LONG SIGNATURE SHEET

UNC CHARLOTTE

Proposal Number: BINF 2/17/2010

Proposal Title Topics Course for the Department of Bioinformatics and Genomics

Originating Department Department of Bioinformatics and Genomics

TYPE OF PROPOSAL: UNDERGRADUATE_____ GRADUATE ✓ UNDERGRADUATE & GRADUATE____

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
2/17/10	2/17/10	2/19/10	approved	DEPARTMENT CHAIR
2/19/10	2/19/10	2/26/10	approved	COLLEGE CURRICULUM COMMITTEE CHAIR
~~3/9/10~~	~~3/16/10~~			TEACHER EDUCATION COMMITTEE CHAIR (Teacher Education Program proposals only)
3/9/10	3/16/10	3/16/10	approved	COLLEGE FACULTY CHAIR
3/16/10	3/16/10	3/16/10	Approved	COLLEGE DEAN
				UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR (for undergraduate courses)
3-17-10	4-6-2010	4-7-10	Approved	GRADUATE COUNCIL CHAIR (for graduate courses) Rob Roy McGregor
				FACULTY GOVERNANCE SECRETARY (noting Faculty Council approval on Consent Calendar)
				FACULTY EXECUTIVE COMMITTEE (if decision is appealed)

COPY MADE Grad School 4-7-10

Revised 4/08/03
OAA/jdp

University of North Carolina at Charlotte BINF 2-17-10

Revised Graduate Curriculum

Course Proposal from: Department of Bioinformatics and Genomics.

"Topics Course for the Department of Bioinformatics and Genomics"

A. PROPOSAL SUMMARY AND CATALOG COPY.

1. SUMMARY. The Department of Bioinformatics and Genomics within the College of Computing and Informatics proposes to create two courses, BINF 6010 and BINF 8010*, "Topics in Bioinformatics", in its graduate curriculum to be repeatable for credit for future terms. The field of Bioinformatics and Computational Biology continues to change rapidly. These proposed courses are required to keep our curriculum abreast of these changes. The Topics course provides flexibility to incorporate current areas to be included in the Bioinformatics Professional Science Master's and IT PhD Bioinformatics Track curriculum. Their addition to the graduate curriculum is required to ensure that our students receive up-to-date training.

We propose to create the following classes:

BINF 6010/BINF 8010* – Topics in Bioinformatics

2. PROPOSED CATALOG COPY.

BINF 6010. Topics in Bioinformatics.

(3) Prerequisite: permission of department. Topics in bioinformatics and genomics selected to supplement the regular course offerings. A student may register for multiple sections of the course with different topics in the same semester or in different semesters. (On demand)

BINF 8010*. Topics in Bioinformatics.

(3) Prerequisite: permission of department. Topics in bioinformatics and genomics selected to supplement the regular course offerings. A student may register for multiple sections of the course with different topics in the same semester or in different semesters. (On demand)

B. JUSTIFICATION.

1. Need for proposed courses.
   The field of Bioinformatics and Computational Biology continues to change rapidly. These proposed courses are required to keep our curriculum abreast of these changes. The Topics course provides flexibility to incorporate current areas to be included in the Bioinformatics Professional Science Master's and IT PhD Bioinformatics Track curriculum. Their addition to the graduate curriculum is required to ensure that our students receive up-to-date training.

* Indicates this will be the new course number when the new Bioinformatics and Computational Biology PhD program is approved.

The Topics in Bioinformatics course will also provide a mechanism to help develop new courses.

2. Prerequisites and corequisites.
   The new classes require good standing within our PSM (BINF 6010) or Ph.D. (BINF 8010) program or permission of the instructor. These requirements are reasonable given the course content.

3. Justification of course numbering scheme.
   The proposed courses are offered with dual 6000/8000 numbers with second digits following the guidelines for course numbers described in the 2005-2007 Graduate Catalog. In addition, we have followed the numbering scheme from the rest of College of Computing and Informatics in which topics courses have "010" as the last three digits.

4. Improvements to the scope and quality of instruction.
   As outlined above, the creation of these courses will make our curriculum more relevant to recent changes in the biotechnology industry, will better reflect the skills and research interests of our growing department and will incorporate our experiences in teaching these courses to our growing graduate student population over the last several years.

C. IMPACT.

1. **Students served.**
   We currently have 20 Ph.D. students and 14 PSM students enrolled in our program. We anticipate another 3 Ph.D. students and 10 PSM students will enroll in the 2010-2011 academic year. Most of the students taking our classes are drawn from students in our degree programs, although we have also had significant enrollment from students in other graduate programs (including Biology and Computer Science) as well as post-baccalaureate students.

