Winter Intersession 2018 MCB Professional Science Master’s Courses

We are offering 1 and 2 credit laboratory modules during the winter session 2018. One-credit modules are 2.5 days long and two-credit modules 5 days. These courses combine hands-on experiments with lectures on the theoretical background. Any number and combination of modules may be taken and the credits applied toward undergraduate or graduate degrees. Graduate tuition rates apply.

The modules are listed below. Please contact elaine.mirkin@uconn.edu for permission numbers. Seats are limited.

The two-credit MCB 5671 Microbial Genome Sequencing, Assembly and Annotation module utilizes the MinION Mk 1B from Oxford Nanopore Technologies (https://nanoporetech.com/products/minion) to obtain long reads. This is a very new technology that can provide long reads using an inexpensive Next Generation Sequencing instrument for a wide range of applications in eukaryotic and prokaryotic genomic studies. Students will learn how to assemble the nanopore reads and how to combine them with Illumina generated reads to improve the assembly. The genomes will also be annotated. Please contact joerg.graf@uconn.edu for additional information on these courses.

The one-credit MCB 5671 Advanced Liquid Handling and Sample Processing module will train students in the use of automated liquid handling robots from Eppendorf (EpiMotion 5073). In addition, students will learn how to use a fluorescent plate reader and a capillary gel electrophoresis system (QIAxcel). Students will also be trained in using multi-channel and electric hand-held pipettes. This course exposes and trains students using equipment not commonly available at universities and in teaching settings but that are used in companies to automated workflows and save on labor costs.

Please keep the following in mind. A request for a permission number and registration in any one of the courses is a commitment to complete the course. Please do not request a permission number until you are sure of your commitment. All of the courses are very popular and once a permission number is issued that spot is no longer available to another student.

Information on graduate tuition and fees for the winter session can be found on the Winter Session website under Fees and Dates.

INTERMEDIATE LEVEL (requires prior research experience or completion of MCB 5427 Introduction to Molecular Biology Techniques)

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MCB 5671-1 Advanced Theory and Practice of Laboratory Techniques in Microbiology – Microbial Genome Sequencing, Assembly and Annotation

2 credits
Enrollment limit 6
Instructors: Joerg Graf, Lidia Bek, and Sarah Goldstein
Room TLS 277 (January 3 to January 5, 2018) and BPB 201 (January 8 and January 9, 2018)

January 3, 2018: 9 a.m. to 5 p.m.
January 4, 2018: 9 a.m. to 5 p.m.
January 5, 2018: 9 a.m. to 5 p.m.
January 8, 2018: 9 a.m. to 5 p.m.
January 9, 2018: 9 a.m. to 5 p.m.
Contact elaine.mirkin@uconn.edu for permission number. Prerequisite is MCB 5427 Introduction to Molecular Biology Techniques or permission of instructor. In this module, each student will sequence, assemble and annotate a bacterial genome. The sequencing will be done using the new MinION from Oxford Nanopore Technologies. The data analysis will include de novo assembly as well as annotation. The data analysis will be done using a range of freely available and commercially available software.

MCB 5671-XXX Advanced Theory and Practice of Laboratory Techniques in Microbiology – Advanced Liquid Handling and Sample Processing
1 credit
Enrollment Limit 6
Instructors: Joerg Graf and Susan Janton
Room BPB 401 and BPB 402B
January 10, 2018: 9 a.m. to 5 p.m.
January 11, 2018: 9 a.m. to 5 p.m.
January 12, 2018: 9 a.m. to 12 p.m.
Contact elaine.mirkin@uconn.edu for permission number. Prerequisite is MCB 5427 Introduction to Molecular Biology Techniques or permission of instructor. Participants will learn how to program and use Eppendorf's EpiMotion 5073. In addition, students will learn how to use a fluorescent plate reader and a capillary gel electrophoresis system (QIAxcel). Students will also be trained in using multi-channel and electric hand-held pipettes.