachelor of Science														
3830 - Chemical Physics	FQ68-	Enrollments	7	6	10	10	8	10	7	6	6	8	78	1
		Awards	2	1	1	3	4	1	1	1	1	0	15	-2
		%	29%	17%	10%	30%	50%	10%	14%	17%	17%	0%	19%	-29%
3832 - Chemical Physics - Second Degree	FQ68-	Enrollments	1	0	1	2	0	0	4	5	5	2	20	1
		Awards	1	0	0	1	0	0	0	0	1	1	4	0
		%	100%	0%	0%	50%	0%	0%	0%	0%	20%	50%	20%	-50%
3579 - Chemistry	FQ68-	Enrollments	158	152	170	160	168	179	183	208	211	233	1,822	75
		Awards	17	19	21	18	22	26	17	28	21	29	218	12
		%	11%	13%	12%	11%	13%	15%	9%	13%	10%	12%	12%	2%
3580 - Chemistry - Second Degree	FQ68-	Enrollments	9	9	4	4	9	16	11	10	11	7	90	-2
		Awards	1	0	1	0	1	1	3	1	2	1	11	0
		%	11%	0%	25%	0%	11%	6%	27%	10%	18%	14%	12%	3%
3991 - Computational Chemistry	SS99-SS13	Enrollments	0	0	0	0	1	1	0	0	0	0	2	0
3993 - Computational Chemistry - Second Degree	SS99-SS13	Enrollments	0	0	1	1	1	1	1	0	0	0	5	0
		Awards	0	0	0	0	0	0	1	0	0	0	1	0
		%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	20%	0%
DUAL - Dual Major														
9808 - Chemistry	FQ68-	Enrollments	0	0	1	0	0	0	0	0	0	0	1	0
		Awards	0	0	0	1	0	0	0	0	0	0	1	0
		%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
MJSE - Teaching Major Sec Endorsement														
3585 - Chemistry	FQ68-	Enrollments	13	15	20	21	24	24	29	26	13	9	194	-4

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.

DRAFT

COMPUTATIONAL CHEMISTRY

Bachelor of Science

The Bachelor of Science degree program with a major in computational chemistry is designed to provide a thorough foundation in the various fields of chemistry and the related sciences, as well as a proper educational balance in the liberal arts. In addition, it provides a means for chemistry majors with an interest in the application of computers and computing in chemistry to obtain expertise in computer fundamentals. The program is for students planning careers in the chemical industries or in governmental laboratories and for those planning graduate study in chemistry.

Requirements for the Bachelor of Science Degree in Computational Chemistry

1. The University requirements for bachelor's degrees as described in the *Undergraduate Education* section of this catalog; 120 credits, including general elective credits, are required for the Bachelor of Science degree in Computational Chemistry.

   The University's Tier II writing requirement for the Computational Chemistry major is met by completing Chemistry 355, 395, 435, and 481. Those courses are referenced in items 3. b. (3) and 3. b. (4) below.

   Students who are enrolled in the College of Natural Science may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading *Graduation Requirements* 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 Natural Science 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.	The following courses outside the Department of Chemistry:			49 or 50
	(1) One of the following courses (3 or 4 credits):			
	BS	110	Organisms and Populations	4
	BS	111	Cells and Molecules	3
	ENT	205	Pests, Society and Environment	3
	MMG	205	Allied Health Microbiology	3
	PLB	105	Plant Biology	3
	PSL	250	Introductory Physiology	4
	ZOL	141	Introductory Human Genetics	3
	(2) All of the following courses (46 credits):			
	CSE	231	Introduction to Programming I	4
	CSE	232	Introduction to Programming II	4
	CSE	260	Discrete Structures in Computer Science	4
	CSE	320	Computer Organization and Assembly Language Programming	4
	MTH	132	Calculus I	3
	MTH	133	Calculus II	4
	MTH	234	Multivariable Calculus	4
	MTH	235	Differential Equations	3
	MTH	314	Matrix Algebra with Applications	3
	MTH	451	Numerical Analysis I	3
	PHY	183	Physics for Scientists and Engineers I	4
	PHY	184	Physics for Scientists and Engineers II	4
	PHY	191	Physics Laboratory for Scientists, I	1
	PHY	192	Physics Laboratory for Scientists, II	1
b.	The following courses in the Department of Chemistry:			46 or 47
	(1) One of the following pairs of courses (7 or 8 credits):			
	(a) CEM	151	General and Descriptive Chemistry	4
	CEM	152	Principles of Chemistry	3
	(b) CEM	181H	Honors Chemistry I	4
	CEM	182H	Honors Chemistry II	4
	(2) One of the following pairs of courses (4 credits):			
	(a) CEM	162	Chemistry Laboratory II	1
	CEM	262	Quantitative Analysis	3
	(b) CEM	185H	Honors Chemistry Laboratory I	2
	CEM	186H	Honors Chemistry Laboratory II	2
	(3) All of the following courses (32 credits):			
	CEM	351	Organic Chemistry I	3
	CEM	352	Organic Chemistry II	3
	CEM	355	Organic Laboratory I	2
	CEM	391	Molecular Thermodynamics	3
	CEM	392	Quantum Chemistry	3
	CEM	395	Analytical/Physical Laboratory	2
	CEM	411	Inorganic Chemistry	4
	CEM	415	Advanced Synthesis Laboratory	3
	CEM	434	Advanced Analytical Chemistry	3
	CEM	435	Analytical Chemistry Laboratory	2
	CEM	495	Molecular Spectroscopy	2
	(4) The following capstone course (3 credits):			
	CEM	481	Seminar in Computational Chemistry	3