

BRAZOSPORT COLLEGE
SYLLABUS for Spring Semester 2021 Genetics *Online* Lecture
BIOL2316.40 [Section 40; Reg# 3069 *Online with Zoom office hours*]

☞ **Associate Professor Isaiah G. Schauer, Ph.D.**

☞ **Chair of the Division of Mathematics & Life Sciences**

- **Office:** Sadler Health Professions/Science Complex, Life Science Office, HS-225L
- **Zoom office hours:** posted on D2L (as a PowerPoint slide); vary by semester
- **Google office phone:** (361) 317-2292
- **College website profile:** <http://bit.ly/2tN7r24>
- **BC mail:** Isaiah.Schauer@brazosport.edu

☞ **Life Science Division AOS:** Mrs. Debbie Duncan, HS-225K, (979) 230-3225

☞ **Lecture Classroom:** Zoom (with your choice of background)

☞ **myBC:** <https://mybc.brazosport.edu/ics> - To check your BC Mail, link to D2L Virtual Campus, check Course Catalog & Schedule, or view your course grades & GPA

☞ **D2L Virtual Campus:** <https://online.brazosport.edu> – click on “**BIOL2316-ISCHAUER-Online**”, then click on “**Content**” (Note: I don’t respond to emails sent within Virtual Campus)

Course Description: Provides a balanced introduction to the principles of classical and molecular genetics, emphasizing the concepts of Mendelian inheritance patterns, population genetics, genetic engineering, and micro & macro evolutionary principles. Also, will introduce students to how genetics impacts their lives, from how gene mutations affect human health & disease to how the future of agriculture will be impacted by genetics. This class will also emphasize critical thinking and application of the genetic principles listed above. Students intending to major in a life science, pre-med, health science or biomedical science at the baccalaureate level will build their intellectual knowledge base with genetics information for future success.

Prerequisite: General Biology I with a grade of C or better

Course Textbook:

Essentials of Genetics, Loose-leaf, 10th Edition, W. Klug *et al.*, Pearson publishing
ISBN 9780135209882

☞ 9th edition is acceptable; some discrepancies in lecture slide figures and page numbers

☞ **Our textbook is available at independent retailers, including online retailers, for a cheap price.** Required course materials are available at the Brazosport College bookstore, on campus or online at <http://www.brazosport.edu/bookstore>. A student of this institution is **not under any obligation** to purchase a textbook from the college bookstore.

Supplementary Materials:

☞ *The Stuff of Life – A graphic guide to genetics and DNA*, 1st Edition, 2009, Shultz, Canon & Canon, Hill and Wang Publishing (~\$8-12 on Amazon)

Paperback ISBN-13: 9780809089475

- 🔗 <http://www.dnafb.org/> A simple primer on genetics put together by the DNA Learning Center at Cold Spring Harbor Laboratory. The beginning modules are simplistic and formatted for a younger student, but you'll find that the difficulty increases quickly, as does the interesting examples and thought-questions.

Course Goals:

1. Students will become familiar with basic Genetics principles, theories, and terminology and become aware of the vibrant living world in which they live through lectures, discussions and coordinated exercises.
2. Students will be capable of distinguishing differences between qualitative and quantitative approaches in the Scientific Method, how these approaches differ from other means of inquiry, and will learn how Geneticists communicate their findings.
3. Students will demonstrate knowledge of the concepts of Mendelian inheritance patterns, population genetics, and genetic engineering, how genetics impacts their lives, from how gene mutations affect human health & disease to how the future of agriculture will be impacted by genetics.
4. Students will exhibit understanding of the genetic mechanisms underlying patterns of inheritance, phenotypic adaptation, microevolution and macroevolution within the context of natural selection and speciation.
5. Students will understand the major successes and yet unsolved questions facing modern Genetics, including issues that touch upon ethics and public health policy.

