GENETICS BIOL 305
Spring 2023

INSTRUCTOR: Agnes Ayme-Southgate
Office: Rita Hollings Science Center (RHSC) room 225
e-mail: southgatea@cofc.edu
Office hours: Monday through Thursday 10-11 am or by appointment

COURSE DESCRIPTION:
The basics of the science of heredity. The course encompasses Mendelian genetics, the molecular basis of inheritance, changes in chromosome number and structure, gene mapping, mutations, and population genetics. Population and quantitative genetic approaches are applied to clarify the understanding of evolution
LEARNING OUTCOMES:
- Understand the interpretation of genetic information (genotype) into a phenotype
- Acquire mastery of the genetics concepts governing the transfer and changes of genetic information.
- Become familiar with genetics databases and analysis tools.
- Develop critical and analytical skills through problem solving.

TEXTBOOK
No textbook required. Chapter material is available on OAKS
However if you really want to have an extra textbook, talk with me and I can recommend a few good ones.

EXPECTATIONS and WAYS TO BE SUCCESSFUL
Each module on OAKS provides information for a week, i.e. two lectures.
Each module contains one larger or a few shorter chapters. You are expected to come prepared to class by reading the assigned chapter(s) BEFORE class time.

I am also posting practice problems and their keys. Try and look at them as you read the chapter. Doing those more than once is a great approach. Practice the strategies used to solve the problems.

I will make available quizzes on OAKS for self-test. These will not be part of your grades, but I recommend using them to evaluate your understanding of the materials and your ability to solve problems in a set limited time.

I will follow a partial reverse teaching method, i.e. I will not teach all the material. We will use about half of each class time for activities and problem solving. You will need to be fully engaged in the class activities to be the best prepared for the test evaluation.
It is essential that you stay on top of the course assignments. I will post due dates and reminders, but it is on you to make sure that you don't get behind. The material is not easy and will take focused steady effort on your part to master. You should plan to dedicate 2-3 hours/day every day.

If you do not understand a concept, experiment, or how to solve a problem, do not give up. The best approach is to reach to your instructor immediately by email (southgatea@cofc.edu). I check my email regularly including on weekend and you can expect a response within 2-3 hours. We can chat in person or on zoom, whatever works best for you. The earlier the better as the material builds on itself, i.e. if you do not understand something at the beginning, it will drag you for the rest of the course.

Chin up! Genetics is a fantastic fascinating subject that touches our lives every day. Let us make it enjoyable and rewarding.

**TESTING**

1. **TESTS:** 40%
   There will be 3 tests during the semester. The final exam will count as a 4th test. Make up for missed tests will only be given with an extremely valid excuse and will be an oral exam.
   The top three grades will be worth 22% each. The lowest fourth test grade will be worth 16%. Total for 4 tests 82% of grade.
   Dates are posted on the accompanying schedule.

2. **Class activities/exercises (team-based) 18%**

**SCALE:**
92 and above A
90-91.9: A-
87-89.9: B+
83-86.9: B
80-82.9: B-
77-79.9: C+
74-76.9: C
70-73.9: C-
67-69.9: D+
64-66.9: D
60-63.9: D-
Below 60: F

COURSE COLLEGE POLICIES

Electronic devices: you will need a working computer. All software needed for the class activities are either available on-line or downloadable free of charge. We may use one of the department computer rooms for some activities.

Attendance policy: you are expected to come to every class, unless you are sick or in case of emergency. Only students officially registered (graded or auditing) for this course may attend class. During the week following the drop/add deadline, the professor will verify student enrollments in this course. Any student appearing on the class roll but determined not to have attended the class even once will be removed, except for cases where a student is absent because of quarantine or isolation due to COVID-19.

