

BCH 5413 ONLINE – Syllabus and Class Schedule -- Fall 2015

Eukaryotic Molecular Biology and Genetics

Drs. Nancy Denslow, Michelle, Gumz, Jianrong Lu, Amanda Welch,
and Thomas Yang (Course Coordinator)

This course is designed for graduate (or advanced undergraduate) students desiring a higher level survey course in molecular biology that is beyond an introductory course. Lectures and discussions will emphasize modern molecular, biochemical, and genetic approaches to solving problems of current interest in molecular biology. Students should have a working knowledge of introductory molecular biology such as that covered in Lehninger's Principles of Biochemistry; or Mathews & Van Holde, Biochemistry, etc. We do not recommend this course for students who have not had introductory molecular biology (e.g., BCH 4024 or its equivalent).

CREDIT: Three (3) hrs.

TEXTBOOK: *Molecular Biology*, by R.F. Weaver, 5th Edition, 2012. Reading assignments refer to this edition of the textbook.

WEB PAGE: All lecture notes, lecture videos, announcements, supplemental instructional material, etc. will be posted on the UF Canvas website under BCH 5413 (24BG) at the Academic Technology web site (<http://lss.at.ufl.edu/>). Lecture videos will be available for viewing beginning the day each lecture is scheduled (see Lecture Schedule below).

LECTURE NOTES: ALL faculty lecture notes for this course are available **ONLY** at the UF "Canvas E-Learning" site. All course-related files can also be found there. There is **NO** other approved course package.

EXAMS AND GRADING: There will be **three (3) exams** in this course. Exams will be held (see syllabus below) on Tuesday September 29, Thursday October 29, and Tuesday December 15 (final exam). NOTE: The final examination is also **NOT** cumulative. Grades in the course are determined entirely by performance on these three exams.

Examinations will be administered using an on-line proctoring mechanism through Proctor U (see below). We have opened up the time period from **8 AM to midnight** for tests to be administered on the indicated dates. It is anticipated that this exam schedule will provide sufficient latitude to meet the demands of varying student schedules. Note however, the exams must be completed during this time period. Exams are 2 hrs. long and must be completed within a continuous 2 hour window once the exam is started. So be sure to sign in to take the exam with sufficient time to complete before the testing window closes.

Distance examinations will be done using ProctorU (www.proctoru.com). We have included a PDF file on Canvas explaining the process of signing up for ProctorU. Note that this on-line proctoring service requires a computer that is connected to the internet and has a web-cam. The three 2 hr. examinations are each worth one hundred (100) points, with a course total of three hundred (300) points. Students' final letter-grades will be determined **SOLELY** on scores for these exams. Exams will cover the material discussed in the lecture videos, the assigned reading from the textbook, and any assigned supplementary material. A more detailed description of exams and grading criteria will be available at the Canvas E-Learning site. Information on UF grading policy is available at: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

There will be **NO MAKEUP EXAMS** in this course. Every student is expected to complete each exam only on the scheduled date during the time window allotted. The only exception will be for true medical emergencies, and written documentation from a physician, hospital, etc. will be required for such circumstances. Students requesting special-needs classroom accommodation must first register with the Dean of Students Office, which will provide documentation to the student, who then must provide this documentation to the course coordinator in the first week of the course.

Necessary Time Commitment and Management: As a distance learning class, it is expected that each student manages his/her own time. Recognize, however, that BCH 5413 is a demanding course and will require a substantial and diligent time commitment to do well. On-campus, BCH 5413 is a 3 lecture/week course; such a time commitment should be similar for distance learning students.

CONTACT INFORMATION: Questions about course organization and operation, including exams and grades, should be directed to Dr. Yang via email at tpyang@ufl.edu; please put “Online BCH5413” in the subject line of the email so your email does not get overlooked.

COURSE INSTRUCTORS: Help is available by email and appointment with each instructor.