Keys to Success:

- 🔗 Understand the **Syllabus** requirements
- 🔗 Utilize **D2L/Virtual Campus** to download, upload, and submit assignments
- 🔗 **Communicate** with your professor about schedule conflicts or educational plans
- 🔗 Take **handwritten** lecture notes every session
- 🔗 Join a **study group** or find a '**study buddy**'
- 🔗 Go to as many **S.I. sessions** as you possibly can (if applicable)
- 🔗 Plan a specific study time each day/week & **stick to it: 9-12 hours per week**
- 🔗 Use appropriate **time management** skills (especially if you are employed)
- 🔗 Read & **study** the **textbook** material
- 🔗 Ask lots of **questions in class**
- 🔗 Review lecture slides and notes **after each class**
- 🔗 **Don't wait** until the day before to study for a test (this does **not** work in College)
- 🔗 Don't let a low score **discourage** you (your professor made low marks too)
- 🔗 **Persistence, grit, determination, patience & hard work** *always* pays off



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals, and much more.

Spring 2021 Online Genetics Detailed Semester Schedule

Course week	Material to be covered during the week	Klug Chap.	D2L Quiz
Week 1: Jan 11-15	Course Intro & Syllabus videos; D2L exploration		
Monday January 18 th : Martin Luther King, Jr. Day Holiday, College Campus Closed			
Week 2: Jan 18-22	Sex Determination & Differentiation	Chap 5	Quiz 1
Week 3: Jan 25-29	DNA Organization in Chromatin	Chap 11	Quiz 2
Wednesday January 27 th : Last day to drop courses with a 100% tuition refund			
Week 4: Feb 1-5	DNA Replication and Recombination	Chap 10	Quiz 3
Week 5 Feb 8 th – 12 th : Exam 1 (Chaps 5, 11, 10) D2L Respondus Monitor: webcam required			
Week 6: Feb 15-19	Genetic Code & DNA Transcription Translation & Proteins	Chap 12	Quiz 4
		Chap 13	Quiz 5
Saturday February 20 th : Lit Review Rough Draft due in D2L Dropbox by 11:30 pm			
Week 7: Feb 22-26	Recombinant DNA Technology Gene Mutation, DNA Repair, and Transposons	Chap 17	Quiz 6
		Chap 14	Quiz 7
Week 8 Mar 1 st – 5 th : Exam 2 (Chaps 12, 13, 17, 14) D2L Respondus Monitor: webcam required			
Week 9 Mar 8 th – 12 th : Spring Break Holiday, All Campus & Online Courses Cancelled			
Mar 15 th : last day to withdraw from classes without special permission, given only for true emergencies, requiring signatures from both me and the Dean of Students			
Week 10: Mar 15-19	Gene Regulation	Chap 15	Quiz 8
Week 11: Mar 22-26	Epigenetics Cancer Genetics	Special Topic 1	Quiz 9
		Chap 16	Quiz 10
Week 12 Mar 29 th – Apr 2 nd : Exam 3 (Chaps 15, ST1, 16) D2L Respondus Monitor: webcam required			
Week 13: Apr 5-9	Gene Therapy Developmental Genetics	Special Topic 6	Quiz 11
		Chap 20	Quiz 12
Week 14: Apr 12-16	Evolutionary Genetics	Chap 22	Quiz 13
Week 15 Apr 19 th – 23 rd : Exam 4 (Chaps ST6, 20, 22) D2L Respondus Monitor: webcam required			
Saturday April 24 th : Lit Review Final Draft due in D2L Dropbox by 11:30 pm			
April 26 th – 28 th : Study, Review, and Preparation for Final exams			

Week 16 Finals Week Apr 29th – May 4th (Online & in-person class meetings do not occur)
Apr 29th – May 4th: Final Exam on D2L Respondus Monitor: webcam required

NOTE: Letter grades will be turned in Wednesday May 5th by 3pm and should be visible on your myBC account that evening. If you would like to know your numeric score on the Final Exam or for the course overall, email a request from your BC student email account (<https://webmail.brazosport.edu/owa>) to Isaiah.Schauer@brazosport.edu

Commencement for Graduation will occur on May 8th – format is currently TBD

During the remainder of the month of May, BC will be closed to online and in-person classes (except for May Minimester Humanities courses May 6-26)

*~ ~ ☺ Happy Spring Everyone ☺ ~ ~
BC will reopen on March 27th*

🌀 How is my grade calculated?

