

Course Syllabus - Introductory Genetics 3200/5200 Section IA– Spring 2021

BIOL 3200, CRN 21979 - Genetics - 3 Credit Hours- Section IA.

Note there is no lab with this course.

This course is asynchronous and completely online.

Prerequisite: MATH 1113, BIOL 1107, BIOL 1108 or permission of the instructor.

Course description: A survey of modern genetics including Mendelian, and molecular genetics, as well as selected topics in evolutionary population and quantitative genetics and genetic engineering.

Professor: John F. Elder, 2088 Bailey Science, Phone (229) 333-5762

(I am completely off campus for spring 2021) I can be reached routinely at jfelder@valdosta.edu .

Email: jfelder@valdosta.edu

Office Hours: Office hours: Live online Wednesday & Thursday, 8:00 – 10:00 am and by appointment (via Class Blazeview Collaborate link). I have an open access policy; I encourage students to contact me whenever they may need help with the course. Please understand however that I will need you to arrange an appointment by email ahead of time.

Communication:

Email: Email is the simplest and primary way to contact me outside of class and is the quickest way for me to contact you as well. All email should be sent directly to jfelder@valdosta.edu. Make sure you identify the course you are in. You are required to check and maintain your Valdosta State University email account. I will only respond to your emails through this account.

Blazeview: I will routinely post grades, information, calendar dates and announcements on Blazeview. You will want to routinely check Blazeview regularly and often for relevant course information. **However, Do NOT email using the Blazeview system.**

Required Text:

Benjamin A. Pierce. Genetics Essentials: ebook with Sapling online learning system subscription. 4th Edition. W.H. Freeman & Company. (ISBN-13: 9781319108496, ISBN-10: 1319108490).

Additional Optional Materials:

Jung H. Choi & Mark E. McCallum. Solutions & Problem-Solving Manual for Genetics Essentials: Concepts & Connections. 2016. 3rd Ed. W.H. Freeman & Company. ISBN-13: 978-1-3190-2046-0

The Talking Glossary of Genetics @ the National Human Genome Research Institute (NIH):

<http://www.genome.gov/Glossary> Great resource for learning Genetic terms and definitions.

Course Objectives: Students are expected to demonstrate through their **performance on tests, quizzes, and homework problems** that they have learned a basic body of information and gained an understanding of the basic processes of genetics. Gaining an ability to logically understand and solve formal mathematical genetics problems is necessary and integral to this course. Students are responsible for the assigned reading material and all lecture materials on tests. A reasonable amount of study and problem practice time should be allocated to this course. A few hours study, the night before exams will not be sufficient to score well in this course. Achievement of the above objectives will be evaluated based upon the student's satisfactory completion of all class and homework exercises as well as performance on tests and examinations.

Blazeview: We will be using Blazeview throughout the semester for all class work and business. You must read all posted materials carefully and routinely check this site daily. I also use it as a tool for sharing class

and grade information. I will post course tentative grades as well as any necessary class materials and announcements. It is the student's responsibility to routinely check Blazeview for posted announcements and to review grades as they are reported. All official course information is located on Blazeview and students are expected to regularly access the Blazeview website. **"I didn't know" will not be an excuse for missing dates, deadlines or errors and no late assignments will be accepted.**

Note that I use the Blazeview site grade sheet only to report tentative grades to you. I do not use it to calculate final grades. I use a separate spreadsheet.

Also note that the instructor is required to file the last date of attendance for any student failing the course. In that case I will report the last date a student has submitted a graded assignment as evidence of attendance. This information is used by financial aid authorities to assess potential payback of aid funds. If you decide to leave the class, make sure you formally drop it through the appropriate procedure. **Failure to do so could potentially result in a student having to pay back financial aid money.**

Assessment/Grading policy: Final letter grades will be based upon a 10-point scale. Sapling Homework assignments will constitute 10% of the overall grade, online Sapling chapter quizzes will constitute 10% overall final grade and lecture exams will compose 80% of the overall grade.

1) **Four exams** (each counts equally, and the average will compose 80% of the overall class grade): Students will be tested on their knowledge, comprehension, and application of all lecture, assigned reading material, vocabulary and ability for genetic problem solving. There are four exams. The lowest exam score of the 4 will be dropped. Exams are multiple choice **scheduled and administered on Blazeview**. Exams will include both knowledge of factual material and problem-solving ability.

