

MGY311Y Molecular Biology. 2016-2017 Schedule

Room: MSB 2172. Mondays, Wednesdays and Fridays, 9:00 – 10:00 A.M. (except for the two term tests, which will start at 8:30 A.M.)

Term 1: September 12 to December 6, 2016.

1. Molecular Biology: core concepts and approaches. (Dr. Rick Collins)
Sept. 12 to Sept 30.
How science is done in molecular biology; the experimental basis of what we “know”.
Nucleic acid structure. Protein-nucleic acid interactions, specificity & affinity.
2. DNA Replication (Dr. Barbara Funnell)
Oct 3 – Oct. 21; except Oct. 10 (Thanksgiving: no lecture)
[DNA replication in E. coli - initiation, elongation, termination; protein machines;
eukaryotic DNA replication; regulation; replicating the ends of chromosomes]

First term test: Wednesday Oct. 26, 2016. 8:30 a.m to 10:00 a.m (15% of the course mark)

3. DNA Repair (Dr. Amy Caudy)
Oct 24 to Nov 14 (except Oct 26 midterm, and Nov 7 study break)
[mutagenesis; repair mechanisms]
4. Recombination. (Dr. Amy Caudy)
Nov 16 to Dec 5.
[Homologous, site-specific, and transpositional recombination in prokaryotes and eukaryotes].

Second term test: TBA during the Christmas exam period, sometime between Dec 9 and 20, 2016 (20% of the course mark)

Term 2. January 6 to April 5, 2017.

5. Transcription (Dr. Julie Claycomb)

Jan 6 to Jan 25.

[mechanisms of transcription - initiation, elongation, termination; initiation complexes in E. coli and eukaryotes; regulation of transcription]

6. RNA Processing. (Dr. Rick Collins)

Jan. 27 to Feb 17

[processing and modification of tRNA and ribosomal RNA precursors; catalytic RNAs; processing of mRNA precursors; non-coding RNAs; RNA editing; RNA silencing; RNA localization]

Third term test: Friday, Feb. 17, 2017. 8:30 a.m to 10:00 a.m (20% of the course mark)

Reading week: Feb. 20 - Feb. 24. No classes.

7. Translation and Post-translational processing. (Dr. Andrew Wilde)

February 27 – March 24.

[genetic code(s), tRNA and aminoacyl tRNA synthetases; structure of the ribosome; protein synthesis - initiation, elongation, termination; regulation of translation; secretion and targeting; post-translational modification]

8. Functional Genomics. (Drs. Julie Claycomb and Amy Caudy).

March 27 – April 5).

[integrative approaches to identifying gene functions].

Final exam: during the Final Exam period April 2017 (25% of the course mark).

Grading Summary.

15% Term test 1. Wednesday, Oct 26, 2016.

20% Term test 2. TBA Christmas exam period 2016.

20% Term test 3. Friday, Feb 17, 2017.

20% In-class quizzes and homework assignments: throughout the course.

25% Final exam. TBA: April, 2017.