Your course grade will be calculated based on points earned in lecture (including extra credit) compared to the course total: **830 points**

500 points from Exams: Exams 1–4 and Comprehensive Final

Each worth **100 points**

Final is **mandatory** (replaces lowest *taken* Exam; see Exam section)

330 points from Assignments

1 Literature Review worth 200 points

13 online quizzes worth 10 points each

Earned points from each student's lecture exams, assignments and extra credit will be summed and divided by the course point total of 830 points to determine each student's grade as follows:

Percentage of points earned	Letter grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
59% or less	F

***C is passing for transfer of credits & degrees*

***D is passing at Brazosport College*

🌀 Lecture mechanics

Please read assigned textbook chapters *before* or *as close as possible after viewing lecture videos*. This will *greatly enhance* your understanding of lecture material.

☞ D2L Quizzes

13 quizzes will be offered online and taken independently, with material from each lecture PowerPoint represented on each quiz. *Each quiz will be worth 10 course points.* Quiz or Exam completion **later than 1 hour past the deadline** will not be accepted for course points.

☞ Extra Credit (EC)

EC opportunities are usually offered during the semester, posted in the EC Section in the Content area on D2L. However, the decisions of when to offer EC, and how many points are offered, are entirely at my discretion. In terms of how extra credit helps your grade, I treat EC points just like standard course points & add them directly to your overall course point total. 1 EC point is equivalent to 1 course point – the more the better!

☞ Virtual Exams

Semester Exams are taken on D2L at a convenient time for you, using your PC/laptop/tablet webcam. (See instructions posted on D2L). **Each Exam will be available to take during a 7-day period, except the Final** (*see syllabus schedule*). **Note: all Exam sessions will be recorded to observe for academic dishonesty (see section below on this topic).** Webcams are available at the BC Library (48 total) for check-out, should you need one (see the section below on Library Services). Semester exams will consist of multiple-choice & true/false, as well as a visual matching section, fill-in-the-blank diagrams, short answer, and 2 essays at my discretion. The **Final** exam is a *mandatory, comprehensive* test covering a random selection of all *multiple-choice and true/false questions (only) from semester Exams 1-4*. **The Final exam score will replace the lowest-scoring semester exam score; thus it can count twice, i.e. worth 200 points. But this will happen only if the final score is the higher of the 2 and all Exams have been taken during the specified, required date ranges.** Exam study guides will be provided at my discretion. All information needed for the exams can be found in your lecture notes and in the textbook. *Do not ask your instructor what will be on the Exams or for information about how the material will appear in question form, because academic honesty dictates that I cannot and will not tell you in advance.*

☞ Deadline extensions & make-up Exams

Extensions to a deadline or a make-up Exam are allowed *at my discretion*, and **only** if the **reason** for not completing the assignment or exam on time is due to a **true emergency** involving your immediate family, access to childcare, a significant medical condition, a complete technology crash (home internet or computer), or employment occurring across the exam time period. True emergencies occur when an unforeseen combination of circumstances results in a **crisis state that cannot be altered or re-scheduled**. Examples of true emergencies that **would** qualify for an extension or make-up exam include an unexpected employment schedule change where you're assigned the graveyard shift, being in the ER with a sick or injured child, being in the ER because of an automobile accident, in-patient medical or chemo treatment, courtroom subpoena or jury duty, your computer has caught on fire, or a family member's funeral or memorial service (these are all real-world examples that past students have faced). Examples of situations that **would not** qualify for an extension or make-up exam include the death of an extended family

