

BIOL 3200: Introductory Genetics (3 credit hours). CRN # 21979
Valdosta State University, Biology Department, College of Science & Math
Spring 2023: Laboratory Syllabus

Instructor: Dr. John G. Phillips (he/him): (Office: BC 2210):
Phone: (229) 219-3594, Email: jphillips1@valdosta.edu

Lecture Times: **Mondays and Wednesdays: 3:30am–4:45pm – Bailey Science Center 1023**

Office (Student) hours **Tuesdays 1:45 PM – 2:45 PM** **Wednesday 2:30 PM – 3:30 PM**
Or by appointment (please send an email to my valdosta.edu account with
“appointment” in the subject line and I will accommodate as time permits).

Course Description: A survey of modern genetics, including Mendelian modes of heredity, extensions and variations on Mendelian genetics, chromosomal inheritance and variation, molecular properties of genes, and basic quantification of genetic diversity at the population level.

Pre- or Corequisites: BIOL 1107, 1107L, BIOL 1108, 1108L, and MATH 1112 or MATH 1113

Course Outcomes: Upon completion of this course the student should be able to:

- 1) Comprehend the basic terminology & principles of modern Mendelian Transmission Genetics from cellular meiosis to phenotype in the organism and relatedness to other sub-fields of genetics: **(BO2, BO3, GE4, GE7)**.
- 2) Extend upon basic Mendelian principles the understanding of chromosomal inheritance and how genes are regulated in an organism and quantified for a species within a population **(BO2, BO4, & GE4)**.
- 3) Solve basic and more complex Mendelian genetics in the form of ratios/probabilities, chi-square test, pedigrees, and quantitative population genetic problem sets **(BO1, BO4, BO5, GE3, GE5 & GE7)**.

VSU Biology Department Objectives:

BO1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral format used in peer-reviewed journals and at scientific meetings.

BO2. Describe the evolutionary process responsible for biological diversity, explain the phylogenetic relationships among the other taxa of life, and provide illustrative examples.

BO3. Demonstrate an understanding of the cellular basis of life.

BO4. Relate the structure and function of DNA/RNA to the development of form and function of the organism and to heredity.

BO5. Interpret ecological data pertaining to the behavior of the indi

demonstrate competence in reading and listening.

GE5. Demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices.

GE7.

Required Materials:

1) Benjamin A. Pierce. *Genetics Essentials: Concepts & Connections*. 2021. 5th Ed. W.H. Freeman & Company. ISBN-13 # 978-1-319-24492-7 OR 4rd Ed. ISBN-13 # 978-1-4641-9075-9 (very similar at least for a

Participation (10%): Class will often begin with a student driven “GENETICS IN THE NEWS!” segment and/or a participation quiz aimed at reinforcing past lessons or gauging understanding of upcoming topics. Students are also expected to participate during in-class activities designed to enhance understanding of the course material.

Mid-term, or in-progress grades: The instructor is required to submit in-progress grades prior to mid-term (**March 2nd, 2023**). In theory, a mid-term grade is necessary for students to assess how they are doing in class by midterm. In this course, at this date students will have feedback on several exams and in-class participation. Students will be assigned an overall average grade at this point on the normal scale of A-F viewable on Banner. Students receiving a grade of “D” or lower should therefore carefully evaluate their option of dropping this course by midterm without academic penalty. The deadline for withdrawal is listed in Banner about a week later. *NOTE: Some significant graded components for this class won’t be due until after mid-term grades are submitted. Therefore, poor performers will have the ability to improve upon these grades, while high performers are ill-advised to rest upon their laurels.

Notes on grading & studying: Students should note that a grade of "A" in this course represents an exemplary command of the material covered. To obtain this grade of excellence, it is recommended that students study daily and answer all “practice chapter questions” associated with the course material. The concept summaries, important terms, comprehension, application, and occasional challenge questions found accompanying each chapter are all helpful for study. Plus, the solutions and problem-solving manual will help you learn how to solve genetics problems or concepts quickly. If you read the text, attend lecture, and do all the homework you should do well in this course. The instructor reserves the right to curve grades based on overall class performance at the end of the semester. If time allows, your instructor may provide post-exam reviews in lecture. If needed, an out-of-class pre-exam study session may be scheduled per the instructor’s discretion.

Biology Tutoring: The Academic Success Center (ASC) at Valdosta State University is located in the 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 SSC 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/asc.

Attendance Policy: Students arriving late to lab or leaving early may be counted as present, but the student must discuss the absence with the professor that day after/during/before class. Absences resulting in >20% of missed time (i.e., six classes) may result in an automatic grade of F per University policy. Full absence regulations are available in the online catalog at <http://catalog.valdosta.edu/undergraduate/academic-affairs/>

Student identification: Students should always have their VSU student identification card. To verify the identification of students officially enrolled in the course, it is the instructor's prerogative to request official student photo identification cards at any time during lecture or during exams.

Privacy Act (FERPA): 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. Grades will be posted through Blazeview course website.

Access Office: Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Stude