Special note: Exams will **require that students download the Respondus Lockdown Browser** from Blazeview onto their computer to access the test. Also note that exams cannot be taken on Chromebook computers. Anyone using a Chromebook must arrange to take exams on another machine.

2) **Online Homework sets** (average = 10%) The number and due dates of graded homework assignments will be determined and announced as need and class schedule develops. The purpose of homework sets is to develop skills needed for solving genetics problems on the tests. **No late or incomplete homework assignments will be accepted and will receive a grade of zero.**

3) **Online quizzes** (average = 10%): Short, Multiple choice Quizzes covering the text chapter and Powerpoint lecture concepts, problems and terminology will typically be assigned. **No quiz points will be given otherwise.**

Absentee policy: Don't miss exams or quizzes. Absolutely no makeup exams or quizzes will be given. A grade of zero will be assigned for all missed assignments. No late tests or course assignments will be accepted for a grade.

I assume that students in this class are adults and are responsible for their own participation and study habits. Students should also be aware of the following university policies that I have no choice in enforcing: **(1) Students who miss 20% of lecture time (as documented by submitted assignments and quizzes) will receive an automatic failing grade for the course. (2) Students who do not regularly participate in class by the proof role date will be automatically dropped from the class. (3) Students who neither drop nor participate in class by the midterm date will receive an automatic F for the course. Also note students are responsible for the text and lecture material on exams regardless of whether they participate in class routinely. It is unlikely that students can perform well on exams in this class with poor participation.**

BIOLOGY TUTORING: The **Academic Support Center (ASC)** at Valdosta State University is in **the VSU Odum Library** and is available to all students. The ASC provides free peer tutoring in core curriculum courses, including biology, chemistry, math, writing, and foreign languages. The ASC also provides free professional academic advising and on - campus job information in one location. **Call 333-7570** to make an appointment or visit the website: www.valdosta.edu/ssc.

Academic Honesty: This course adheres to the university policy on academic integrity as set fourth in the undergraduate catalogue Student Code of Ethics (pages 93-94): Any student caught cheating will receive an F on the assignment, possibly for the course and be reported to the Dean of Students.

Dropping A Course Without Penalty: In order to officially drop a course without penalty, a student must obtain and fill out a drop/add form from the Registrar's Office, acquire appropriate signatures, and return the completed form to the Registrar's Office before the designated date (published in the academic calendar). If you don't officially withdraw, and instead just stop coming to class, you will receive an F for the course. Please be aware of the university policy that limits the number of dropped courses to 5.

Family Educational Rights and Privacy Act: The Family Educational Rights and Privacy Act (FERPA) prohibit the public posting of grades by Social security number or in any manner personally identifiable to the individual student. No grades can be given by email or over the telephone, as positive identification cannot be made by this manner.

Access Office Statement: Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The **Access Office is located in Farbar Hall**. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu.

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: **Maggie Viverette, Director of the Office of Social Equity**, titleix@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

SOI Statement: At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available through SmartEvals. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Students who withdraw or drop a course will also be sent invitations to complete the Dropped Course Survey. Complete information about the SOIs, including how to access the survey, is available on the SOI Procedures webpage.

TENTATIVE SCHEDULE OF IMPORTANT DATES

Please note that test dates are tentative and may change depending on the rate at which material is covered. Tests may be postponed but will never be moved ahead.

January 11 First Class Day for spring 2021
January 14 Registration for spring 2021 ends (11:59pm)
January 18 Dr. Martin Luther King, Jr Holiday (University Closed)
January 19-22 Attendance Verification for VSU courses that begin on January 11
January 22 Attendance Verifications due at 9am
February 5-7 Exam 1 (Accessible Friday through Sunday)
February 16 Wellness Day 1
February 17-Mar 3 In-progress Grade Entry for full-term VSU courses
March 3 In-progress Grades Due at 5pm
March 4 Official Midterm for spring 2021
March 4 Students View In-progress Grades
March 5-7 – Exam 2 (Accessible Friday through Sunday)
March 11 Withdrawal Deadline for full-term VSU courses
March 17 Wellness Day 2
March 29 Registration Begins for fall 2021 (by classification)
April 1-4 – Exam 3 (Accessible Thursday through Sunday)
April 2 Wellness Day 3
April 15 Wellness Day 4
April 30-May 2 – Exam 4 (Accessible Friday through Sunday)
April 30 Last class day for spring 2021
May 3 Reading Day
May 3- May 10 Final Grade entry begins for spring 2021
May 4-7 Final Exams week
May 7 Graduate School Commencement Ceremony
May 8 Undergraduate Commencement Ceremony
May 10 Final Grades for spring 2021 due (9am)
May 11 Students View Final Grades in Banner after 5pm