member, an annual medical or dental checkup, tickets to an event, allowing your computer to do a software update right before the deadline, or trip you've chosen to go on with family or friends out of town. If you have received permission from me for a make-up Exam, we may be able to schedule it so that I'm giving the Exam to you on Zoom. Alternately, Learning services will be open Monday through Thursday from 10 AM to 8 PM. Available testing times will be at 10 AM, 12:30 PM, 3 PM or 6 PM. I will provide all needed testing materials, instructions, and/or passwords (if needed) to Learning Services. Students will need to schedule a testing time by calling Learning Services at 979-230-3253, and then **confirm the appointment with me.**

☞ D2L glitches or errors

You will be using D2L for everything in this course. D2L stands for Desire to Learn and is the underlying software for our Virtual Campus online, hybrid, and supplemental courses. You access D2L using this link to the login page:

<https://online.brazosport.edu/d2l/login> Instructions on how to login are shown there. A drop-box is a virtual location on our D2L course page (**BIOL2301-ISCHAUER-Online**) that I have set up for you to turn in assignments, like handing them into me during class or lab. Deadlines for all your assignments are shown in the course calendar (see previous pages), in my D2L Content sections, & just beside or below each D2L drop-box I've setup. If you encounter an error in logging in, submitting your assignments, or if the website freezes, you will need to contact our **BC Information Technology Help Desk**. Their hours of operation, and all necessary contact info is shown on their main page: <https://www.brazosport.edu/it/> **Now, because you are aware of all the deadlines for assignments & extra credit far in advance of when they need to be turned, I will not give an extension or fail to take late points** if you encounter a D2L or computer glitch while attempting to turn in any of your assignments **last minute** (for example: hours before the deadline, well after the College IT help desk hours have ended). Each student has a choice when it comes to procrastination in completing your work in a timely manner. All our choices, in College courses & in life, have consequences. In this case, the consequence for waiting until the last minute & experiencing a D2L error is a loss of course points.

☞ Literature Reviews

A Literature (or, Lit) Review is a common occurrence in any scientific profession, and it is based on reading, summarizing, and analyzing current research articles describing significant scientific discoveries and findings in order to contextualize resultant new understandings. In other words, one scientist is explaining to fellow scientists the important or interesting aspects of a particular set of research papers. You will be completing an assignment that is a variation on this professional activity. The Lit Review is **worth 200 course points** & will be completed outside of class throughout the semester. **Detailed instructions & a walkthrough video**, including instructions on **setting up appointments** with the Writing Center (which is a **required** part of the Lit Review) and the **Drop-boxes** required to turn in your work, are posted in the "Literature Reviews" section of the **Content** area of our **course D2L page**. Lit Reviews must be turned in on time, without exception, for full credit. There is a *50% reduction in your total score* for every **1 day** the assignment is late. **50 points** will be deducted for **not**

submitting Writing Center Reflections and tutor-reviewed drafts for *both* the rough & final drafts of this assignment.

☺ Participation policy

This is College. You, your family member, or the government are paying \$\$\$ to learn this material. Thus, all students are expected to **fully participate** in this course every day online. *This includes keeping your Zoom video cam and mic on during our sessions (except when you must use the bathroom, or some similar situation).* If you have an immediate family or personal emergency which may result in missing an exam, **contact me in advance or as soon as possible** so that options may be discussed. Those who have **85%+ attendance D2L check-in and completion summary on D2L will receive participation points added to their final point total for the course** that may result in an improved final grade (Ex: *you've logged in and worked on the course nearly every day*, I calculate your final grade after the class is done, you end at an 89.2, *I'll give you the points to make your 90!*).

☺ Course Withdrawal

The Brazosport College Life Sciences Department and I think that participation in both lecture and lab is **critical** for the **comprehension** of material. However, I will not withdraw you from the course for lack of attendance. You must withdraw yourself from the course if you so choose.