Academic Integrity Statement (3.12):
As members of the College of Charleston community, we affirm, embrace, and hold ourselves accountable to the core values of integrity, academic excellence, liberal arts education, respect for the individual student, diversity, equity and inclusion, student centeredness, innovation, and public mission. Congruent with these core values, the College of Charleston expects that every student and community member has a responsibility to uphold the standards of the honor code, as outlined in the Student Handbook. In pursuit of academic learning, you are expected to reference the work of other scholars, and complete your own academic work, while utilizing appropriate resources for assistance. Any acts of suspected academic dishonesty will be reported to the Office of the Dean of Students and addressed through the conduct process. Your adherence to these practices and expectations plays a vital role in fostering a campus culture that balances trust and the pursuit of knowledge while producing a strong foundation of academic excellence at the College of Charleston. Any questions regarding these expectations can be clarified by your instructor.

Land and Labor Acknowledgement
We are located on the traditional lands of the first people of Charleston: the Etiwan, Kiawah, Edisto Natchez Kusso, Santee, and Wassamassaw people (also known as Varner Town Indians). We acknowledge and honor all indigenous people who lived, labored and were faithful stewards of the land. We express our deep gratitude for the land and continued faithful stewardship to the next generations.

We also acknowledge the lives and labor of the Africans who were enslaved to build Charleston, South Carolina. On this campus and in this space, African and African-descended people used skilled labor in ornamental ironwork, historic architecture, and low country agriculture and food production. As a member of the College of Charleston community, I acknowledge the Black lives and labor that built our city and our campus.

### Accommodations for Students with Disabilities (3.11):
The Center for Disability Services/SNAP is committed to assisting qualified students with disabilities achieve their academic goals by providing reasonable academic accommodations under appropriate circumstances. If you have a disability and anticipate the need for an accommodation in order to participate in this class, please connect with the Center for Disability Services/SNAP. They will assist you in getting the resources you may need to participate fully in this class. You can contact the Center for Disability Services/SNAP office at 843.953.1431 or at snap@cofc.edu. You can find additional information and request academic accommodations at the [Center for Disability Services/SNAP website](http://www.coastal.edu/disabilityservices/snap).

### OAKS (3.10, for all instructional modalities)
OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

### Inclement Weather, Pandemic or Substantial Interruption of Instruction (3.8)
If in-person classes are suspended, faculty will announce to their students a detailed plan for a change in modality to ensure the continuity of learning. All students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.
F2F courses when students are quarantined/isolated due to Covid-19

If one or more students are absent for an extended period of time due to COVID-19 (quarantine or isolation), instructors may, at their discretion, conduct the class exclusively online via OAKS for the duration of student quarantine/isolation, record class lessons to share with students, or choose an alternate accommodation that provides the impacted student(s) with the opportunity to continue in the course. The specific accommodation will vary depending on the number of students affected, the expected duration of their absence, and the needs of the class.

Diversity and Inclusion in the classroom

I am committed to creating an inclusive and accessible classroom environment for all students. I view the diversity that students bring to this class as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, generational status, socioeconomic status, ethnicity, race, religious background, and immigration status. Any suggestions for promoting a positive and open environment will be appreciated and given serious consideration.

I will gladly honor your request to address you by the name and gender pronouns of your choice. Please advise me of this early in the semester via your college-issued email account or during office hours so that I may make the appropriate notation on my class list.

Inclusion

The Multicultural Student Programs and Services provides a safe haven for students to develop connections with other students. It exists to help students be successful, provide advocacy, support services, and culturally based programs that educate about diversity and multiculturalism and empower them to be agents of social change in an increasingly diverse and global community.

The College of Charleston offers many resources for LGBTQ+ students, faculty, and staff along with their allies.

