APBI 3135 / BIOL 3135 – Molecular Genetics

Course Outline Fall 2009

Instructor

Dr. Heidi Schraft

Biology, CB4015

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Office hours

Friday: 10:00 – 11:00 am

You can also email me to make an appointment.

Lab-Instructor and Teaching Assistant

Lab-Instructor and Teaching Assistant:

Lauren Davey

Email: ldavey@lakeheadu.ca

Lectures and Laboratory

Lectures Laboratory

Tuesday and Thursday Friday

14:30 – 16:00 11:30 – 14:30

ATAC 1006 CB 3010B

Evaluation	Description	Value
Class Participation (CPS)		10%
Laboratory		30%
Mid-Term Tests (2 @ 15%)		30%
Final Exam		30%

Textbook, Required Materials and Resources

Required Textbook:

Fundamental Bacterial Genetics
ISBN: 9780632044481
Author: Trun, Nancy Jo Publisher: Blackwell Science, Inc.
Edition: 1
Price: $101.99 (used $76.95)

Required Classroom Performance System (CPS): In addition to the book, you will need a CPS clicker and access code. Please see info below on options to purchase those.

NOTE: CPS clickers are DIFFERENT from the iClickers used in Dr. Law's Biochemistry course!

Required Laboratory Manual: Available in the bookstore.

In addition, relevant journal articles and books will be placed on reserve in the library
and/or posted on the Web-CT Course site (see below).

Purchasing of CPS clicker and access code

. In addition to the textbook, you will need to purchase a CPS clicker and CPS access.

The CPS clicker is available in the bookstore @ CDN $ 26.00.

When you register the clicker on-line, you will have to pay access fee of approx. US
$15.00.

Alternatively to paying the access fee on-line, you can purchase access at the bookstore
for CDN $24.95

If you already have a CPS clicker (through Education or from another course), you only need to register the clicker and pay the access fee of approx. US $15.00, or buy access from the bookstore for CDN $24.95.

. If you are taking both Biology 3770 and APBI / BIOL 3135 concurrently, you can use the same clicker in both classes. In this case, you should purchase access on-line (not the book discounted one). The discounted access will only be good for Biology of Food Safety (Biol 3770), while the “regular” access purchased on-line will be valid for all CPS courses you are taking in Fall 2009, i.e. both Biol 3770 AND APBI/BIOL 3135.

Web-CT

You will have access to a course homepage through Web-CT where you'll find course
updates, slides discussed during class, assignments and links to selected web-sites.
The site is expected to be available to students registered in the course on the first day
of classes.

To log into your course website:

Go to My Info (WebAdvisor) http://myinfo.lakeheadu.ca

1. Enter your Login/ID (your Lakehead University e-mail username) and your Password/PIN number.
2. Click on the course title to enter the course.
3. Alternatively, you can go to http://mycourselink.lakeheadu.ca (then enter your Lakehead
University e-mail username and password).
4. Cick on the course title to enter the course.

If you encounter any difficulties logging into the course site, please contact the Office of
Continuing Education and Distributed Learning at 346-7730 or email cedl@lakeheadu.ca

Academic Dishonesty and Plagiarism

This course will have a zero-tolerance for academic dishonesty and plagiarism. For
further information, please refer to the Code of Student Conduct and the Lakehead
University Calendar (Section IX).

What is Plagiarism?

Plagiarism is taking the ideas or words of others and passing them off as your own.
Plagiarism is a type of intellectual theft.

Plagiarism can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. Plagiarism can have serious consequences, so it is important that students be aware of what it is, and how to avoid it.

It is also plagiarism, to submit an assessment item that has already been submitted for academic credit elsewhere, or to knowingly permit your work to be copied by another student.

There are very serious penalties for plagiarism, ranging from re-submission, reduction of marks (including to zero), failure of the course, and exclusion from the university.

