

Montgomery County Community College
BIT 298
Biotechnology Internship
6-1-15

COURSE DESCRIPTION:

In this course, the student will work under the guidance of a mentor at a local pharmaceutical or biotechnology company (or, if appropriate, an academic or clinical setting) to gain expertise in a research or manufacturing laboratory setting. The course will allow the student not only to gain a first hand work experience at the sponsoring institution but also allow him/her to make contacts necessary for gaining future employment. The lecture portion of this course will consist of topics related to the particular student internships occurring in the present semester. The students will learn to use and evaluate computer based genome databases. Other topics to be covered in the course include resume writing, networking and interviewing skills necessary for the biotechnology industry. Mock job interviews will be conducted with the students. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

REQUISITES:

- BIT 120 Introduction to Biotechnology
- BIT 123 Basic Techniques and Instrumentation for Biotechnology
- BIT 220 Biotechnology Research

Concurrent Course Requirements

None

COURSE COMMENTS

- Registration requires GPA of at least a 2.5 for all science courses and permission of the biotechnology coordinator
- Depends of availability of an internship position
- Internship pre-test or screening by the instructor
- Fulfillment of any additional selection criteria imposed by the sponsoring institution

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Demonstrate relevant job skills acquired in an internship at a biotechnology or pharmaceutical company (or, if appropriate, in an academic or clinical setting).	Group and Individual Discussions Related to Progress Observed During the Course of the Internship	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
2. Define the key operating segments of a biotechnology or pharmaceutical company.	Group and Individual Discussions Related to the biotechnology industry	Written and Oral Presentations Summarizing Internship Work Experience Mentor Evaluation of the Intern Written Assignment
3. Apply basic scientific methodology to define and solve problems in a group setting.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern
4. Communicate the details of the internship experience in both written and oral formats.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship and Data Analysis	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern
5. Analyze and describe the responsibilities of the internship position and the position held by the immediate supervisor.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship Resume Writing and Interviewing Sessions	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern
6. Synthesize a written job description report for the internship position and that of the immediate supervisor.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship Discussions on the Roles and Responsibilities of Various Positions within the Biotechnology Industry	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern Written Report
7. Evaluate the written job description reports as potential recruitment tools.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern
8. Generate a resume and conduct job interviews with the instructor and classmates.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship Resume Writing and Interviewing Sessions	Oral Presentations and Written Report Summarizing Internship Work Experience Mentor Evaluation of the Intern Written Assignment

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
9. Evaluate 2 genome databases.	Group and Individual Discussions Related to Progress Observed During the Course of the Internship Computer Genome Database and Bioinformatics Exercises	Written Assignment

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

A. LECTURE

1. Biotechnology Internship: Expectations and Outcomes
2. Laboratory Computer Tools – DNA and Protein Databases
3. Databases for Scientific Career Opportunities
4. Biotechnology and Pharmaceutical Sector Analysis
5. Bioinformatics and Drug Discovery
6. Unmet Medical Needs of the 21st Century
7. Resume Writing, Networking and Interviewing Skills
8. Practice Job Interviews and Oral Communication Skills

B. LABORATORY

The laboratory portion of this course will consist of a minimum of 15 hours/week as an intern at an appropriately chosen sponsoring institution, arranged by the course instructor and the student. The instructor will monitor progress of the internship throughout the semester. Both written and oral reports will be required at the end of the internship, as well as an evaluation by the mentor at the company.

LEARNING MATERIALS:

Reading materials such as scientific journal articles, on-line exercises and scientific databases will be used throughout the course.

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Prepared by: Linda R. Rehfuss, Ph.D. Date: 11/1/2004
Biotechnology Instructor

Revised by: Margaret Bryans, Ph.D. Date: 12/22/2012
Assistant Professor of Biotechnology

VPAA/Provost or designee Compliance Verification: Date: 6/10/2013
Victoria L. Bastecki-Perez, Ed.D.

Revised by: Margaret Bryans, Ph.D. Date: 10/26/2015
Assistant Professor of Biotechnology

VPAA/Provost or designee Compliance Verification: Date: 11/19/2015
Victoria L. Bastecki-Perez, Ed.D.

Revised by: Debbie Dalrymple Date: 12/17/2017
VPAA/Provost or designee Compliance Verification: Date: 1/8/2018



This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.