

Welcome to BILD 60 Exploring DEI in Human Biology!

This course aims to develop concepts of human biology in relation to diversity, equity, and inclusion (DEI) in society with reading and discussion primary literature. Racism is a serious problem in the United States and around the world. Genetics concepts are often misused in public discourse to justify racism. In this course, we will examine evidence from research on human variation that exposes the scientific flaws in biological justifications of racism. We will also explore how stress on biological systems from sociocultural and physical sources, such as racism and radiation respectively, can induce epigenetic and genetic changes that affect human health.

Learning goals

- Collaborate with classmates and the instructional team to learn concepts in human biology
- Apply knowledge of human biology to analyze data and solve problems in relation to DEI
- Learn to draw conclusions and construct scientific arguments based on evidence and reasoning
- Develop skills in reading, understanding, and analyzing primary research articles

Learning in this course

BILD 60 is designed to be a collaborative environment for everyone to learn together and construct a shared understanding of the material. Active participation and contribution in class are essential because many ideas that will be developed in these activities cannot be easily captured otherwise. Being able to communicate understanding, articulate confusion, and defend scientific arguments based on evidence and reasoning is both useful for learning and critical to success in any discipline. To encourage collaboration and community building, class activities will be done in groups, and grades will not be assigned on a curve.

Instead of memorization, we will focus on developing an understanding of fundamental concepts as they apply to different examples. Exams will include questions that are based on solving problems in new contexts. We will use class time to construct and apply our knowledge, troubleshoot challenging topics, practice problem solving, and develop skills in critical thinking. There will often be pre-class assignments to prepare for the more challenging material in class.

Course logistics

The core learning components in this course are comprised of collaborative activities both in class and in discussion sections, in addition to independent work on studying and completing assignments. Course material, announcements, and other important details will be available on the Canvas. Please check the course website and your @ucsd email regularly for updates and relevant information.

Technology

Students are welcome to bring laptop computers, tablets, or similar technology to class. However, multi-tasking on computers in class is likely to decrease not only your own grade but also the grades of people around you who can see your screen! For this reason, please be considerate to your classmates, and we ask that you do not flip between relevant course material and irrelevant activities.

Calendar

A general outline for the course is provide below. Key topics are repeated using different examples to reinforce learning and develop more sophisticated understanding over time. More specific details for each week will be provided on Canvas and in class. We may also adjust the schedule as necessary, while still focusing on learning the important concepts intended for this course.

Week	Topic	Papers	Assignment	Excursion
1	What is race and how is it defined?	<ul style="list-style-type: none"> Narratives of race and indigeneity in Genographic Project. <i>Journal of Law, Medicine & Ethics</i> (2007) 35: 412–24. A population–genetic perspective on the similarities and differences among worldwide human populations. <i>Human Biology</i> (2011) 83: 659–84. 	Arrive!	BICD 102 excursion
2	What are the implications of racial and ethnic categorizations in human health?	<ul style="list-style-type: none"> Use of race, ethnicity, and ancestry data in health research. <i>PLOS Global Public Health</i> (2022) 2(9): e0001060. Racial and ethnic discrepancy in pulse oximetry and delayed identification of treatment eligibility among patients with COVID–19. <i>JAMA Internal Medicine</i> (2022) 182: 730–8. 	Midterm exam	Miraikan: National Museum of Emerging Science and Innovation
3	How can we use genetics to understand human migration across the globe?	<ul style="list-style-type: none"> Genetic architecture of skin and eye color in an African–European admixed population. <i>PLOS Genetics</i> (2013) 9: e1003372. Native American admixture recapitulates population–specific migration and settlement. <i>PLOS Genetics</i> (2019) 15: e1008225. 	Writing assignment	University Museum at University of Tokyo
4	How can we use genetics to understand human migration and origins of specific populations?	<ul style="list-style-type: none"> The history of human populations in the Japanese Archipelago inferred from genome–wide SNP data with a special reference to the Ainu and the Ryukyuan populations. <i>Journal of Human Genetics</i> (2012) 57, 787–95. Ancient genomics reveals tripartite origins of Japanese populations. <i>Science Advances</i> (2021) 7: eabh2419. 	Writing assignment	National Museum of Nature and Science
5	Topics to be chosen by groups	<ul style="list-style-type: none"> Papers to be chosen by groups 	Presentations	University campus tour

Grading

Our course has the following grading components: contribution (10%), writing assignments (28%), midterm exam (28%), final exam (28%), professionalism (2%), and extra credit (0.1%). Because different people may excel in different aspects of the course, the highest component among writing assignments, midterm exam, and final exam for each individual will be scaled from 28% to 32%, bringing the total to 100%. There are no opportunities for extra credit beyond what is assigned.

