





# Biology (BIOL) 341

## Human Genetics (Revision 15)

**Status:**

Replaced with new revision, see the [course listing](#)  for the current revision 

**Delivery mode:**

[Individualized study online](#) . Delivered via Brightspace.

**Credits:**

3

**Area of study:**

Science

**Prerequisites:**

[BIOL 204](#) ; and [BIOL 205](#)  or [BIOL 207](#)  or the equivalent.

**Precluded:**

None

**Challenge:**

BIOL 341 has a challenge for credit option.

**Faculty:**

[Faculty of Science and Technology](#) 

## Overview

Biology 341: Human Genetics introduces you to the laws of heredity as they apply to humans and to the study of inherited traits. The course covers a number of other related topics, including sex determination, the composition and function of genes, the causes and effects of mutation, population genetics, the genetics of immunity and cancer, the contribution of heredity to behaviour and intelligence, genetic counselling, and genetic technologies.

## Outline

- Unit 1: An Overview of Human Genetics
- Unit 2: Cells and the Individual
- Unit 3: Human Reproduction, Development, and Aging
- Unit 4: Chromosomes
- Unit 5: The Laws of Heredity
- Unit 6: Beyond Mendel's Laws
- Unit 7: Matters of Sex
- Unit 8: Multifactorial and Behavioural Traits
- Unit 9: DNA Structure and Replication
- Unit 10: Gene Expression
- Unit 11: Mutation and Repair
- Unit 12: Population Genetics
- Unit 13: Human Ancestry and Evolution
- Unit 14: The Genetics of Immunity
- Unit 15: Cancer Genetics and Genomics
- Unit 16: Genetic Technologies and Applications

## Evaluation

To **receive credit** [↗](#) for BIOL 341, you must achieve a course composite grade of at least **D (50 percent)** [📄](#) and a grade of at least 50 percent on each of the assignments and each of the examinations.

Activity	Weight
Assignment 1	10%
Assignment 2	15%
Midterm examination	25%
Assignment 3	15%
Assignment 4	10%
Final examination	25%
<b>Total</b>	<b>100%</b>

The **midterm and final examinations** for this course must be requested in advance and written under the supervision of an AU-approved exam invigilator. Invigilators include either ProctorU or an approved in-person invigilation centre that can accommodate online exams. Students are responsible for payment of any invigilation fees. Information on exam request deadlines, invigilators, and other exam-related questions, can be found at the **Exams and grades** [↗](#) section of the Calendar.

## Materials

### Digital course materials

Links to the following course materials will be made available in the course:

Lewis, R. (2021). *Human genetics: Concepts and applications* (13th ed).  
McGraw-Hill.

# Challenge for credit

## Overview

The challenge for credit process allows you to demonstrate that you have acquired a command of the general subject matter, knowledge, intellectual and/or other skills that would normally be found in a university-level course.

Full information about **challenge for credit** [↗](#) can be found in the Undergraduate Calendar.

## Evaluation

To **receive credit** [↗](#) for the BIOL 341 challenge registration, you must achieve a grade of at least **D (50 percent)** [📄](#) on the challenge examination.

[📄](#) **Challenge for credit course registration form**

## Important links

- › [Academic advising](#) [↗](#)
- › [Program planning](#) [↗](#)
- › [Request assistance](#) [↗](#)
- › [Support services at AU](#) [↗](#)

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

*Opened in Revision 15, August 23, 2024*

*Updated August 8, 2025*

View [previous revision](#) 

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