College of Science Curriculum Committee

Minutes

April 15, 2021

<https://unt.zoom.us/j/95077871426>

3:30 pm – 5:00 pm

**Voting**:

☒ Sushama Dandekar ☒ David Hoeinghaus ☒ Kris Sherman

☒ Nirmala Naresh ☒ Duncan Weathers

**Non-Voting**:

☐ Ed Dzialowski ☒ John Quintanilla ☒ Brittany Reiner

☒ Brandy Ellis

**Visitors:**

☐ Rebecca Weber

1. Welcome
2. Notes from UCC / Graduate Council
3. Undergraduate Program (for 2022-23 catalog)
   1. Department of Biological Sciences
   2. Department of Chemistry
4. **CHEM 1210: Problem Solving in Chemistry APPROVED**

[**https://unt.curriculog.com/proposal:9646/form**](https://unt.curriculog.com/proposal:9646/form)

**Proposed: 2022-23 New Course**

*Justification:*

*General Chemistry can be a difficult class for students, especially those that do not have a strong science and math background. The goal of this class is to provide extra support beyond the General Chemistry classroom. The application of foundational math skills will be emphasized, as well as study skills, test preparation, problem solving, and critical thinking skills. While all students can benefit from a reminder of these skills, there is not time within the General Chemistry curriculum to include explicit instruction in this. This course is intended to help students be successful in General Chemistry in their first attempt, as well as teach them skills that can be applied to all of their future chemistry (and other STEM) courses.*

1. **Chemistry, BA APPROVED**

[**https://unt.curriculog.com/proposal:9743/form**](https://unt.curriculog.com/proposal:9743/form)

**Proposed: 2022-23 Change in Program**

*Justification:*

*The Chemistry Department would like to add a 1 credit hour face-to-face First-Year Experience course as a required component of undergraduate degree plans for Chemistry majors. The course (CHEM 1400, Discover Chemistry) has already been approved by UCC and will be offered (but not yet required) in Fall 2021.  This course is aimed at incoming freshmen Chemistry majors, introducing them to the strategies for success and resources for help within the department, helping to establish a cohort of majors every year, and reinforce other aspects of being a chemistry major. The class will help introduce the importance of undergraduate research as well, providing students with the opportunity to get involved in research opportunities as soon as possible. This will help make our students more competitive in the job market by giving them hands-on experience outside of the classroom, as well as in applications to post-secondary schools.  Because of the importance of the skills learned in this class to students' future career success, the Chemistry Department feels it is important to make this course required for all first-year Chemistry majors.*

1. **Chemistry, BSCHM APPROVED**

**https://unt.curriculog.com/proposal:9742/form**

**Proposed: 2022-23 Change in Program**

*Justification:*

*The Chemistry Department would like to add a 1 credit hour face-to-face First-Year Experience course as a required component of undergraduate degree plans for Chemistry majors. The course (CHEM 1400, Discover Chemistry) has already been approved by UCC and will be offered (but not yet required) in Fall 2021.  This course is aimed at incoming freshmen Chemistry majors, introducing them to the strategies for success and resources for help within the department, helping to establish a cohort of majors every year, and reinforce other aspects of being a chemistry major. The class will help introduce the importance of undergraduate research as well, providing students with the opportunity to get involved in research opportunities as soon as possible. This will help make our students more competitive in the job market by giving them hands-on experience outside of the classroom, as well as in applications to post-secondary schools.  Because of the importance of the skills learned in this class to students' future career success, the Chemistry Department feels it is important to make this course required for all first-year Chemistry majors.*

* 1. Department of Mathematics

1. **Mathematics, BA (non-teacher certification) APPROVED**

[**https://unt.curriculog.com/proposal:9560/form**](https://unt.curriculog.com/proposal:9560/form)

**Proposed: 2022-23 Change in Program**

*Justification:*

*1. Math 4080 is a new course that will introduce more geometry content to the undergraduate course offerings. It covers axiomatic geometry rather than calculus based and will be the only real geometry course currently being offered. Differential Geometry is a typical course at other universities but is missing in our department. This course will provide additional experience for students in important topics in undergraduate mathematics education, including linear algebra and multivariable calculus, which are helpful for preparation for the math GRE. As a proof based class which is arguably less abstract and more intuitive than our other proofs based courses such as topology, differential geometry can provide a bridge for math majors from computational courses to more theoretical topics. The course also complements the course Math 3740 Vector Calculus, either as a follow up course for students interested in learning more vector geometry and calculus, or as an alternative for more advanced students who want a more challenging course.*

*2. The new data analytics certificate may acceptably replace a minor for interested students.*

*3. Allow more flexibility for the Science Requirement, as there are no longer any science class constraints imposed by the College of Science.*

1. **Mathematics, BA (teacher certification) APPROVED**

[**https://unt.curriculog.com/proposal:9691/form**](https://unt.curriculog.com/proposal:9691/form)

**Proposed: 2022-23 Change in Program**

*Justification:*

*1. Math 4080 is a new course that will introduce more geometry content to the undergraduate course offerings. It covers axiomatic geometry rather than calculus based and will be the only real geometry course currently being offered. Differential Geometry is a typical course at other universities but is missing in our department. This course will provide additional experience for students in important topics in undergraduate mathematics education, including linear algebra and multivariable calculus, which are helpful for preparation for the math GRE. As a proof based class which is arguably less abstract and more intuitive than our other proofs based courses such as topology, differential geometry can provide a bridge for math majors from computational courses to more theoretical topics. The course also complements the course Math 3740 Vector Calculus, either as a follow up course for students interested in learning more vector geometry and calculus, or as an alternative for more advanced students who want a more challenging course.*