The general grading scheme is as follows, although it may be adjusted to improve everyone's grades if necessary. Exact boundaries will be determined based on final grade distributions. Because course assessments are not perfectly precise, grade cutoffs will be identified by large gaps in between individual scores. However, our course is not graded on a curve, e.g. 20% of students getting A, B, C, and such. Thus, the ability to do well in this course is not dependent on others doing poorly!

A+	97–100%	B+	87–89.99%	C+	77–79.99%	D	60–69.99%
A	93–96.99%	B	83–86.99%	C	73–76.99%	F	0–59.99%
A–	90–92.99%	B–	80–82.99%	C–	70–72.99%		

Contribution

Active contribution in class is essential to learning. Contribution is different from attendance or participation. Attendance means that you are physically present; participation means that you have completed the activities; contribution involves attendance, participation, and active engagement that ultimately results in learning for yourself and your classmates, e.g. thinking through and not just memorizing the material on your own, collaborating meaningfully with your classmates, asking questions, etc.

There will be many contribution items, including pre-class assignments and writing activities in class. Contributions will be graded for thoughtful completion on a scale 0, 0.5, and 1. Because individual students may have different competing schedules and life events, completing 85% or more of all contribution items will earn the full contribution grade. For example, if there are 40 contribution items, completing 34 items will result in 34/40, whereas completing 33 items will result in 33/40 for the contribution grade.

For most classes, there will be reading assignments and associated written reflections to be completed before class. Check Canvas regularly for details and due dates. These pre-class assignments are designed to: (1) engage students in exploring new concepts and ideas, so we are prepared for class and can have productive discussions, and (2) help the instructional team know prior to class what material students are struggling with, so we can adjust accordingly to use our class time as efficiently as possible.

In class, we will engage in collaborative work, analyze research data from primary literature, construct scientific arguments based on data and reasoning, and practice solving problems that will be similar to those on graded writing assignments and exams. Similar to work done by scientists, the problems will focus on drawing conclusions based on evidence and reasoning. Class time also provide opportunities to build relationships with other students and your instructional team.

Writing assignments

The writing assignments will focus on understanding and analyzing research data from primary literature articles, as well as drawing conclusions and constructing scientific arguments based on evidence and reasoning. Details of these assignments will be made available in class and on Canvas. The graded writing assignments will complement writing activities in class. The skills developed in these writing assignments will also be tested on midterm and final exams, where you will be challenged to analyze data and construct scientific arguments that answer specific research questions.

Exams

Questions in exams will challenge us to apply our understanding in new contexts by solving problems and constructing scientific arguments with evidence and reasoning. Therefore, exams will be open resources, e.g. notes and calculators but not electronic equipment that can be used to communicate with others. Exams will be cumulative but will focus on the most recent material. There will be one midterm and one final exam,

To facilitate reflection and learning, exams will be conducted in two phases: The first phase will be done individually, and the second phase will be the same or analogous exam questions done again in groups. The individual portion will count for 80% of the exam grade, and the group portion will count for 20%. Note that the group portion is still an exam, and an individual's final grade is not automatically improved by the group portion of the exam. However, in previous iterations of the course, over 95% of groups improve their grades by the group portion. We are using this two-phase testing method for midterm exams as people learn more from collaborative work compared to individual work. These collaborative testing opportunities allow us to deepen our understanding because we are receiving feedback on our thinking in a very timely fashion, which is critical for learning. It is also an opportunity to practice communicating and collaborating effectively.

Professionalism

This portion of the course grade is intended to engage everyone in considering the impact of their actions on their own learning and the learning of others in the course. By default, everyone is assumed to be professionally mature. Hence, this component is awarded at the beginning of the quarter. During the quarter, based on observations by the instructional team, professionalism credit may be deducted.