2. **Impact on other courses.**
   The proposed changes are new courses taught by our faculty.

   a. **When and how often the added courses will be taught**
      The additional courses will be taught at least once every academic year.
   b. **How the content and/or frequency will affect other courses**
      Offerings of other courses will be unaffected.
   c. **Anticipated enrollments.**
      We anticipate between 7 and 12 students enrolling in these courses in the near term. However, with the continued growth of our Ph.D. and PSM programs, we expect eventual enrollment to be 15-20 students in the BINF 6010/8010* course.
   d. **Effect of enrollment in other courses.**

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The courses offered by our department have little overlap with the efforts of other departments on campus and as such will not affect the enrollment of the courses of other programs.

e. **Experience offering these courses as special topics.**
Topics in Bioinformatics has previously been offered multiple times. It has been a useful course to introduce new tools, technologies, and subject areas. Topics in Bioinformatics (Biotechnology and Genomics Laboratory) has been offered as a special topics course in Fall 08 (with 5 students) by Jennifer Weller. The course was successful and is being offered again this Spring 2010 semester (with 10 students enrolled). Topics in Bioinformatics (Bioinformatics Programming III) is being offered this Spring 2010 semester (with 3 enrolled students by Anthony Fodor) and will be offered again in Fall 2010 (by Shannon Schlueter). Topics in Bioinformatics (Metagenomics) was offered in Spring 2009 (with 7 students enrolled). Many of these Topics in Bioinformatics courses were successful and are in the approval process of becoming official courses.

f. **Impact on catalog copy.**
We have drafted a catalog copy of these courses (see above) that should be inserted into the College of Computing and Informatics section of the catalog.

D. RESOURCES REQUIRED TO SUPPORT PROPOSAL.

1. Personnel

a. Specify requirements for new faculty, part-time teaching, student assistant and/or increased load on present faculty.

As described above, we have 12 active faculty within our department and plans to recruit at least 1 additional faculty member in the next year. We are adequately staffed to teach the newly proposed courses.

b. List by name qualified faculty members interested in teaching the courses.
We here list faculty interested in teaching the **new** class:

BINF 6010/8010*– Topics in Bioinformatics (All faculty)

2. Physical Facility. Our recently constructed Bioinformatics building has state of the art classroom facilities and student computer workrooms. All classes will be taught in this building.

3. Equipment and Supplies. No new equipment.

4. Computer. No new computer equipment is required beyond what is already in the Bioinformatics building.

5. Audio-Visual. No new audio-visual equipment is requested beyond the state-of-the-art presentation facilities in the Bioinformatics building.

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6. Other Resources. No other new resources are required for the teaching of these courses.

E. CONSULTATION WITH THE LIBRARY AND OTHER DEPARTMENTS OR UNITS.

1. **Library Consultation:** Not Applicable

2. **Letters from chairs.** See Appendix materials

F. INITIATION AND CONSIDERATION OF THE PROPOSAL

1. Originating Unit.

This proposal was originated by the department of Bioinformatics and Genomics on February 17, 2010.

2. Other Considering Units.

The proposal will be considered by the College of Computing and Informatics at the next faculty meeting.

G. **ATTACHMENTS:**

1. Proposal for BINF 6010/8010* – Topics in Bioinformatics

* Indicates this will be the new course number when the new Bioinformatics and Computational Biology PhD program is approved.

1. **Course number / title:** BINF 6010/8010* Topics in Bioinformatics

2. **Course description:** Topics in bioinformatics and genomics selected to supplement the regular course offerings.

3. **Pre- or co-requisites:** Permission of the department

4. **Objectives of the course:** The purpose of this course is to broaden students exposure to state-of-the-art technologies currently being utilized within the field of bioinformatics, and to guide them towards recognizing important, outstanding questions in specific scientific domains, and/or to give them hands-on training in conducting experiments within those domains.

5. **Instructional method:**. The course is presented in a lecture/demonstration format which will include the following elements as appropriate: video recording of presentations with student critiques, interactive demonstrations of methods to be applied in assignments, opportunities for student questions, and discussion.

6. **Means of student evaluation:** Evaluation will differ from course to course as well as instructor.

7. **Specify policies that apply to this course:**

    a. *University integrity:* All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code. The Code is available from the Dean of Students Office or online.[1] A set of links to various resources on plagiarism and how to avoid it is available at the UNCC Library website.[2]
    b. *Attendance:* Attendance at lecture is required, although exceptions will be made for reasons such as illness or family emergency. Excessive absences will result in a reduced classroom participation score at the instructor's discretion, and will negatively impact the overall course grade.
    c. *Grading policy:* Grades will be assigned on the following scale: A=90-100%, B=80-90%, C=65-80%, and U=0-65%.
    d. *Additional requirements:* Not applicable.

8. **Probable textbooks or resources:** Will vary according to the subject area – discretion of instructor.

9. **Topical outline of course content:** Will vary according to specific topic – discretion of instructor.

[1] http://www.legal.uncc.edu/policies/ps-105.html
[2] http://library.uncc.edu/display/?dept=instruction&format=open&page=920
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