



This course supports the assessment for Biology: Content Knowledge. Your competence will be assessed as you complete the Biology: Content Knowledge (5235) external assessment. This course of study may take up to 12 weeks to complete.

Introduction

Overview

Welcome to Biology Content Knowledge!

This comprehensive course examines your conceptual understanding of a broad range of Biology topics. High School Biology teachers must help students make connections between isolated topics. For example, when studying hormones created by endocrine glands traveling through the circulatory system to maintain homeostasis – a student is connecting many Biology topics. This course starts with macromolecules that make up cellular components and continues with understanding the many cellular processes that allow life to exist. Connections are then made between genetics and evolution. Classification of organisms leads into plant and animal development that study the organ systems and their role in maintaining homeostasis. The course finishes by studying ecology and humans effects on the environment.

This course will cover the following main topics:

- nature of science: scientific inquiry, methodology, techniques, and history
- molecular and cellular biology
- genetics and evolution
- diversity of life and organismal biology
- ecology: organisms and environments
- science, technology, and social perspectives

Watch the following video for an introduction to this course:

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Teaching Dispositions Statement

Please review the [Statement of Teaching Dispositions](#)

Course Instructor Assistance

As you prepare to demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you



apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. You should expect to work with course instructors for the duration of your coursework, so you are encouraged to contact them as soon as you begin. Course instructors are fully committed to your success!

Contact information for the biology course instructors is shown below. Their availability includes business hours, nights, and weekends.

Jackie Rahsaz

jackie.rahfaz@wgu.edu

1-877-435-7948 ext. 2058

Katie Flavin

katie.flavin@wgu.edu

1-877-435-7948 ext. 4082

The Biology Course Instructors have put together a Biology Praxis[®] Cohort to complement the content in the Course of Study. Offered monthly, this cohort focuses on the traditionally most challenging areas of biology and consists of weekly e-mails, quizzes, and live problem solving sessions. Sign up [here](#) or contact a course instructor for more information.

Competencies

This course provides guidance to help you demonstrate the following 11 competencies:

- **Competency 204.2.4: Evolution**

The graduate has a broad understanding of evolution and the history of life on earth.

- **Competency 204.2.3: Ecology**

The graduate has a broad understanding of important concepts of ecology.

- **Competency 204.2.2: Biology of Organisms**

The graduate has a broad understanding of the important concepts related to the biology of organisms.

- **Competency 204.2.1: Molecular and Cellular Biology**

The graduate has a broad understanding of the important concepts in molecular and cellular biology.

- **Competency 205.1.4: Interdependence of Life**

The graduate understands the interdependence of life and the flow of energy and matter.



- **Competency 205.1.3: Diversity of Life**

The graduate understands the historical changes in life forms (evolution of life) and the diversity of life (similarities and differences among organisms), including natural selection, global catastrophes, human influence, environmental change, and the development of hierarchical classification systems.

- **Competency 205.1.2: Heredity**

The graduate has a deep understanding of heredity as the continuity and variations of traits from one generation to the next, including the structure and regulation of RNA, the model of protein synthesis, mitosis, meiosis, human karyotype, DNA sequences, and embryology.

- **Competency 205.1.1: Cells**

The graduate has a deep understanding of cells as the structural and functional units of life, including an understanding of prokaryotic cells, eukaryotic cells, viruses, homeostasis, cell differentiation analysis, and tissue and organ development.

- **Competency 205.1.6: Ecological Issues**

The graduate understands important ecological issues, ideas, and structures, including population dynamics, community energetics, and biogeochemical cycles.

- **Competency 205.1.5: Evolutionary Patterns and History of Life**

The graduate understands evolutionary patterns and the history of life.

- **Competency 602.6.1: Teaching Methods-Science (Secondary)**

The graduate understands and provides safe, effective, research-based instruction in science.

Preparing for Success

The information in this section is provided to detail the resources available for you to use as you complete this course.

Learning Resources

To check your understanding of the Biology content, complete the chapter quizzes within the Cengage MindTap resource linked below. The chapters have been organized into the following four categories: molecular and cellular biology, genetics and evolution, diversity of life and organismal biology, and ecology: organisms and environment.

- Navigate to each chapter assigned within a unit.
- Review the chapter summary and complete the self-check quiz
- If this is an area you need to target for further practice, complete the Apply Your



Knowledge assignment and read the textbook chapter.