Example interactions with meaningful benefits that:

- Developing deeper insight into course material, concepts, biology, and/or society in general
- Working collaboratively to improve in skill building and future opportunities
- Learning conceptually and meaningfully why full credit was not awarded for an assignment
- Clarifying course material that facilitates deeper learning

Example interactions that have no meaningful benefits and thus should be avoided:

- Contributing inequitably to team work in class or on team assignments
- Being disruptive to other students in class or on team assignments
- Harassing and/or bullying other students or the instructional team, either in person or online
- Ignoring directions or requests from the instructional team or other students on teamwork

Extra credit

The 0.1% extra credit can be earned by completing course evaluations and related surveys that are aimed to improve the course and the educational experiences of your future peers. If 90% or more of all students complete CAPEs and other course-based evaluation surveys in a professional fashion (i.e. taking them seriously and providing timely and constructive feedback), 0.1% will be added to everyone in the course. Other than the community professionalism component, there are no other opportunities for extra credit beyond what is already assigned as part of the course by the instructor.

Late or missing assignments

In general, we are unable to accept late or missing assignments because of the size of the course. This means that no late contribution items will be accepted; completing 85% of contribution items will earn the full contribution grade. However, we acknowledge that emergencies do occur. For missed writing assignments or exams due to documented short-term illness or serious family emergency, please contact the course instructor as soon as possible or reasonable to do so. We are here to help you succeed in the course!

Regrades

If a grading error has been made, please submit a regrade request to the course instructor within one week of the assignments being returned. Send a message to the instructor with a concise description or explanation for the regrade request. Regrades are submitted with the understanding that the instructional team may: (1) regrade the entire assignment, and (2) compare the submitted paper to a copy of the original assignment. As a result, the overall grade may go up or down or remain the same after the regrade.

Team work

A major goal of the course is to learn to collaborate with others. Unfortunately, despite best efforts and intentions, teams do not always function optimally. Dealing with these challenges is a natural part of the learning experience. Everyone is expected to contribute fully and equitably to team work as part of the university learning community. Please see the Academic Integrity section for more information.

If significant disputes occur over the relative contribution of individual members of the team, students can submit an appeal. In such cases, the team grade will be multiplied by the number of members in the team, and the points can be divided among individuals based on what each team member agrees that they deserve from their individual efforts. To submit an appeal, all members of the team need to get together and provide the following information in a document: clear and detailed descriptions of each member's contribution, calculations and explanations for how the points should be divided among the members, and signatures from each member with a statement attesting to the fact that everyone in the team has agreed to all information in the appeal document. Please submit the appeal to the course instructor within one week of the assignments being returned.

Academic integrity | Website: <https://academicintegrity.ucsd.edu/>

Integrity of scholarship is essential for an academic learning community. In this course and at the university, we expect that both students and the instructional team will honor this principle and in so doing protect the validity of our intellectual work. For students, this means that all academic work will be done by the individuals to whom it is assigned, without unauthorized aid of any kind. The instructional team will exercise care in planning and collaborating with students on academic work.

When people collaborate to work toward a common goal, shared values must be established so that everyone understands the acceptable ways for working together. In this course, we are using a statement of values to describe the behaviors for maintaining and protecting these values. The statement is open to discussions and possible alterations based on mutual agreements among all students and the instructional team. In collaborative work, each team should discuss these values and agree on mutual expectations.

The following course statement of values is adapted from the Academic Integrity Office:

