

## Instructor Contact Information

Name: Dr. Travis Lund  
Email: [travis.lund@oit.edu](mailto:travis.lund@oit.edu) (or use Canvas messaging)  
Office hours: TBA (Always available by Zoom appointment!)

## Course Overview

Course title: Medical Genetics  
Course number: BIO 341  
Prerequisite(s): BIO 213 or BIO 233 or BIO 123

Course description: Principles of heredity, chromosome mechanisms, and molecular genetics applied to disease processes in humans. Review of case histories of selected inherited disorders. Discussion of genetic intervention therapies.

In this course, we will study a variety of simple and complex (multi-factorial) human genetic diseases. We will also examine areas (such as cancer) in which inheritance and the environmental factors are mixed together, as well as modern technological applications of genetics (genetic testing, gene therapy, forensic identification, etc.). As the study of human genetics has always been controversial, we will spend some time discussing ethics.

## Textbook

**Required Textbook:** Cummings, Michael, *Human Heredity: Principles and Issues*, 11th edition, 2016 (OR 10th edition, 2014). Print or **digital** versions are both acceptable. The textbook is available through our bookstore at this link: <https://oregontech.bncollege.com/shop/oit/page/find-textbooks>

## Proctor Information

This course requires proctoring of a midterm and a final exam. You can utilize **Oregon Tech Testing Services** (on the Klamath Falls or Portland-Metro campuses), or the online **ProctorU** service. For more detailed information about each of these proctoring options, please access the **Proctor selection form** in the **"First Steps"** module of our Canvas course.

## Course Content Overview

BIO 341 is organized into ten week-long content modules, with assessments (quizzes or exams) scheduled every two weeks. Below is a general overview of the course content and timeline. Specific due dates for this particular academic term are listed in the **Course Summary** at the bottom of the **Syllabus** tab in Canvas. (Note that chapters in parenthesis will be covered more briefly by limiting ourselves to certain sections of the chapter.)

Week	Chapter*	Topic
1	1, 2	Introduction and review
2	3	Mendelian inheritance
<b>Quiz 1 (Chapters 1-3: Introduction &amp; foundations)</b>		
3	4	Pedigree analysis
4	5	Complex traits
<b>Quiz 2 (Chapters 4-5: Transmission genetics)</b>		
5	6	Cytogenetics
<i>Writing Assignment: OMIM Report</i>		
6	(10), 11	Altered Genes
<b>MIDTERM (Proctored; cumulative over chapters 1-6 &amp; 10-11)</b>		
7	12	Cancer genetics
8	(13, 14)	Genetic technologies & society
<b>Quiz 3 (Chapters 12-14: Altered genes and cancer)</b>		
9	15, (16)	Genomes and genomics, Therapies
10	(7, 19)	Sex determination, Ancestry, Race
<b>Quiz 4 (Chapters 7, 15-16, 19: Special topics)</b>		
<i>Writing Assignment: Genetics in the News</i>		
<b>Final Exam (Proctored; cumulative over all content to date)</b>		

## Submitting Work

All coursework must be submitted via Canvas. Items are always due by 11:59pm Pacific time of the date listed, unless otherwise indicated. Submissions should often be made as attached files (.doc .docx and .pdf formats are all accepted).

**Late Submissions:** All late submissions will have points deducted for each day that they are late past the indicated deadline (~25% per day). Submissions more than 4 days late will only be accepted at the discretion of the instructor.

## Course Components

During each module/week of the course, you will typically encounter the following **optional** and **required** course components. For best success in this course, it is recommended to complete most or all of them, particularly for content that you find more challenging. However, note that **some components are optional** and are simply available to you to aid in your studying as needed.

- **(Optional) Warm-ups:** *Get a quick introduction and mental warm-up on the week's new content by testing yourself with a few true/false questions.*
- **(REQUIRED) Read textbook chapters:** The readings are always essential for full coverage of the module's content!
- **(Highly recommended) Watch lectures:** *The recorded lectures augment the textbook readings by explaining the most complicated topics or adding context to the most interesting topics. They are **highly recommended** for the best understanding of the content. However, since they do not repeat every single detail from the textbook, they do not substitute for reading the assigned chapters.*
- **(REQUIRED) Discussion board posts:** Read the module's case study and post your response to the assigned questions. (*Follow-up* comments/discussion are **not** required, but I'd highly encourage you to read your fellow students' responses, and strike up conversations as you have time and interest!)
- **(Optional) Practice problems:** *Additional questions are available for you to practice the week's content before assignments, quizzes, and tests.*
- **(REQUIRED) Assignments:** Answer various questions about the module's content.

In addition to these recurring weekly course components, there are also periodic **quizzes**, **exams**, and **writing assignments** distributed at various times throughout the term.

- The four **quizzes** are un-proctored, open-book/open-note, **timed** assessments of the content covered since the last quiz. Your lowest quiz score will automatically be dropped, keeping your highest 3 scores.
- The **midterm** and **final exam** are **proctored, closed-book/closed-note, timed, cumulative** assessments of all content covered up to that point in the course.
- There are two **written assignments** in this course, due after week 5 and week 10. Additional details for each will be provided via Canvas.

## Grading Policy

**Point distribution:** Your grade in this course will be calculated as follows. (The following point distribution is subject to minor adjustments if necessary.)

Assignment Title and Description	Points
"Homework" Assignments	240
Writing Assignments (Discussion posts, etc.)	160
Quizzes (Open note; 3 highest @80 points each)	240
Midterm Exam (Proctored)	160
Final Exam (Proctored)	200
TOTAL	1000

### Grade scale:

Points	Percentage	Grade
900 and above	90% and above	A
800 to 899	80 to 89%	B
700 to 799	70 to 79%	C
600 to 699	60 to 69%	D
599 and fewer	59% and below	F

**Grade disputes:** If you feel that that you have been unfairly graded or that I made an error in grade calculation/entry, **please** let me know! Unless it's a clear error (such as me adding up points wrong – it does happen!), you may be asked to put in writing why you believe you should receive the points in question.