UNIVERSITY OF MICHIGAN-FLINT
COURSE CHANGE REQUEST for GenEd Distribution

* * * This change is not effective for registration or publication until this request has been reviewed by the Provost.* * *

Change Effective for Term: Fall 2010	School/College: College of Arts and Sciences (CAS) Department: Chemistry and Biochemistry (CBM)	
Subject: CHM	Course Number: 443	Check here for NO CHANGE: ☐

☐ INACTIVATE Course ☐ INACTIVATE Crosslisting(s)

INSTRUCTIONS: ***Only where a change is requested****, please complete the Requested Change column below; leave other lines blank. Add separate page(s) if space provided is not sufficient for your response.*

AS CURRENTLY OFFERED	REQUESTED CHANGE
1. **Title:** Introduction to Computational Chemistry	**to:**
2. **Credit Hours:** (1).	**to:** Total ____ -or- Variable ____ to ____
3. **Repeat Status:** *(see* **CURRENT Course Description** *below)*	**to:** Max of ____ credits -or- _____
4. **Crosslisting(s):**	**to:**
5. **GE Distribution:** NOT GE OUTCOMES	**to:** FYE First Year Experience; CAP Capstone; H Humanities; S Social Science; GB Global Studies; F Fine Arts; HW Health&Well Being; FQ Finance&Qnt Lit; N Nat Science and / or; NL Nat Sci Lab; T Technology

6. **CURRENT Course Description:**
Introduction to use of computational chemistry software packages. Topics include the introduction to common quantum mechanics/molecular mechanics methods, elementary computational procedures, graphical methods, basic molecular modeling. No computer programming experience is required.

7. **NEW Course Description (as it should appear in the *Catalog*):**

UM-FLINT
RECEIVED
OCT 23 2009
College of Arts & Sciences
Dean's Office

REQUESTED BY:	REVIEWED BY:
Department Chair — Date 10/20/09	Catalog Editor — Date
Department Chair of Crosslist(s) or Prerequisite(s) — Date 10/20/09	Provost — Date
Dean — Date 10/27/09	Catalog Coordinator (Registrar's Office) — Date
an of Crosslist(s) or Prerequisite(s) — Date	
GECAC — Date	

REQUEST FOR GENERAL EDUCTION DISTRIBUTION DESIGNATION

Directions: Please indicate which learning outcomes will be addressed in this course (place the corresponding number and outcome where indicated). A minimum of five learning outcomes must be addressed for a course to be eligible for general education distribution designation. Please provide a brief narrative as to how the course objectives/key concepts address each learning outcome selected, and indicate what tools for assessment will be used.

Course Title: Introduction to Computational Chemistry		
Department: CMB	Course Prefix: CHM 443	Course Number: 22804

No. 1	Learning Outcome: Demonstrate the ability to think critically and creatively.

Narrative:

This laboratory intensive course will critically assess the applicability of computational methods (software packages, graphing, and molecular modeling) to problems related to industries and society. It will provide students with the essential theoretical background and practical skills required to perform computational analysis used to solve technical problems for the betterment of humankind. Upon completion of the course students should be able to conduct basic computational analysis, analyze the results, interpret the results, and report the results in a professional manner.

Assessment tools:

Assessment will include laboratory class observation, pre- and post-laboratory questions, laboratory reports and final practical exam.

No. 2	Learning Outcome: Develop manipulative and problem-solving skills.

Narrative:

This laboratory intensive course will critically assess the applicability of computational methods (software packages, graphing, and molecular modeling) to problems related to industries and society. It will provide students with the essential theoretical background and practical skills required to perform computational analysis used to solve technical problems for the betterment of humankind. Upon completion of the course students should be able to conduct basic computational analysis, analyze the results, interpret the results, and report the results in a professional manner.

Assessment tools:

Assessment will include laboratory class observation, pre- and post-laboratory questions, laboratory reports and final practical exam.

No. 3	Learning Outcome: Demonstrate the ability to use appropriate electronic tools for data collection, analysis of results and presentation of results.

Narrative:

This laboratory intensive course will critically assess the applicability of computational methods (software packages, graphing, and molecular modeling) to problems related to industries and society. It will provide students with the essential theoretical background and practical skills required to perform computational analysis used to solve technical problems for the betterment of humankind. Upon completion of the course students should be able to conduct basic computational analysis, analyze the results, interpret the results, and report the results in a professional manner.

Assessment tools:

Assessment will include laboratory class observation, pre- and post-laboratory questions, laboratory reports and final practical exam.

No. 4	Learning Outcome: Produce professional reports

Narrative:

This laboratory intensive course will critically assess the applicability of computational methods (software packages,

graphing, and molecular modeling) to problems related to industries and society. It will provide students with the essential theoretical background and practical skills required to perform computational analysis used to solve technical problems for the betterment of humankind. Upon completion of the course students should be able to conduct basic computational analysis, analyze the results, interpret the results, and report the results in a professional manner.

Assessment tools: Assessment will include laboratory class observation, pre- and post-laboratory questions, laboratory reports and final practical exam.

No. 5	Learning Outcome: Demonstrate ability to use computational methods to solve hypothetical or real-world problem.

Narrative:

This laboratory intensive course will critically assess the applicability of computational methods (software packages, graphing, and molecular modeling) to problems related to industries and society. It will provide students with the essential theoretical background and practical skills required to perform computational analysis used to solve technical problems for the betterment of humankind. Upon completion of the course students should be able to conduct basic computational analysis, analyze the results, interpret the results, and report the results in a professional manner.

Assessment tools:

Assessment will include laboratory class observation, pre- and post-laboratory questions, laboratory reports and final practical exam.