☺ Online Behavior Policy

You are all now considered **adults**, with all the rights, privileges, and responsibilities therein. The College and your professor will assume that all of you know how to conduct yourself in a respectful, polite, and college-level appropriate behavioral manner online. Habitual or repeated disruptive online behavior of any type **WILL** result in the **loss of Course points** at my discretion and **may lead to withdrawal** from the course at my discretion.

☺ Academic Dishonesty

The College and your professor will assume that students eligible to perform at the college level are familiar with, and will abide by, the standard rules governing legal and appropriate conduct, especially regarding academic honesty. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://www.brazosport.edu>. Briefly, **the central principle of academic honesty is that all work presented for a grade by you is yours only and yours alone**. Academic dishonesty violates both the policies of this course and the Student Code of Conduct. Each student must do their **own work** (*meaning not written by someone else or copied from another individual*) on lecture exams and writing assignments. Academic dishonesty therefore includes but is not limited to: cheating in any way, plagiarism of published or online material of any kind, and collusion (allowing or enabling a fellow student to cheat). **Let me be crystal clear:** Cheating is **NOT TOLERATED**, under any context, in lecture or in lab. If you are caught cheating, plagiarizing, colluding to cheat you will be referred to the Dean of Student Services (Dean Jo Greathouse, Professor of Psychology) for review and assignment of punishment, which can include an F on the

assignment/Exam in question, an F in the course, or (in rare cases or repetitive academic dishonesty) suspension. If you are having trouble understanding any concepts or assignments, please come to talk to me before your resort to cheating or colluding.

☞ Writing Center

The **Brazosport College Writing Center** (BCWC) is located within the Student Success Center (E.200), on the second floor of the Main building above the Counseling and Registration office. There are **only 2-3 tutors available** on any given day, thus you need to plan on making your online appointment **4-5 days prior to the assignment due date**. Click this link to the BCWC main page for information on hours of operation & making in-person & online appointments: <https://brazosport.edu/students/for-students/student-success-center/writing-center/> The BCWC can assist with brainstorming, organizing and developing paragraphs, understanding professors' directions, learning about APA or other reference citation styles, learning how to avoid plagiarism, improving mechanics, using Microsoft Word, becoming a stronger writer, and much more.

☞ BC Library Services

The BC library will continue to provide all the remote services it has been offering since the Pandemic began, including workshops and events for students. In addition, the library will be open to students and faculty using a modified schedule: Monday through Thursday from 10 AM to 7 PM. The library will be closed on Fridays. Services offered include:

- 34 computer workstations available, on a first come, first serve basis for students who may lack the technology needed for their online courses
- Computer access for students who lack the technology needed for their online courses
- Printing access at no cost to the student (limited to small print jobs)
- Study space (6 study rooms & additional study tables with socially distant seating arrangements)
- Reserve Collection (textbook) access
- Book checkout
- Reference assistance
- Making Student/Faculty/Staff BC ID cards

Strict social distancing requirements will be enforced in the Library. To facilitate distancing, several areas of the Library will be closed to students, including access to the second floor and the reference stacks. Any materials needed by patrons from the second floor or from reference will be retrieved by a staff member.

☞ Study Space/Technology Access on Campus

In addition to the Library, BC will be providing students with study space in Gator Hall. Students can come and work in a safe, quiet space, with power and Wi-Fi available at each table. Students who need a computer should use available workstations in the Library. Please note that computer labs on campus will not be unlocked and are not available for student use outside of scheduled class time. The following is the application link for a student to fill out if they are interested in checking out a **loaner laptop or hotspot** from our IT department: <https://form.jotform.com/202024036637042>

☯ Student Conduct Statement

Students are expected to be aware of and follow the Brazosport College Student Code of Conduct. Students have violated the Code if they “fail to comply with any lawful directions, verbal or written, of any official at BC.” Lawful directions include precautions and requirements taken to prevent the spread of COVID-19 at Brazosport College. Students who do not follow safety requirements, including the wearing of a mask, may be removed from class by their instructor and referred to the Dean of Student Services.

