

UMass BTP Lab Modules Taught to Date

3-D printing for Biotechnology Applications
Anaerobic Systems Microbiology
Analysis of DNA Methylation Using Pyrosequencing
Assessment of Macrophage Repolarization using Flow Cytometry
Automating Plant Transformations
Bioimaging
Bioreactors and Protein Analysis
Bone Marrow Hematopoietic Colony Forming Assay
Building a Microscope
Characterization of Bioconjugates and other Materials by Mass Spectrometry (MS)
CRISPR in IPS Cells
Designing & Building Fluidic Devices for Biomedical Research
DNA/RNA Nanotechnology & Aptamers
Drug Delivery
Fundamentals of AMNIS: Imaging Flow Cytometry
Glass Blowing
Hydrogen-deuterium Exchange Mass Spectrometry
Intro to Fermentation and High-Throughput Screening
Introduction to 3-D Printing
Introduction to Biomaterials and their Applications
Introduction to Cell Culture
Introduction to Genome Expression Analysis
Introduction to Synthetic Biology
IPython and the Systems Biology Knowledgebase (KBase)
Kinesin Motor Protein Purification and Biophysical Assessment
Live-cell Quantitative Fluorescence Microscopy
Modeling Cellular Metabolism and Processes
Molecular Modeling and Simulation Using Computational Approaches
Monoclonal Antibody Production
Multi-Color Total Internal Reflection Fluorescence and Super-Resolution Imaging
NMR Spectroscopy
Optical Trapping
Patch Clamp Electrophysiology
Polymer Analysis and Characterization: Applications for Engineered Biomaterials
Polymerase Chain Reaction (PCR)
Quantitative Fluorescence Microscopy and Image Analysis
Quantitative Reconstruction of Three-Dimensional Fluorescence Images
Signal Multiplexing with the MAGPix Platform
Skills for Scientific Communication
Structural Characterization of Biomaterials using Scattering
Topics on Fluorescence Spectroscopy: Fluorescence Lifetime Determinations
UMass Amherst Software Carpentry for Unix, Git, and R
Vitrobot CryoEM Module
Zebrafish Toxicity Assays