Midland College  
Syllabus  
2008-09  
BIOL 2416 Lab  
Introductory Genetics Lab  
4 Semester Credit Hours  
(3 Lecture/3 Lab)  

Course Description: This course is designed to enable students to become proficient in the following topics: the physical basis and the chemical basis of heredity, the laws of heredity and variation, mitotic and meiotic cell division, and the study of human diseases that are caused by genetic defects.

Text, References, and Supplies:  
1. Essentials of Genetics, Klug and Cummings, 4th, Prentice Hall  
3. Lab Manual for BiologyLabs On-Line, by Desharnais, Bell, and Palladino  
4. Supplemental Handouts (provided by the instructor)  
5. Computer disc  
6. Jacket (it’s cold in this room!!)

Student Contributions and Class Policies: Lab: Students will be expected to comply with the policies outlined in the Midland College student handbook. Instructor policies concerning attendance and academic behavior are consistent with the policies in the student handbook.

Students will be evaluated based on the results of examinations, assignments given throughout the semester as well as a laboratory portion. Your instructor will inform you on the first day of class as to the tentative dates and content for each laboratory. Students are expected to complete each lab. Your instructor will inform you on the first day of class as to make-up procedures for missed exams and any exemption procedures if they apply.

Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the MC Student Handbook on this subject.

Evaluation of Students:  
Lecture examination Average ........................................... 70%  
Laboratory examination Average .................................... 30%
Grading Policy:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
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<tbody>
<tr>
<td>7 Individual Lab Reports</td>
<td>10% each (70% total)</td>
</tr>
<tr>
<td>3 Group Lab Reports</td>
<td>10% each (30% total)</td>
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Due dates of each lab report are listed below. No lab report will be accepted later than ________________.

Grade Scale
A: 100 - 89.5, B: 89.4-79.5, C: 79.4-69.5, D: 69.4-59.5, F: below 59.5

Tentative Exam Schedule:

<table>
<thead>
<tr>
<th>Lab Report</th>
<th>Topic</th>
<th>Date due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Individual Probability Lab</td>
<td>________</td>
</tr>
<tr>
<td>2.</td>
<td>Individual Fly Lab Report</td>
<td>________</td>
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<tr>
<td>3.</td>
<td>Group Fly Lab Report</td>
<td>________</td>
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<tr>
<td>4.</td>
<td>Individual Karyotype and Electrophoresis Lab</td>
<td>________</td>
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<tr>
<td>5.</td>
<td>Individual Pedigree Case Studies</td>
<td>________</td>
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<tr>
<td>6.</td>
<td>Individual Pedigree Lab Report</td>
<td>________</td>
</tr>
<tr>
<td>7.</td>
<td>Group Pedigree Lab Report</td>
<td>________</td>
</tr>
<tr>
<td>8.</td>
<td>Individual Translation Lab Report</td>
<td>________</td>
</tr>
<tr>
<td>9.</td>
<td>Group Translation Lab Report</td>
<td>________</td>
</tr>
<tr>
<td>10.</td>
<td>Pedigree Presentation</td>
<td>________</td>
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</table>

Exam policy:
Each lab report will consist of completing form or worksheet using information gathered during the completion of each lab. Reports for a laboratory from a handout will involved completion of the associated worksheet. For the Biology Labs On-Line laboratory reports a lab report form will be provided through the Midland College computer for you to save to your personal disc and use as a guide. The Pedigree Presentation will be a required oral presentation.

Course Schedule:
This class meets for 1 lab hour per week.

Intellectual Competencies:

1. Reading - Understanding the material incorporated in the text used in this course will require the student to analyze and interpret various biological concepts.

2. Listening - the primary teaching methods used in this course are discussion and lecture. Understanding the oral presentation of material will require the student to analyze and interpret various biological concepts.

3. Critical Thinking - Critical thinking, as exemplified by problem solving, is inherent in the study of any scientific discipline. Biological problems will be considered, discussed, and analyzed in this course.
ADA Statement: Any student who, because of a disabling condition, may require some special arrangements in order to meet course requirements should contact the instructor as soon as possible. These conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request them and secure the proper authorizations.

Exemplary Objectives:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>BIOL 2416 Introductory Genetics</td>
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</tbody>
</table>

Competencies:

1. To understand and apply method and appropriate technology to the study of the natural sciences.

2. To recognize scientific and quantitative methods and the differences between these approaches and the other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.

3. To identify and recognize the differences among competing scientific theories.

4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.

5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Instructor Information:

Instructor:  
Office Phone:  
E-mail:  
Office:  
Office Hours:  
Division Dean: Dr. Margaret Wade, 125 SF, 685-4615  
Division Secretary: Ms. Norma Duran, 124 SF, 685-4612  
Ms. Brenda Smith, 124 SF, 685-6413