☯ Campus Closure Statement

Brazosport College is committed to the health and safety of all students, staff, and faculty and adheres to all federal and state guidelines. The College intends to stay open for the duration of the semester and provide access to classes and support services on campus in the safest way possible. The College will also comply with lawful orders given by applicable authorities, including the Governor of Texas, up to and including campus closure. It is possible that on campus activities may be moved online and/or postponed if such orders are given.

☯ Students with learning disabilities

Brazosport College is committed to providing equal education opportunities to every student. BC offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. For student to receive any accommodation, documentation must be completed in the Office of Disability Services. Please contact Phil Robertson, Special Populations Counselor at 979-230-3236 for further information. ***For me to accommodate your diagnosed learning disability, I need to receive a hard copy of a signed accommodation letter.***

☯ Availability of your Professor on Fridays, Weekends, or Holidays:

Unless indicated otherwise by your instructor during class, your instructor is not available by phone or email on Fridays – Weekends – or Holidays. Expect a **return phone call** or **email reply** from your instructor ***ONLY*** during standard business hours, office hours, or hours listed on his Semester schedule posted for each class he teaches on the next business day. Regarding phone calls, your instructor ***only returns calls made by students who leave voicemail messages.***

☯ Honors Study

The Honors Program will be fully functioning this semester. Honors contracts remain an option for students who wish to earn honors credit in a non-honors course. The students must still have permission from faculty members to complete a contract, and all forms will be available online at <http://www.brazosport.edu/programs/academics/honors>. The honors contract is a means for students to gain honors credit in a non-honors class by exploring subject matter that is not covered in a normal curriculum or gaining more knowledge of a subject that is in the curriculum. They will attain valuable knowledge of research, critical thinking skills, and the ability to work one-on-one with faculty. At the end of the semester, all honors students will present their work via Zoom.

☯ Title IX Statement

Brazosport College faculty and staff are committed to supporting students and upholding the College District's non-discrimination policy. Under Title IX and Brazosport College's policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are "Responsible Employees" and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at www.brazosport.edu/sexualmisconduct

Kelli Forde Spiers, Director, Student Life and Title IX Coordinator Office J-117D; 979-230-3355; kelli.fordespiers@brazosport.edu

Mareille Rolon, HR Coordinator and Deputy Title IX Coordinator Office C-114; 979-230-3303; mareille.rolon@brazosport.edu

Tracking My Grades throughout the Semester

LECTURE EXAMS (out of 500 points):

Exam # 1	
Exam # 2	
Exam # 3	
Exam # 4	
Final	
A. TOTAL	

LECTURE ASSIGNMENTS or ATTENDANCE (out of 330 points):

Lit Rev rough (100 points)	
Lit Rev final (100 points)	
Quiz #1 (10 points)	
Quiz #2 (10 points)	
Quiz #3 (10 points)	
Quiz #4 (10 points)	
Quiz #5 (10 points)	
Quiz #6 (10 points)	
Quiz #7 (10 points)	
Quiz #8 (10 points)	
Quiz #9 (10 points)	
Quiz #10 (10 points)	
Quiz #11 (10 points)	
Quiz #12 (10 points)	
Quiz #13 (10 points)	
B. TOTAL	

FIGURING MY GRADE AT ANY TIME IN THE SEMESTER:

- Add the points you have received thus far. Add in any EC received. Then divide by the total points available thus far. Then multiple by 100.

FIGURING MY COURSE GRADE:

1. Add Total lines **A & B (+ any EC points)** _____
2. Divide by 8.3 _____

Compare to this grading scale to determine your grade:

Percentage of points earned	Letter grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
Less than 60%	F

***C is passing for transfer of credits & degrees*
***D is passing at Brazosport College*