Dr. Nancy Denslow - ndenslow@ufl.edu

Dr. Michelle Gumz - michelle.gumz@medicine.ufl.edu

Dr. Jianrong Lu - jrlu@ufl.edu

Dr. Amanda Welch - Amanda.Welch@medicine.ufl.edu

Dr. Thomas Yang (Course Coordinator) - tpyang@ufl.edu

Please use the email address tpyang@ufl.edu for general class matters

LECTURE SCHEDULE

<u>DATE</u>	<u>DAY</u>	<u>TOPIC</u>	<u>INSTRUCTOR</u>
Aug. 24	Mon	DNA/RNA Struc	Dr. Yang
26	Wed	DNA/RNA Blotting	Dr. Gumz
28	Fri	PCR; Arrays	Dr. Gumz
31	Mon	Cloning I – Vectors, cDNA	Dr. Gumz
Sept. 2	Wed	Cloning II – Genomic	Dr. Gumz
4	Fri	Site-Directed Mutagenesis	Dr. Welch
7	Mon	NO CLASS – LABOR DAY	-----
9	Wed	Recombinant Protein Expression	Dr. Gumz
11	Fri	DNA Sequencing	Dr. Yang
14	Mon	Genome Manipulation, Transgenics, Cloning I	Dr. Yang
16	Wed	Genome Manipulation, Cloning II	Dr. Yang
18	Fri	Chromatin Structure; DNA-Prot Interacts.	Dr. Yang
21	Mon	DNA Replication I	Dr. Yang
23	Wed	DNA Replication II	Dr. Yang
25	Fri	DNA Replication III	Dr. Yang
28	Mon	DNA Repair I	Dr. Lu
29	Tues	EXAM #1 (Lectures through Sept 25)	Proctor U
30	Wed	DNA Repair II	Dr. Lu
Oct. 2	Fri	DNA Recombination I	Dr. Lu
5	Mon	DNA Recombination II	Dr. Lu
7	Wed	Prokaryotic Transcription I	Dr. Yang
9	Fri	Prokaryotic Transcription II	Dr. Yang
12	Mon	Eukaryotic Transcription I	Dr. Yang
14	Wed	Eukaryotic Transcription II	Dr. Yang
16	Fri	Eukaryotic Transcription III	Dr. Yang
19	Mon	Epigenetics I	Dr. Yang
21	Wed	Epigenetics II	Dr. Yang
23	Fri	RNA Processing I	Dr. Yang
26	Mon	RNA Processing II	Dr. Yang
28	Wed	Translation I	Dr. Denslow
29	Thurs	EXAM #2 (Lectures through Oct 26)	Proctor U
30	Fri	Translation II	Dr. Denslow
Nov. 2	Mon	Translation III	Dr. Denslow
4	Wed	Protein Transport/Modifications	Dr. Denslow
6	Fri	NO CLASS - HOMECOMING	-----
9	Mon	RNA-mediated Gene Regulation	Dr. Gumz
11	Wed	NO CLASS – VETERAN’S DAY	-----
13	Fri	Genomics & The Encode Project	Dr. Yang
16	Mon	Cancer – Cell Cycle I	Dr. Lu
18	Wed	Cancer – Cell Cycle II	Dr. Lu
20	Fri	Cancer – Signal Transduction I	Dr. Lu
23	Mon	Cancer – Signal Transduction II	Dr. Lu
25, 27	Wed/Fri	NO CLASS – THANKSGIVING HOLIDAY	-----
30	Mon	Cancer – Tumor Viruses & Oncogenes	Dr. Lu
Dec. 2	Wed	Cancer – Tumor Suppressors	Dr. Lu
4	Fri	Cancer – Chromosomal Abnormalities	Dr. Lu
7	Mon	Cancer – Cancer Hallmarks	Dr. Lu
9	Wed	Cancer – Overview	Dr. Lu
15	Tues	EXAM #3 (Lectures through Dec 9)	Proctor U