Proposal for Fast-Track Bioinformatics M.S. Program

Minimum overall GPA  3.3
Minimum GPA in major  3.5

Note: At the time of this proposal, we only consider undergraduate majors from Biological Science, Microbiology, Chemistry, Computer Science, and Mathematical Sciences.

Research Experience: None required, but experience in bioinformatics related research preferred.

Specific Undergraduate Courses:

(A) Completion of two or more of the following courses with Grade B or better:
  1. Molecular Cell Biology (BIOL 3414)
  2. Organic Chemistry (CHEM 2325)
  3. Statistical Methods (STAT 2480) or Discrete Math (MATH 2300)
  4. Elementary Data Structure (CS 2401)
(B) Completion of at least 90 credit hours of undergraduate coursework at the end of that semester during which the application to Fast Track is submitted.

Review by an Admissions Committee: Required. Student should submit the following
  1. On-line application to the Bioinformatics Program
  2. Personal Statement describing their interests, experience, and career goals.
  3. Two letters of recommendation

What graduate courses may be taken as an undergraduate in the Fast Track Program?
Any required or elective graduate course for the Bioinformatics M.S. degree may be taken as an undergraduate in the Fast Track Program, provided that the student has completed the prerequisites of that course. Depending on the undergraduate major discipline, the student can choose up to 15 credit hours from the appropriate list of 5000 level courses to be counted as dual credits towards both their B.S. and M.S. degrees. It is emphasized that the student will only be allowed to take a 5000 level course when he/she has satisfied the prerequisites of that course.

Upon admission to the Fast Track Bioinformatics M.S. Program, the student will meet with the bioinformatics graduate advisor and his/her major undergraduate advisor to work out an approved list of graduate level courses to be taken as an undergraduate.

How many graduate credit hours you will accept?
Up to 15 hours of courses approved by the Graduate Advisor, with grades A or B.
Instructions

Fill out the attached form as follows:

1. Indicate the undergraduate and graduate academic programs in the college that agree to participate in the dual credit program.

2. Undergraduate students in the program must have successfully completed at least 90 hours of undergraduate coursework toward their major with a minimum of 24 of those hours at UTEP. Also, students must have and maintain the same GPA requirement in the major as for the university honor's certificate, which is an undergraduate GPA equal or greater than 3.30/4.00. Identify additional departmental admission requirements for the program.

3. Each participating undergraduate academic program must determine which 5000 level courses will count toward the undergraduate degree. Likewise, each participating graduate academic program must determine which 5000 level courses will be included in the fast track program. List the complete inventory of graduate courses that are approved for dual credit.

The completed form with original signatures must be submitted to Lucinda Zarate, Project Manager, Provost’s Office.
College: Science
Graduate Degree: M.S. in Bioinformatics
Undergraduate Degree: B.S. in Biological Sciences or B.S. in Microbiology

Dual Credit Program Admission Requirements:
Minimum GPA (3.30/4.00 or higher): 3.3 overall and 3.5 in major
Maximum Number of Graduate Credit Hours Allowed (up to 15 hours): 15
Other: Please see proposal

Graduate Course Inventory Approved for Dual Credit

Course Prefix & No. BINF/BIOL 5351 Title: Introduction to Bioinformatics I
Course Prefix & No. BINF/BIOL 5352 Title: Introduction to Bioinformatics II
Course Prefix & No. BIOL 5340 Title: Structure and Function of Macromolecules
Course Prefix & No. BIOL 5316 Title: Biosystematics
Course Prefix & No. BIOL 5326 Title: Advances in immunological Concepts
Course Prefix & No. BIOL 5329 Title: Physiology of the Bacterial Cell
Course Prefix & No. BIOL 5342 Title: Synthesis and Degradation of Macromolecules
Course Prefix & No. BIOL 5343 Title: Mechanisms of Cellular Toxicity
Course Prefix & No. BIOL 5344 Title: Molecular Pathogenesis

Biological Sciences Department Chair Date Bioinformatics Graduate Advisor Date
UTEP Graduate School
Fast-Track Dual-Credit Program
Courses Approved for Undergraduate and Graduate Credit

College: Science

Graduate Degree: M.S. in Bioinformatics

Undergraduate Degree: Chemistry

Dual Credit Program Admission Requirements:
Minimum GPA (3.30/4.00 or higher): 3.3 overall and 3.5 in major

Maximum Number of Graduate Credit Hours Allowed (up to 15 hours): 15

Other: Please see proposal

Graduate Course Inventory Approved for Dual Credit

Course Prefix & No. BINF/CHEM 5341 Title: Analysis and Modeling of Biological Structures
Course Prefix & No. CHEM 5329 Title: Contemporary Topics in Organic Chemistry
Course Prefix & No. CHEM 5339 Title: Contemporary Topics in Biochemistry
Course Prefix & No. CHEM 5342 Title: Physical Biochemistry
Course Prefix & No. CHEM 5321 Title: Advanced Organic Chemistry I
Course Prefix & No. CHEM 5322 Title: Advanced Organic Chemistry II

Chemistry Department Chair Date
Bioinformatics Graduate Advisor Date
UTEP Graduate School
Fast-Track Dual-Credit Program
Courses Approved for Undergraduate and Graduate Credit

College: ___________________________________________  Engineering; Science

Graduate Degree: _______________  M.S. Bioinformatics

Undergraduate Degree: _______________  B.S. in Computer Science

Dual Credit Program Admission Requirements:
Minimum GPA (3.30/4.00 or higher): _______  3.3 overall and 3.5 in major
Maximum Number of Graduate Credit Hours Allowed (up to 15 hours): _______  15
Other: ___________________  Please see proposal

Graduate Course Inventory Approved for Dual Credit

Course Prefix & No.  CS 5324  Title: Parallel and Concurrent Programming
Course Prefix & No.  CS 5336  Title: Scientific and Program Visualization
Course Prefix & No.  CS 5341  Title: Advanced Computer Architecture
Course Prefix & No.  CS 5350  Title: Advanced Algorithms
Course Prefix & No.  CS 5351  Title: Interval Computations
Course Prefix & No.  CS 5353  Title: Topics in Emerging Computing Paradigms
Course Prefix & No.  CS 5383  Title: Topics in Software Assurance

In addition, any other CS graduate course except CS 5380 will be acceptable for dual credit provided that it is approved by both the undergraduate advisor in CS and the graduate advisor in bioinformatics.

Computer Science Department Chair  Date  Bioinformatics Graduate Advisor

_________________________  2-24-12  ____________________________  5-24-12
College: Science

Graduate Degree: M.S. in Bioinformatics

Undergraduate Degree: B.S. in Mathematical Sciences

**Dual Credit Program Admission Requirements:**

Minimum GPA (3.30/4.00 or higher): 3.3 overall and 3.5 in major

Maximum Number of Graduate Credit Hours Allowed (up to 15 hours): 15

Other: Please see proposal

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**Graduate Course Inventory Approved for Dual Credit**

<table>
<thead>
<tr>
<th>Course Prefix &amp; No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>BINF/STAT 5354</td>
<td>Postgenomic Data Analysis</td>
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<tr>
<td>STAT 5428</td>
<td>Introduction to Statistical Analysis</td>
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<tr>
<td>STAT 5329</td>
<td>Statistical Programming</td>
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<tr>
<td>MATH 5335</td>
<td>Techniques in Optimization</td>
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<td>MATH 5330</td>
<td>Computational Methods of Linear Algebra</td>
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Mathematical Sciences Dept. Chair: [Signature] Date: 5/24/12

Bioinformatics Graduate Advisor: [Signature]