*2. Allow more flexibility for the Science Requirement, as there are no longer any science class constraints imposed by the College of Science*

1. **Mathematics, BSMTH (non-teacher certification) APPROVED**

[**https://unt.curriculog.com/proposal:9692/form**](https://unt.curriculog.com/proposal:9692/form)

**Proposed: 2022-23 Change in Program**

*Justification:*

*1. Math 4080 is a new course that will introduce more geometry content to the undergraduate course offerings. It covers axiomatic geometry rather than calculus based and will be the only real geometry course currently being offered. Differential Geometry is a typical course at other universities but is missing in our department. This course will provide additional experience for students in important topics in undergraduate mathematics education, including linear algebra and multivariable calculus, which are helpful for preparation for the math GRE. As a proof based class which is arguably less abstract and more intuitive than our other proofs based courses such as topology, differential geometry can provide a bridge for math majors from computational courses to more theoretical topics. The course also complements the course Math 3740 Vector Calculus, either as a follow up course for students interested in learning more vector geometry and calculus, or as an alternative for more advanced students who want a more challenging course.*

*2. The new data analytics certificate may acceptably replace a minor for interested students.*

1. **Mathematics, BSMTH (teacher certification) APPROVED**

[**https://unt.curriculog.com/proposal:9701/form**](https://unt.curriculog.com/proposal:9701/form)

**Proposed: 2022-23 Change in Program**

*Justification: Add MATH 4080 to the Analysis Depth Requirements.*

*Math 4080 is a new course that will introduce more geometry content to the undergraduate course offerings. It covers axiomatic geometry rather than calculus based and will be the only real geometry course currently being offered. Differential Geometry is a typical course at other universities but is missing in our department. This course will provide additional experience for students in important topics in undergraduate mathematics education, including linear algebra and multivariable calculus, which are helpful for preparation for the math GRE. As a proof based class which is arguably less abstract and more intuitive than our other proofs based courses such as topology, differential geometry can provide a bridge for math majors from computational courses to more theoretical topics. The course also complements the course Math 3740 Vector Calculus, either as a follow up course for students interested in learning more vector geometry and calculus, or as an alternative for more advanced students who want a more challenging course.*

* 1. Department of Physics

1. **PHYS 3950 – Observational Astronomy APPROVED**

[**https://unt.curriculog.com/proposal:9632/form**](https://unt.curriculog.com/proposal:9632/form)

**Proposed: 2022-23 New Course**

*Justification:* *This course will be part of a suite of courses for an Astrophysics concentration offered by the Physics department.  Alternatively, the course can be taken individually and used as a Physics elective.*

*This course will describe multiple techniques used in modern observational astrophysics.  Astrophysics is a very popular topic among incoming students.  Thus, this course, as well as the Astrophysics concentration, can be used to recruit Physics majors to UNT.*

1. **PHYS 4750 – Galaxies and Cosmology APPROVED**

[**https://unt.curriculog.com/proposal:9678/form**](https://unt.curriculog.com/proposal:9678/form)

**Proposed: 2022-23 New Course**

*Justification:* *This course will be part of a suite of courses for an Astrophysics concentration offered by the Physics department.  Alternatively, the course can be taken individually and used as a Physics elective.*

*Astrophysics is a very popular topic among incoming students.  Thus, this course, as well as the Astrophysics concentration, can be used to recruit Physics majors to UNT.*

1. **PHYS 4980 – Galaxies and Cosmology APPROVED BY E-MAIL VOTE**

[**https://unt.curriculog.com/proposal:9678/form**](https://unt.curriculog.com/proposal:9678/form)

**Proposed: Experimental Course**

*Justification:* *This course will be part of a suite of courses for an Astrophysics concentration offered by the Physics department.  Alternatively, the course can be taken individually and used as a Physics elective.*

*Astrophysics is a very popular topic among incoming students.  Thus, this course, as well as the Astrophysics concentration, can be used to recruit Physics majors to UNT.*

1. **Astrophysics and Computation Concentrations APPROVED**

[**https://unt.curriculog.com/proposal:9699/form**](https://unt.curriculog.com/proposal:9699/form)

**Proposed: 2022-23 Add New or Delete Existing Major/Professional Field, Concentration, Option, Minor, Certificate, or Specialization**

*Justification: The Astrophysics and Computational concentrations will enhance a BS Physics degree.*

*Students have a tremendous interest in Astrophysics.  The Astrophysics concentration can be used to attract and retain students to earn a Physics degree.*

*Computational analysis is used not only in academic settings but also industry.  A Computation concentration will allow our students to be better equipped for their careers.*

* 1. Teach North Texas
  2. Interdisciplinary Program in Applied and Computational Science
  3. College of Science

IV. Graduate Program (for 2022-23 catalog)

1. Department of Biological Sciences
2. Department of Chemistry
3. Department of Mathematics
4. Department of Physics
5. Teach North Texas
6. Interdisciplinary Program in Applied and Computational Science
7. College of Science

V. Approve the minutes