Objectives:

This class fulfills GE Pathway Minor in Science, Technology and Values.

The rise of science and technology has profoundly affected nearly every aspect of the world in which humans live—

the. Human Genetics course in the Science, Technology and Values pathway will explore many controversial issues,

especially those with direct consequences in your lives, such as the relation between science and religion and

research on human embryonic stem cells. You will learn how to evaluate controversial claims about science, such as

whether science is the preeminent form of knowledge and learn how to evaluate the use of technology and its

consequences. A primary goal of the Science, Technology and Values Pathway is to prepare you to deal with the

many complex and difficult issues caused by the rapid increase in scientific knowledge and the many new

technologies that result from this.

You need to have already completed at least 45 credits in order to gain credit for the theme. This course has a

2500-word writing requirement.

General Education (GE) and Upper Division Thematic (UDT) Objectives:

The primary goals of the GE program are identified in the university catalogue and include improving reading,

writing and critical thinking; instilling intellectual curiosity; broadening, enhancing, and integrating general

knowledge about the universe and humanity; and showing the coherence and connectedness that exists within the

broad area of undergraduate education. To explore, from different perspectives, the impact of scientific and

technological discoveries on society:

1. To examine how previously-held scientific understandings of human beings are affected by society and the
   social construction of identity
2. To examine the dialectical nature of science and society.
3. To understand the applications and limitations of the scientific method.
4. To understand the evolutionary relationship of all life on the planet.
5. To provide examples of the heterogeneous sets of information necessary for decision making in the modern
   world.
6. To explore how humans' biological structures do/do not influence their personalities, behaviors, identities.
7. To have students and faculty actively apply the theme concepts to the world around them, including their
   lives.

The GE and UDT programs website has more details.
The primary course goals of BIOL 303 are:

1. To understand the basic principles of human genetics and be able to apply them to real-life situations.
2. To foster an awareness of the relevancy of human genetics to the student's role as a parent or as a thoughtful and caring member of society.
3. To stimulate thought on the moral and ethical issues associated with modern genetics including genetic engineering, human stem cell research and cloning.
4. To better understand the scientific method - especially as it pertains with complex topics in drug, cancer and human behavior research protocol. Students will design a double-blind randomized trial to test a health treatment and assess one another's experimental design.
5. To educate students to critically evaluate the impacts of science by using evidence and logic.
6. To explore the scientific value of genetic technology including forensic science.
7. To gain an appreciation for the evolutionary genetic-relatedness of all life on the planet, with an emphasis related to the genetic background and world-wide migration of modern humans.
8. To discuss the impact of science and technology on society and the influence of society on scientific advances.
9. To evaluate and write written reports on current genetic findings.

Attendance Requirements: The class meets on MWF at 9 AM in Plumas 102.

Textbook: "Human Genetics, Concepts and Applications, 10th Edition" by Ricki Lewis. This course uses Human Genetics, Concepts and Applications McGraw-Hill Connect and the internet extensively, so reliable and frequent internet access is an absolute requirement.

The last day to drop a course is Feb 8th. Please note that to drop a course after Feb 8th requires a "serious and compelling" reason. Therefore, before you request a late drop for this class, obtain written documentation of your reason for withdrawal. I will not consider any late drop without verification of "serious and compelling."

Help: Some of your work will be done online and you will need to have access to a functioning computer and internet connection. There are numerous computer labs on campus that you can use, but it will be best if you have your own. If you need help the University has resources to aid you. For help with general computer and network problems, call 898-HELP (4357)

Help with BlackBoard Learn: call 898-4546.

Help with McGraw-Hill Connect: Go to class Black Board Learn site for instructions

Help with class questions: My office hours are in Holt 345, Monday 10-1, Weds 10-1 or by appointment (x6181). Questions can also be e-mailed to me at dwhitlock@csuchico.edu. I usually can get back to you within a day, but may not on weekends.

Grading: Grading will be based on online quizzes, writing assignments, participation in discussion forums, three in-class exams, and a final exam. Exam questions will cover material from lecture, typical genetic problems (some of which will be taken from the assigned problems in the textbook) and the online assignments. Make-up exams are only possible if they are arranged before the regularly scheduled exam time. Assignments are due by 8:30 AM on the mornings of the scheduled lectures. Late assignments will not be accepted without a serious and compelling reason. This is a hypothetical point distribution. The final is 75 points, there are three 50 point exams (total of 150 points), taken in class, five written assignments worth 50 pts., and the online and in class assignments will be worth approximately 150 pts: total for the course is approximately 425 points. There is no curve so, assuming 425 points, you must get the points below to receive that letter grade.
**Academic Conduct:** Turning in work copied from another report is plagiarism and will result in an F for the course and may result in your removal from the University. Using another student’s answers on an in-class exam or an online quiz is cheating and will also result in an F for the course. It is OK to discuss how to solve a question with another student, however, copying another student’s answers, or anyone else's, is not allowed.

**Schedule:** The tentative schedule below shows the lecture topic for each lecture, the pages from the textbook that you should read before the lecture. The actual topics discussed will depend on student interest and progress, but exam dates and paper due dates will stay the same. This schedule may be adjusted to reflect the results of the first assignment, a survey of what you want included in the course – the list below was last semester's students choices. There will be assignments due at 8:30 AM before each lecture, sometimes there will also be in-class group assignments. It is very important that you not fall behind, as it is very difficult to catch up. Late assignments will not be accepted without a serious and compelling reason.

**Americans with Disabilities Act:**
If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Disability Support Services (DSS) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. DSS will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.”
If you have any questions, please contact the Disability Support Services office at 5959.

**Class Assignments and grade percentage breakdown:**

- 3 exams @ 50 pts each
- 1 cumulative final @ 75 pts.
- 10 online quizzes @ 10 pts each
- 4 Ted Talk Papers @ 10 pts each (writing requirement)
- Scientific Design assignment @ 10 pts (writing requirement)
- 5 Discussion Forums @ 10 pts each
- Extra credit: Written critical review of Gattaca or Blade Runner -10 pts

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Grade</th>
<th>Percent of Total</th>
<th>Points needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>~200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam I</td>
<td>50</td>
<td>A</td>
<td>&gt;93%</td>
<td>&gt;395</td>
</tr>
<tr>
<td>Exam II</td>
<td>50</td>
<td>A−</td>
<td>&gt;90%</td>
<td>&gt;382</td>
</tr>
<tr>
<td>Exam III</td>
<td>50</td>
<td>B+</td>
<td>&gt;87%</td>
<td>&gt;370</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>&gt;83%</td>
<td>&gt;353</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B−</td>
<td>&gt;80%</td>
<td>&gt;340</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C+</td>
<td>&gt;77%</td>
<td>&gt;327</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>&gt;73%</td>
<td>&gt;310</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C−</td>
<td>&gt;70%</td>
<td>&gt;297</td>
</tr>
<tr>
<td>Final</td>
<td>75</td>
<td>D+</td>
<td>&gt;65%</td>
<td>&gt;276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>&gt;60%</td>
<td>&gt;255</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>&lt;60%</td>
<td>&lt;255</td>
</tr>
<tr>
<td>Total for Course</td>
<td>~425</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>