	As students, we will ...	As the instructional team, we will ...
Honesty	<ul style="list-style-type: none"> Honestly demonstrate knowledge and abilities according to expectations Communicate without using deception, e.g. citing appropriate sources 	<ul style="list-style-type: none"> Give honest feedback Communicate honestly about expectations and standards through the syllabus and course materials
Responsibility	<ul style="list-style-type: none"> Complete assignments on time Be on time and fully contribute to learning activities in the course 	<ul style="list-style-type: none"> Give timely feedback Be on time and mentally present Create relevant activities for learning
Respect	<ul style="list-style-type: none"> Speak openly with one another while respecting diverse perspectives Provide sufficient space for others 	<ul style="list-style-type: none"> Respect different perspectives Help facilitate respectful exchanges
Fairness	<ul style="list-style-type: none"> Contribute fully and equally to collaborative work Not seek unfair advantage 	<ul style="list-style-type: none"> Create fair assessments and grade them in a fair and timely manner Treat all students equitably
Trustworthiness	<ul style="list-style-type: none"> Focus on relevant work while in class Not distribute course materials to others in an unauthorized fashion 	<ul style="list-style-type: none"> Be available to all students when we say we will be Follow through on our promises
Courage	<ul style="list-style-type: none"> Say or do something when we see actions that undermine these values Accept consequences for upholding and protecting the above values 	<ul style="list-style-type: none"> Say or do something when we see actions that undermine these values Accept consequences for upholding and protecting the above values

All course materials are the property of the instructor, the course, and University of California San Diego and may not be posted online, submitted to private or public repositories, or distributed to unauthorized people outside of the course. Any suspected instances of a breach of academic integrity will be reported to the Academic Integrity Office for review.

Principles of community | Website: <https://ucsd.edu/about/principles.html>

Our campus is dedicated to learning, teaching, and serving society through education, research, and public service. Our international reputation for excellence is due in large part to the cooperative and entrepreneurial nature of the UC San Diego community. Faculty, staff, and students are encouraged to be creative and are rewarded for individual as well as collaborative achievements.

To foster the best possible working and learning environment, we strive to maintain a climate of fairness, cooperation, and professionalism. These principles of community are vital to the success of the University and the well-being of its constituents. Faculty, staff, and students are expected to practice these basic principles as individuals and in groups.

Accessibility and inclusion | Website: <http://disabilities.ucsd.edu> | Contact: osd@ucsd.edu

Any student with a disability is welcome to contact us early in the quarter to work out reasonable accommodations to support their academic success. Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD). Students are required to discuss accommodation arrangements with the instructor and OSD liaisons in the program in advance of any exams or assignments.

Whenever possible, we will use universal designs that are inclusive. For example, colors used in this syllabus are distinguishable by most colorblind and non-colorblind people, and this font is designed to be dyslexic friendly. If you have feedback on how to make the course more accessible and inclusive, please get in touch!

Discrimination and harassment | Website: <http://ophd.ucsd.edu> | Contact: ophd@ucsd.edu

The Office for the Prevention of Harassment & Discrimination (OPHD) provides assistance to students, faculty, and staff regarding reports of bias, harassment, and discrimination. The mission of OPHD is to educate the entire UC San Diego community about these issues and to assist with the prevention and resolution of these issues in a fair and responsible manner. In collaboration with other UC San Diego resources, OPHD promotes an environment in which all members of the UC San Diego community can work, learn and live in an atmosphere free from all forms of bias, harassment and discrimination.

Students may feel more comfortable discussing their particular concern with a trusted employee, such as a student affairs staff member, faculty member, department chair, or other university official. These individuals have an obligation to report incidents of sexual violence and sexual harassment to OPHD. This does not necessarily mean that a formal complaint will be filed. If you find yourself in an uncomfortable situation, ask for help. Our campus is committed to upholding policies regarding discrimination and harassment.

*** This section is a placeholder and will be updated with **GS**-specific resources. ***

General Resources

Academic Support	
Academic integrity	Policy and strategies to excel with integrity
Geisel Library	Research tools and eReserves
Learning strategies	Metacognitive support to address learning challenges
Library guide	Starting point for navigating campus library resources
REAL Portal	Internships and other hands-on experiential learning opportunities
Student Success Coaching	Peer mentor program with information, resources, and support
Technical support	Assistance with accounts, network, and technical issues
Writing Hub	Peer writing mentors and support to improve writing skills

Student resources	
Basic needs	Access to food, housing, and financial resources
Counseling and Psychological Services (CAPS)	Confidential counseling, consultations for psychiatric services, and mental health programming
Community centers	Programs for students and resources toward a socially just campus
Equity, diversity, and inclusion	Toward a campus climate of respect, fairness, and cooperation
Office for Students with Disabilities (OSD)	Support for students with disabilities, including accessibility resources and reasonable accommodations
Triton Concern Line	Support for students of concern at (858) 246-1111