

August 26, 2009/Bvk

Syllabus

Name of Course: BIO 354L (Microbiology Lab)
Time of Course: TH 1.30 pm to 5.30 pm
Room: HS G32

Contact info

The best way to reach me is to email in advance to set up an appointment. Otherwise find me in the labs (G32 teaching lab, G71 Research Lab) or office and we will schedule an appointment.

Email: birthe.kjellerup@goucher.edu
Office Phone: 410-337-3019
Cell Phone: 443-850-2674

Materials

Laboratory instructions for individual labs will be posted on Black Board ahead of each lab and copies will be handed out at the beginning of each lab. This procedure might change after the first weeks of the semester.

Laboratory Safety Equipment:

Safety glasses and lab coat. Purchase and bring to the first Lab on September 10, 2009.

Required Course Materials:

- Lab book
- Calculator
- Black "Sharpie" marker

Course Description

This course introduces the most general laboratory techniques used in microbiology by working with microbes commonly found in both environmental and clinical settings.

Criteria for grading:

- | | |
|-------------------------------------|-----|
| • Quality of Lab book & effort | 10% |
| • Winogradsky report/presentation | 25% |
| • ID of unknown report/presentation | 20% |
| • Biofilm report/presentation | 20% |
| • Lab reports and/or quizzes | 25% |

The final grade will not be given to each individual until incubators, fridges, freezers etc. have been emptied and waste has been autoclaved/disposed after the last lab.

The quality of your lab work includes how clean you keep your lab bench, whether you disinfect your lab bench before and after work, whether you dispose your waste after each lab and how properly your lab book is updated.

Overview – Lab activities

(This can be changed throughout September 2009).

Lab #	Date	Topics	Reports & Presentations
1	Sept 3	No lab – reading assignment	
2	Sept 10	Laboratory Safety Rules & Record Keeping Collection of sediment from Goucher Pond Setting up Winogradsky columns	
3	Sept 17	Aseptic Technique and Culture Transfer (Ex. 1-2) Preparation of Smears (Ex. 8) Parts of the Microscope (Ex 4) Observe Winogradsky columns	Lab report 1 is due (Set up of Winogradsky columns))
4	Sept 24	Gram Stain (Ex. 11) Observation of prepared slides of other staining techniques (Ex. 9, 10, 11) Determination of Bacterial Concentration (Ex 20) Observe Winogradsky columns	
5	Oct 1	Environmental Influences I: pH, osmotic pressure (Ex. 17, 42) Environmental Influences II: oxygen, temperature (Ex. 16, 18. and 19) Observe Winogradsky columns	Lab report 2 is due (Staining techniques)
6	Oct 8	Begin Biochemical Tests (Ex. 22,23, 24, 25, 26, 27, 29, 30, 31) Observe Winogradsky columns	Lab report 3 is due (Environmental influences)
7	Oct 15	Biochemical Tests (Ex. 22,23, 24, 25, 26, 27, 29, 30, 31) Unknowns** (Ex 33/Ex 71)— Streak for Isolation Observe Winogradsky columns	
8	Oct 22	Biochemical Tests continued (Ex. 22, 23, 24, 25, 26, 27, 29, 30, 31) Unknowns (Ex 33/Ex 71)—Begin Gram Stains Observe Winogradsky columns	Lab report 4 is due (Biochemical tests)
9	Oct 29	Differentiation Media (Ex. 15) Unknowns (Ex 33/Ex 71) Observe Winogradsky columns	Lab report 5 is due (Analysis of blood specimen)
10	Nov 5	Winogradsky project presentations (Mandatory)	Winogradsky report is due
11	Nov 12	Biofilms: Setting up different types of biofilms	
12	Nov 19	Biofilms: Effect of antibiotics	ID of unknown paper is due
13	Dec 3	Biofilms: EPS, lipid and protein etc. staining and quantification	
14	Dec 10	Biofilm presentations (Mandatory) Lab clean up	Biofilm report is due

**Biochemical Unknown Assignment: As part of the laboratory portion of this course, you will be asked to identify unknown organisms in a mixed culture using biochemical tests and techniques learned in class. You will be required to write about your work and results in the format of a scientific journal article. Specific guidelines and grading criteria for the assignment and the paper will be given at the time of the assignment.

Course Policies

Attendance

Since your effort (attendance and participation) counts as a part of your grade and you cannot complete the assignments without physical presence you are highly encouraged to attend all labs. Attendance will be taken and repeated absences are taken into consideration for border line grades and professionalism points.

Normal lecture days: If you are sick, please contact me via email before class starts. Otherwise you will be counted as “absent without reason”.

Presentation days: If you are sick, please contact me via phone or email as soon as possible AND prior to the exam, so we can find a solution. Otherwise you will be noted as “absent without reason” and receive a reduced grade.

Electronic devices

All electronic devices must be turned off during lectures and put away. They are not to be placed on the desk.

Late work

If you experience a high work load or other issues come up during the semester, please contact me as soon as this occurs, so we can make a plan avoiding late assignments. Late assignments will not be accepted after the assignments have been returned to students.

Reports, papers and presentations

The dates for reports, papers and presentations are listed in the syllabus and will be held on those dates. Please do not schedule appointments or commit to other obligations during these times. Presentations cannot be made up unless I grant you an excused absence due to a medical emergency or some other major unforeseen catastrophe.

In the event that the college is closed, due to bad weather or some other major problem, the scheduled presentation will be given during the first lab after the college reopens.

We will be communicating via email throughout potential long periods of college close-downs, so please check your email regularly in order to receive information on assignments etc., since the plans might change.

Academic Honor Code

Reminder: All students are bound by the standards of the Academic Honor Code, found at www.goucher.edu/documents/General/AcademicHonorCode.pdf