

BIOTECHNOLOGY (BT)

BT 302: Molec & Immuno Tech

Credits: 4

College: Jefferson College of Health Professions

Prerequisites: LS 302

Schedule Type: Lab

BT 303: Molecular Prep Techniques

Basic aspects of biotechnology laboratory work gel preparation, buffer composition, media preparation, streaking and isolating bacteria.

Lecture and laboratory.

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lab, Lecture, Lecture/Lab

BT 305: Survey of Biotech Applications

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lecture

BT 310: Fundamental Molec Techniques

Discussion, demonstration and practice of basic molecular techniques including DNA/RNA isolation, restriction digest, gel electrophoresis and blotting techniques. Lecture and laboratory. Co-requisite: BT 303/503

Credits: 4

College: Jefferson College of Health Professions

Schedule Type: Lab, Lecture, Lecture/Lab

BT 320: Cell Culture & Expression Syst

This course offers basic technique training to handle in vitro cell culture as well as cellular and molecular biological techniques. You will be introduced to the procedures and the underlying scientific principles of cell culture and recombinant protein expression in a variety of cell systems including yeast, insect, and mammalian cell lines. In addition, you will learn techniques to analyze cell phenotype and function (immunohistochemistry, immunofluorescence)

Credits: 4

College: Jefferson College of Health Professions

Schedule Type: Lab, Lecture, Lecture/Lab

BT 323: Biotechnical Chemistry

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lab, Lecture

BT 325: Product Development&Management

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lecture, Lecture/On-Line

BT 401: Systems Biology

Credits: 2

College: Jefferson College of Health Professions

Prerequisites: LS 302

Schedule Type: Lecture

BT 403: Human Genetics

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lecture, Lecture/On-Line

BT 405: Appld Microbial Biotechnology

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Lecture

BT 406: Bioinformatics

Credits: 2

College: Jefferson College of Health Professions

Schedule Type: Lecture, Lecture/On-Line

BT 410: Molecular Diagnostic Technique

Laboratory course introducing the student to clinical/diagnostic applications of molecular and biochemical techniques. Laboratory sessions include discussion, demonstration and hands on practice of: isolation of nucleic acids from biological samples, use of hybridization based assays in diagnostic procedures, preparation of probes, clinical application of PCR and RT-PCR, Western blot analyses, protein truncation test, electrophoretic and microarray analysis of genetic polymorphisms; next gen sequencing and proteomics utilization in diagnosis/prognoses determination of disease. An emphasis will be placed on students learning to follow procedures from the literature. Lecture content will provide students with an introduction to the theory and standards of practice of the molecular diagnostic laboratories as well as molecular pathology as it pertains to the development of diagnostic tests

Credits: 4

College: Jefferson College of Health Professions

Prerequisites: BT 310

Schedule Type: Lecture, Lecture/Lab

BT 411: Protein Purification & Charact

Course covers current methods and theories pertaining to fractionation and purification of proteins from cellular and recombinant sources; including ion exchange, affinity, and size-exclusion based methods. Methods of protein analysis are also discussed including various spectroscopic methods: NMR, fluorescence, mass-spectroscopy, and circular dichroism. Current topics in proteomics are discussed including methods for understanding protein-protein and protein-ligand interactions are covered. Applications in clinical, research and pharmaceutical areas will be discussed. Course will have both lecture and hands-on components

Credits: 3

College: Jefferson College of Health Professions

Prerequisites: BT 310

Schedule Type: Lecture, Lecture/Lab

BT 412: Biotechnology Practicum I

Credits: 3

College: Jefferson College of Health Professions

Prerequisites: BT 320 and BT 410 and BT 411

Schedule Type: Practicum

BT 416: Comprehensive Exam

Credits: 0

College: Jefferson College of Health Professions

Schedule Type: Exam, On-Line, Seminar

BT 422: Biotechnology Practicum II

Credits: 3

College: Jefferson College of Health Professions

Prerequisites: BT 320 and BT 411

Schedule Type: Clinical, Practicum

BT 432: Biotechnology Practicum III

Credits: 3

College: Jefferson College of Health Professions

Prerequisites: BT 320 and BT 411 and BT 410

Schedule Type: Clinical, Practicum

BT 442: Biotechnology Practicum IV

Credits: 3

College: Jefferson College of Health Professions

Schedule Type: Clinical, Practicum