Some Basic Class Expectations:

1. Students are **responsible for all course materials** covered in the text and in lecture.
2. **Turn in assignments on time.** No late assignments will be accepted for a grade.
3. **Do assignments exactly as instructed.** Turning in partial assignments will not be sufficient and will not be graded.
4. **Do not try to negotiate homework, tests, assignments or grades.** They are not optional, nor changeable. They must be complete.
5. Complete tests and assignments **before the deadlines.** Late access to tests will not be allowed except in extreme, documented emergencies. No late test will be allowed and a grade of zero will be assigned. Be aware, one is enough to fail the course.
6. **Do not wait until the last minute** to do assignments or tests. If one does, and trouble should occur, there is no time to correct the problem before deadlines expire.
7. **NO disruptive or disrespectful behavior** towards the instructor, class or fellow students will be tolerated (as defined in your student handbook, page 24). Anyone disrupting class will be asked to leave, perhaps permanently, may be dropped from the class or failed and this is solely at the instructors' discretion. **Believe it or not, this can happen in online courses!**

Course outcomes:

Departmental Outcomes as listed in the undergraduate catalogue (page 108):

The program of study in the Department of Biology has numerous desired outcomes. Examples of these outcomes include the following:

Educational Outcomes

1. Develop and test hypotheses, collect and analyze data, and present the results

and conclusions in both written and oral formats used in peer-reviewed journals and at scientific meetings.

2. Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships among the major taxa of life, and provide illustrative examples.
3. Demonstrate an understanding of the cellular basis of life.
4. Relate the structure and the function of DNA/RNA to the development of form and function of the organism and to heredity.
5. Interpret ecological data pertaining to the behavior of the individual organism in its natural environment; to the structure and function of populations, communities, and ecosystems; and to human impacts on these systems and the environment.

Specific course outcomes keyed to departmental and university expected educational outcomes:

By the end of this course, as demonstrated by performance on tests, homework problems and written laboratory reports, students will:

1. know and understand basic principles and relevant examples of Mendelian inheritance. **(departmental outcomes 1 through 5, university outcome 5).**
2. know and understand non-Mendelian principles and relevant examples of inheritance. **(departmental outcomes 1 through 5 university outcome 5).**
3. use both Mendelian and non-Mendelian principles to solve genetics problems. **(departmental outcomes 1, 2 and 5, university outcome 5).**
4. know and use basic rules of probability to predict the outcomes of various matings. **(departmental outcomes 1, 2 and 5, university outcome 5 and 7 university outcome 3, 5 and 7).**
5. use statistical methods to analyze data and test Mendelian hypotheses. **(departmental outcomes 1 and 2, university outcome 3, 5 and 7).**
6. understand the nature and function of the “gene” from the molecular to the phenotypic level. **(departmental outcomes 1 through 4 university outcome 5).**
7. know and understand DNA and RNA structure and function. **(departmental outcome 3, university outcome 5).**
8. know and understand basic gene regulation. **(departmental outcomes 2,3 and 4, university outcome 5).**
9. know and understand the value of allelic and other levels of genetic variation to individuals and populations. **(departmental outcomes 2, 4 and 5 university outcome 5).**
10. know and understand population genetic effects on gene pools and microevolution. **(departmental outcomes 2, 4 and 5, university outcome 5).**
11. know and understand the relevance of population genetic effects to macroevolution. **(departmental outcomes 1, 2 and 5 university outcome 5).**
12. use statistical methods to analyze population data sets to test evolutionary hypotheses relating to selection, migration, mutation and genetic drift. **(departmental outcomes 1, 2 and 5, university outcome 3, 5 and 7).**