Preferred Name and Pronoun Information
On Campus Gender Inclusive facilities
Campus Resources
College of Charleston Reporting Portals
In keeping with the College of Charleston’s core values of diversity, equity and inclusion, the Cougar Inclusion Team (CIT) provides education, information, and recommendations regarding support resources to members of the campus community who have experienced exclusion or bias. The CIT works to support members of our campus community who report concerns by listening, discussing resources, providing guidance on resolution options, conducting education, and collecting information about occurrences on our campus. A report to the CIT team helps us better understand our campus climate, informs our educational and infrastructure opportunities to address concerns that are shared, and fosters an environment where everyone feels welcome. More information about the CIT, including how to report an exclusion or bias incident can be found here: Purpose - College of Charleston (cofc.edu)

**Mental & Physical Wellbeing**
We take every student’s mental and physical wellbeing seriously. If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at CofC Counseling Center or 843.953.5640 3rd Floor of Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, or meet with them in person 411 (4th Floor) Stern Center). Learn more about Students 4 Support on CofC’s Hub. These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

**Food & Housing Resources**
Many CofC students report experiencing food and housing insecurity. If you are facing challenges in securing food (such as not being able to afford groceries or get sufficient food to eat every day) and housing (such as lacking a safe and stable place
to live), please contact the Dean of Students for support (SALT - Student Affairs Leadership Team). Also, you can go to Student Food and Housing Insecurity to learn about food and housing assistance that is available to you. In addition, there are several resources on and off campus to help. You can visit the Cougar Pantry in the Stern Center (2nd floor), a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need. Please also consider reaching out to your Professor if you are comfortable in doing so.

Religious Accommodation for Students (4.6):
(Faculty/Administration Manual VIII.A.10)

The College of Charleston community is enriched by students of many faiths that have various religious observances, practices, and beliefs. We value student rights and freedoms, including the right of each student to adhere to individual systems of religion. The College prohibits discrimination against any student because of such student’s religious belief or any absence thereof.

The College acknowledges that religious practices differ from tradition to tradition and that the demands of religious observances in some traditions may cause conflicts with student schedules. In affirming this diversity, like many other colleges and universities, the College supports the concept of “reasonable accommodation for religious observance” in regard to class attendance, and the scheduling of examinations and other academic work requirements, unless the accommodation would create an undue hardship on the College. Faculty are required, as part of their responsibility to students and the College, to ascribe to this policy and to ensure its fair and full implementation.

The accommodation request imposes responsibilities and obligations on both the individual requesting the accommodation and the College. Faculty members are expected to reasonably accommodate individual religious practices. Examples of reasonable accommodations for student absences might include: rescheduling of an exam or giving a make-up exam for the student in question; altering the time of a student’s presentation; allowing extra-credit assignments to substitute for missed class work or arranging for an increased flexibility in assignment dates. Regardless of any accommodation that may be granted, students are responsible for satisfying all academic objectives, requirements and prerequisites as defined by the instructor and by the College.
## 2022 – 2023 Religious Holidays

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<thead>
<tr>
<th>Date</th>
<th>Holiday</th>
<th>Religion</th>
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<tbody>
<tr>
<td>February 22, 2023</td>
<td>Ash Wednesday (Beginning of Lent)</td>
<td>Christian</td>
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<tr>
<td>February 27, 2023</td>
<td>Eastern Orthodox Beginning of Lent</td>
<td>Orthodox Christian</td>
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<tr>
<td>March 7, 2023</td>
<td>Purim(^2)</td>
<td>Jewish</td>
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<tr>
<td>March 21, 2023</td>
<td>Naw-Rúz</td>
<td>Baha’i</td>
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<tr>
<td>March 23 – April 20, 2023</td>
<td>Ramadan</td>
<td>Muslim</td>
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<tr>
<td>April 6 – April 13, 2023</td>
<td>Passover(^2)</td>
<td>Jewish</td>
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<tr>
<td>April 7, 2023</td>
<td>Good Friday</td>
<td>Christian</td>
</tr>
<tr>
<td>April 14, 2023</td>
<td>Good Friday (Orthodox)(^3)</td>
<td>Orthodox Christian</td>
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<tr>
<td>April 21, 2023</td>
<td>Ridván</td>
<td>Baha’i</td>
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<tr>
<td>April 21 – April 22, 2023</td>
<td>Eid al-Fitr</td>
<td>Muslim</td>
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