For other content covered on the exam, use the following resources:

- [Understanding Science: How Science Really Works](#), from your Science, Technology, & Society course, is a thorough and easy-to-read review of the nature of science.
- "[Lab Safety](#)" by Norman Herr, Ph. D., provides details on lab safety best practices and considerations.
- The [ETS Practice Exam](#) is a full-length practice test that allows you to work through a set of test questions to simulate what you will experience on the actual day of the PRAXIS exam. After a completed attempt, you can view your score and review explanations for the correct answers. You will have unlimited attempts regardless of any notice to the contrary on the ETS website. This practice test includes one set of test questions. Retaking it will not provide different sets of questions or change the order in which they are delivered.

Launch Your Course

When you are ready to begin the course, click the "Launch Course" button:

[Launch Course](#)

Pacing Guide

Pacing Guide

Weeks 1-2

- Schedule time with a Course Instructor to customize a study plan
- Review the *Understanding the Assessment* content in Course of Study
- Complete the *Start Here* section in MindTap
- Complete Self Quiz for each chapter within Unit 1
- If you find a chapter you need to target for further practice, complete the Apply Your Knowledge assignments and read the textbook chapter.

Week 3–6

- Complete Self Quiz for each chapter within Units 2–4 in MindTap.
- If you find a chapter you need to target for further practice, complete the Apply Your Knowledge assignments and read the textbook chapter.

Week 7-8

- Review the following resources to cover additional content on the exam:
- [Understanding Science: How Science Really Works](#), from your Science, Technology, & Society course, is a thorough and easy-to-read review of the nature of science.
- "[Lab Safety](#)" by Norman Herr, Ph. D., provides details on lab safety best practices and



considerations.

- Complete the practice test using the link provided in the course.
- Meet with a Course Instructor to discuss results

Weeks 9-12

- Participate in Praxis Cohort offered by Course Instructors. Sign up [here](#) or contact a course instructor for more information.
- Practice teaching the topics in the Study Companion pdf and review topics as needed.

Understanding the Assessment

Understandably, most people are nervous on exam day. To help reduce any anxiety, you should learn more about the exam experience, and how to best prepare.

The ETS Biology Content Knowledge Exam

Visit the following website where ETS lists their available preparation materials. Their free materials are very informative. You will learn how the exam is administered, the tools available during the exam, and the general format of questions.

- [ETS Preparation Materials](#)

Study Companion

ETS created a [Study Companion \(PDF\)](#) to help you prepare for this challenging exam. Navigate to the "Topics Covered" section (pp. 6–11) to view the list of topics covered by the exam.

Read the following sections of this helpful document:

1. Learn About Your Test
2. Familiarize Yourself with Test Questions
3. Practice with Sample Test Questions
6. Review Smart Tips for Success
9. Understand Your Scores

The [ETS Practice Exam](#) is a full-length practice test that allows you to work through a set of test questions to simulate what you will experience on the actual day of the PRAXIS exam. After a completed attempt, you can view your score and review explanations for the correct answers. You will have unlimited attempts regardless of any notice to the contrary on the ETS website. This practice test includes one set of test questions. Retaking it will not provide different sets of questions or change the order in which they are delivered.



Outside Vendor Assessment

Complete the Biology: Content Knowledge (5235) Praxis[®] Subject Assessment. This is a third-party exam offered through ETS. Many states require individuals to pass this exam as part of the teacher certification process. WGU requires you to pass this exam as a program requirement, regardless of the state in which you hold or are seeking certification.

- WGU will pay for your first two attempts of the Praxis exam. You will be responsible for paying for third and subsequent attempts.
- This exam is computer-delivered. WGU will not pay for extended or emergency registration, so be sure to plan ahead when scheduling the exam.
- Visit [Test Centers and Dates](#) to see where and when tests are available in your area.
- For specific information about the Biology: Content Knowledge (5235) Praxis[®] Subject Assessment, refer to its [Study Companion \(PDF\)](#) document. You will not need a calculator for this exam.
- In order to receive a pass on your degree plan, you must pass the exam based upon the WGU cut score. Additionally, if the state in which you seek licensure also requires the Praxis[®] exam, you must pass the exam based on that state's cut score before you will be admitted into Demonstration Teaching or allowed to graduate. Please note that it is possible to pass the exam based on either the WGU cut score or your state's cut score, and still need to take it again in order to satisfy the other cut score.
- Read "[What to Bring](#)"
- For directions on how to receive access to outside vendor assessments, see the "How to Schedule a Praxis[®] Exam" page.
- If your state requires you to take a state exam for teacher licensure, you are still required to take the Praxis[®] as a WGU graduation requirement in addition to the state exam you must take for licensure.

For directions on how to receive access to outside vendor assessments, see the "[Accessing Objective and Outside Vendor Assessments](#)" page.

Submitting Outside Vendor Assessment Scores

After completing an outside vendor assessment, follow the directions for submitting a score report on the "[Following Outside Vendor Assessments](#)" page.