

**Department:** DGS

**Course No.:** 234W

**Title:** Diagnostic Molecular Technologies

**Credits:** 3

**Contact:** Susan Gregoire

**WQ:** W

**Catalog Copy:** DGS 234W Diagnostic Molecular Technologies. Both semesters. Three credits. Prerequisites: ENGL 105 or 110 or 111 or 250; MCB 200 or 213; and MLS 208 or MCB 211 which may be taken concurrently. Open only to Diagnostic Genetic Sciences students only.

DNA and RNA diagnostic technologies used in clinical settings; clinical applications in prenatal diagnosis, cancer management, transplantation, parentage testing, forensic medicine and infectious disease testing.

**Course Information:** Objectives: At the completion of this course, students should be able to meet the following objectives:

1. Introduction to Molecular Diagnostics
2. Understand Basic Molecular Biology Principles
3. Describe Specimen Collection, Handling, Preparation and Processing
4. Describe Molecular Technologies
5. Describe Molecular Diagnostic Testing
6. Describe Molecular Genetics
7. Discuss/Describe Molecular Oncology
8. Discuss/Describe Hematopathology
9. Discuss/Describe Infectious Diseases
10. Discuss/Describe Identity Testing
11. Define/Describe/Discuss Pharmacogenomics

Course Evaluation: The grading for this course will include the parts as detailed below.

- Four exams worth total of 50 %
- Student PowerPoint presentation worth 10%
- Cumulative Final Exam worth 20%
- 15-page Term Paper worth 20%

There will be no curving of grades. All grades will be counted, none will be dropped. You will be tested on the material contained in the instructor's presentations, and the content of assigned readings from the textbook or other sources. A "C" or better must be achieved on the term paper in order to successfully complete this course.

PowerPoint presentations will begin in the second half of the semester.

**W Criteria:** This course is currently a program requirement for the Diagnostic Genetic Sciences students. It already has a writing component. By adding a "W" section to this course, it will give students a "W" course that can satisfy the requirement for "Writing in the major". Therefore, through writing, students will be able to explicitly make connections between course material .

**Supplementary Information:** With the addition of 3 new pathway majors in the fall 06 semester , we would like to open select SAH courses to students in these new majors. We would like to include MLS 208W and DGS 234 in this group of courses. However, currently MLS 208W is used as the "Writing in the major" course for all our Lab Science majors. In order to accommodate the increased # of students and to decrease associated resources, we have a proposal forward to drop the "W" designation from the MLS 208 course. This will leave the DGS program without a "writing in the major" course. Additionally, DGS 234 will be available with permission as an elective for students in the new majors as a non-W section only. DGS 234 is an existing course and is a graduation requirement for all students in the Diagnostic Genetic Sciences Program. By adding a "W" section to this course, DGS major students receive credit for the writing that is already required of them and it will provide them with a " writing in the major course".

The idea is to offer 2 sections of this course per semester: 1 as a "W" for DGS majors and 1 as a non-W for others with permission. The sections will combine the didactic component but those registered for the "W" section will have a separate discussion time that incorporates the writing. This discussion time is limited to 19 students.