Schedule for Lectures

Date

Topic of Lecture

Textbook

Tests and Materials due

Thu, Sept. 10

Course Introduction

Bacterial Cell & DNA

Ch 1 & 2

Tue, Sept. 15

Bacterial Cell & DNA, GAPDH

Ch 1 & 2

Thu, Sept. 17

Mutations and DNA Repair

Ch 1 & 2

Tue, Sept. 22

Mutations and DNA Repair

Ch 3 & 4

Thu, Sept. 24

Mutations and DNA Repair

Ch 3 & 4

Last day to add

Tue, Sept. 29

Mutations and DNA Repair

Ch 3 & 4

From this day on, CPS work counted

Thu, Oct. 1

Recombination & Transposition

Ch 3 & 4

Tue, Oct. 6

Recombination & Transposition

Ch 5 & 6

Thu, Oct. 8

Mid-Term Test 1

Ch 5 & 6

Mid-Term Test 1

Tue, Oct. 13

Recombination & Transposition

Ch 5 & 6

Thu, Oct. 15

Bacteriophage & Transduction

Ch 7 & 8

Tue, Oct. 20

Bacteriophage & Transduction

Ch 7 & 8

Thu, Oct. 22

Plasmids and Conjugation

Ch 9 & 10

Tue, Oct. 27

Plasmids and Conjugation

Ch 9 & 10

Thu, Oct. 29

Mid-Term Test 2

Ch 9 & 10

Mid-Term Test 2

Tue, Nov. 3

Plasmids and Conjugation

Ch 9 & 10

Thu, Nov. 5

Transformation

Ch 11

Nov. 6: Final date for
course withdrawal without
academic penalty

Tue, Nov. 10

Transformation

Ch 11

Thu, Nov. 12

Gene expression and regulation

Ch 12

Tue, Nov. 17

Gene expression and regulation

Ch 12

Thu, Nov. 19

Gene expression and regulation

Ch 12

Tue, Nov. 24

Bioinformatics and Proteomics

Ch 15

Thu, Nov. 26

Bioinformatics and Proteomics

Ch 15

Tue, Dec. 1

Bioinformatics and Proteomics

Ch 15

Schedule for Laboratory

Date

Experiments and Lab Manual Reference

Tests & Materials due

Sept 11

Lab Safety & Gel Doc Training

Sept 18

DNA Extraction & Initial PCR (Ch. 1 & 2)

Pre-Lab Questions

Focus Questions Ch. 1

Sept 25

Nested PCR (Ch. 2)

Pour Agarose Gels (App. A)

Prepare Broth & Plates for Transformation (App. A)

Pre-Lab Questions

Oct 2

Electrophorsesis & Purification of PCR Products (Ch. 3 & 4)

Pre-Lab Questions

Focus Questions (Ch. 2, 3, 4)

Oct 9

Ligation & Transformation (Ch. 5 & 6)

Pour Agarose Gels (App. A)

Pre-Lab Questions

Focus Questions (Ch. 5 & 6)

Oct 16

Plasmid Purification (Ch. 7)

Pre-Lab Questions

Focus Questions (Ch. 7)

Oct 23

Gel Electrophoresis of Plasmid Purification (Ch. 7)

Prepare Sequencing Reactions (Ch. 8)

Pre-Lab Questions

Focus Questions (Ch. 7)

Oct 30

No Lab: Wait for Sequencing Results

Nov 6

No Lab: Wait for Sequencing Results

Nov 13

Bioinformatics of sequence data (Ch. 9)

Pre-Lab Questions

Focus Questions (Ch. 7)

Nov 20

Bioinformatics of sequence data (Ch. 9)

Pre-Lab Questions

Nov 27

No Lab, last day of classes

Breakdown of Laboratory Grade (worth 30% of course grade)

Description	Value
Pre-lab Questions (8 @ 1.5%)	12%
Focus Questions (6 @ 2%)	12%
Laboratory Performance and Participation:	6%

INSTRUCTIONS FOR CPS REGISTRATION

AND USE OF PAD

Class Name: Molecular Genetics F09

Class Key: K53840K253

You will need:

. Class Key (from your instructor)
. Connection to the Internet
. Enrollment Code/coupon (from your school bookstore) or
. Method of Payment (Credit card or personal check)

Enrolling through CPSOnline

If you enroll through CPSOnline, you will first need to setup a CPSOnline account. If you already
have an account, you can use that one.

Visit this website and follow instructions:

https://cpsonlinehe.einstruction.com/

If you prefer, you can also see detailed instructions in this pdf-file.

https://cpsonlinehe.einstruction.com/EnrollingThroughCPSOnline.pdf