



**BIO 6013 Genetics and Molecular Biology  
Fall 2016 Syllabus  
Online**

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**Instructor:** Dr. Victoria McCurdy  
113 Harned Hall  
Email: vmccurdy@biology.msstate.edu  
Phone: 662-325-9356  
Online office hours: Tuesday 5:30 – 6:30 p.m. or by appointment

**Course description/Learning objectives:** Analysis of the transmission of genetic information from molecular to organismal levels, and examination of ways in which genotype determines phenotype.

**Course materials:** All course materials will be accessed online through myCourses (<http://mycourses.msstate.edu>) using your MSU NetID and password. Lecture material will follow the textbook Genetics, Analysis and Principles (5<sup>th</sup> edition) by Brooker. Any recent edition of the textbook will be a good resource. The materials for each week will be available by 6:00 a.m. CDT on Monday.

Study questions and solutions will be posted for each topic. I strongly advise working through the study questions yourself before looking at the solutions.

**Links:** All links referenced in this syllabus can be accessed from the syllabus folder in myCourses.

**Requirements:**

- A computer with access to high speed internet. Your computer browser must be supported and configured properly for myCourses using the Check Browser feature on the myCourses website.
- A headset with a microphone is recommended if you would like to attend online office hours. However, you can also type into a text box.
- The necessary system and equipment requirements for using Proctor Track to take online exams (see Proctor Track student manual).

**Course communication:** Class correspondence will be via announcements on my courses or via your msstate.edu email address. Students are responsible for the information contained in these communications as long as the instructor has given 24 hours of notice.

**Office hours:** If you have any questions or concerns about the course material, you are encouraged to attend online office hours, which will be held via the Collaborate chat room in myCourses from 5:30 – 6:30 p.m CDT each Tuesday or by appointment. The Collaborate chatroom can be accessed via a link in the ‘Course learning materials’ folder for each module.

**Discussion board:** Please post any questions or concerns about class material to the discussion board. I will regularly respond to any questions posted on the discussion board. Individual student questions posed via email may be answered in the discussion board if the response will be beneficial to the rest of the class. In this case, identifying information will be removed prior to the discussion board posting.

**Students with disabilities:** Students requiring accommodations for a disability or a special need must register with the Office of Student Support Services (662-325-3335/<http://www.sss.msstate.edu/disabilities/>) to obtain a notification letter. Accommodations cannot be made without a notification letter.

**Examinations:** The course grade will be determined by the average percentage score from four of five examinations. There will be four mandatory exams and one optional final exam. Each exam is worth 100 percentage points. The lowest exam score will be automatically dropped. If a student elects not to take the final exam, then the final exam score of zero will automatically be counted as the drop grade. If a student fails to take one of the first four exams within the allowed timeframe, then the missed exam score of zero must be used as the drop grade, and the student must take the final exam.

Exams must be completed within the restricted timeframe stated in the schedule. If a student fails to complete an exam within the allowed timeframe, make-up exams will only be arranged for excused absences as listed in the MSU Academic Operating Policy 12.09 (<http://www.policies.msstate.edu/policypdfs/1209.pdf>). Official written documentation will be requested for verification of excused absences, so it is the student's responsibility to secure written documentation. Documentation must show that the student was unable to take the test on all of the available test dates. The content of a make-up exam may be different from that of the original exam.

**Exam conditions:** Exams are proctored using the Proctortrack system, and online exams will not be available to students unless this proctoring system is used. There will be an opportunity to test the system prior to taking each exam, so it is the student's responsibility to ensure that the system works properly each time. Students must adhere to exam conditions specified for each exam. More information for each exam will be available in the Exam Information folder in myCourses.

**Grading scale**

|            |   |
|------------|---|
| 90 – 100%  | A |
| 80 – 89.9% | B |
| 70 – 79.9% | C |
| 60 – 69.9% | D |
| 0 – 59.9%  | F |

**Cheating and academic misconduct:** All students must adhere to the MSU Student Honor Code. Definitions of academic dishonesty can be found in the MSU Student Honor Code pdf (<http://www.honorcode.msstate.edu/pdf/honor-code.pdf>). It is the student's responsibility to be familiar with the MSU student honor code and the definitions of academic dishonesty. I will follow MSU policy on sanctions for academic dishonesty.

**Technical support:** If any technical problems are encountered, please contact the ITS helpdesk via phone (662-325-0631 or 888-398-6394) or email (helpdesk.msstate.edu) from 7:30 a.m. – 12:00 a.m. Mon – Thur; 7:30 a.m. – 5:00 p.m. Fri; and 1:00 p.m. – 12:00 a.m. Sun.

(<http://www.its.msstate.edu/support/helpdesk>)

**Title IX:** MSU is committed to complying with Title IX. This means that MSU’s educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU’s Director of Title IX/EEO Programs at 325-8124 or by e-mail to [titleix@msstate.edu](mailto:titleix@msstate.edu). Additional resources are available at <http://www.msstate.edu/web/security>, or at <http://students.msstate.edu/sexualmisconduct/>.

**Disclaimer:** The instructor reserves the right to modify the course schedule if necessary during the semester.

### Tentative Schedule

| Dates                                  | Topic(s)  | Chapter(s)                        |
|--|---|-----------------------------------|
| Aug 16 - 21                            | Cell division / Simple Mendelian inheritance          | 3, 2,                             |
| Aug 22 - 28                            | Pedigree analysis                                     | 24 pp. 608 - 612                  |
| Aug 29 – Sep 4                         | Extensions of simple Mendelian inheritance            | 4                                 |
| <b>Sep 5 @ 6 am – Sep 11 @ 11 pm</b>   | <b>Exam I</b>   | <b>2 – 4 and 24 pp. 608 - 612</b> |
| Sep 12 – Sep 18                        | Genetic linkage/Non-Mendelian inheritance             | 6, 5                              |
| Sep 19 – Sep 25                        | Variation in chromosome structure and number          | 8                                 |
| Sep 26 – Oct 2                         | Structure of Nucleic Acid/Chromosome organization/DNA | 9, 10                             |
| <b>Oct 3 @ 6am – Oct 9 @ 11pm</b>      | <b>Exam 2</b>   | <b>5, 6, 8, 9, 10</b>             |
| Oct 10 – Oct 16                        | Replication/Transcription and RNA modification        | 11, 12                            |
| Oct 17 - 23                            | Translation/Gene regulation                           | 13, 15, 16                        |
| Oct 24 – Oct 30                        | Gene mutation & DNA repair/Cancer                     | 18, 24 pp. 619-630                |
| <b>Oct 31 @ 6 am – Nov 6 @ 12 am</b>   | <b>Exam 3</b>   | <b>11, 12 13, 15, 16, 18, 24</b>  |
| Nov 7 – Nov 13                         | Population Genetics/Quantitative Genetics             | 26, 27                            |
| Nov 14 – Nov 20                        | DNA Technologies/Biotechnologies                      | 20, 21                            |
| <b>Nov 21 @ 6am – Nov 30 @ 12am</b>    | <b>Exam 4*</b>  | <b>20, 21, 26, 27</b>             |
| <b>Dec 5 @ 6 am – Dec 11 @ 12 p.m.</b> | <b>FINAL EXAM</b>                                     | <b>Comprehensive</b>              |

\* Exam 4 will be available for an extended time period to accommodate the Thanksgiving break.