This course supports the assessments for FWT1. The course covers 10 competencies and represents 3 competency units.

**Introduction**

**Overview**
Throughout this course you will learn about various topics in modern physics. You will study relativity and quantum theories and their applications, including atomic physics, nuclear physics, solid-state physics, and particle physics. You will also cover the application of modern physics to cosmology.

You will use the ideas and concepts learned in this course throughout your studies, so learn this material thoroughly.

**Competencies**
This course provides guidance to help you demonstrate the following 10 competencies:

- **Competency 207.4.1: The Birth of Modern Physics**
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- **Competency 207.4.2: Early Quantum Theory and Models of the Atom**
  The graduate constructs and uses models to demonstrate early quantum physics, and demonstrates how modern appliances have developed based on Einstein's theories.

- **Competency 207.4.3: Modern Quantum Theory**
  The graduate applies principles, laws, and hypotheses of modern quantum theory to solve problems, and explains de Broglie's hypothesis.

- **Competency 207.4.4: Special Theory of Relativity**
  The graduate uses the special theory of relativity to solve problems in modern physics.

- **Competency 207.4.5: Quantum Mechanics**
  The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

- **Competency 207.4.6: Quantum Mechanics of Atoms**
  The graduate solves problems in quantum mechanics of atoms using Schrodinger's equations, the Pauli exclusion principle, the Stern-Gerlach experiment, the Bragg equation, and uses properties of the periodic table to solve problems.

- **Competency 207.4.7: Molecules and Solids**
  The graduate demonstrates the concepts of bonding of molecules in solids, and solves problems related to bonding.

- **Competency 207.4.8: Nuclear Physics and Radioactivity**
  The graduate solves energy reaction and nuclear decay problems, and determines the basic structures and properties related to nuclear physics and radioactivity.

- **Competency 207.4.9: Elementary Particles**
  The graduate solves problems in elementary particle physics, and demonstrates how
scientists probe the nucleus and accelerate charged particles.

- Competency 207.4.10: Astrophysics, Cosmology, and General Relativity
  The graduate calculates the distance to and brightness of stars, determines why and how the universe is expanding, and uses concepts of general relativity to explain conditions of equivalence in space.

Teaching Dispositions Statement
Please review the Statement of Teaching Dispositions.

Course Mentor Assistance
As you prepare to successfully demonstrate competency in this subject, remember that course mentors 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 mentors are excited to hear from you and eager to work with you.

Successful students report that working with a course mentor is the key to their success. Course mentors 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. Even if things don’t work out on your first try, course mentors act as a support system to guide you through the revision process. You should expect to work with course mentors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course mentors are fully committed to your success!

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
The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

In the following resources, you may read about No Child Left Behind (NCLB). Please be aware that as of December 2015, President Barack Obama replaced NCLB with the Every Student Succeeds Act (ESSA). This new act reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation’s national education law and longstanding commitment to equal opportunity for all students. Although not required for this course, you are encouraged to familiarize yourself with the new act. For additional information, please visit the following links from the U.S. Government and the U.S. Department of Education:

- Webinar recording
- Read the ESEA now referred to as the ESSA
- Fact sheet on ESSA
- Transition Letter

Enroll in Learning Resources
You will need to enroll in or subscribe to additional learning resources as a part of this course. You may already have enrolled in these resources for other courses. Please check the "Learning Resources" tab and verify that you have access to the following learning resources. If you do not currently have access, please enroll or renew your enrollment at this time.

Note: For instructions on how to enroll in or subscribe to learning resources through the "Learning Resources" tab, please see the "Acquiring Your Learning Resources" page.

Mastering Physics
This web-based resource includes quizzes, tutorials, simulations, and access to the following e-text:


AMNH Seminar (Optional)
This online resource uses multimedia and discussions to connect teachers and future teachers from around the world to cutting-edge research, classroom resources, and each other. Participating in the seminars develops your understanding of the content, models appropriate teaching technique, and exposes you to an array of resources that can be used in your classroom or to help with lesson planning.

While this is an optional learning resource, you are encouraged to take advantage of this opportunity. These seminars, which are typically around $400, are covered as part of your WGU tuition. Each six-week seminar requires about eight hours per week of your time. The seminars have definite start and stop times, so review the AMNH Calendar to determine when the course is offered and consult your mentor to coordinate this seminar into your schedule. Discuss the AMNH-WGU FAQ with your mentor to better understand how to successfully use the AMNH course as a WGU learning resource.

LabPaq
The "Physics" LabPaq from Hands-On Labs is a physical shipment. This lab kit (LabPaq) is covered by your program lab fee and is required to complete the performance assessment. You may have already enrolled for this resource through a different course. This kit includes a lab manual, laser, digital multi-meter, thermometer, stop watch, electrical components, optical equipment, pulleys, scales, and all of the other equipment necessary to complete experiments covering mechanics, electronics, magnetism, optics, waves, and other physics topics. The experiments reinforce science content and teach laboratory techniques.

Automatically Enrolled Learning Resources

You will be automatically enrolled at the activity level for the following learning resources. Simply click on the links provided in the activities to access the learning materials.

VitalSource E-Texts
The following textbooks are available to you as e-texts within this course. You will be directly
linked to the specific readings required within the activities that follow.


*Note: These e-texts are available to you as part of your program tuition and fees, but you may purchase hard copies at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.*

**Thinkwell**

You will access Thinkwell materials at the activity level within this course. This web-based resource includes multimedia video lectures, review notes, interactive animations, and sample exercises.

- Thinkwell Physics I Online for Physics Majors

**Additional Preparations**

**Graphing Calculator**

Acquire a graphing calculator and familiarize yourself with how to use it. Refer to the [Calculator Guidelines](#) in the WGU Student Handbook for details regarding calculators that are acceptable on WGU exams.

If you are in a secondary mathematics program, refer to the [WGU Calculator Recommendations](#) for calculator suggestions for your degree program. If you are not in a secondary mathematics program, contact your mentor to discuss calculators appropriate to your degree program.

**The Special Theory of Relativity**

You begin your study of modern physics with the first of two major theories, the special theory of relativity. In this section, you will learn about the postulates of special relativity and the physical consequences of those postulates.

As you learn about this material, keep in mind the knowledge and understanding of physics at the turn of the twentieth century, and try to appreciate the innovation in Einstein's thinking.

**The Special Theory of Relativity**

In 1905, Einstein published three major papers that changed our understanding of physics. One of those papers was on the special theory of relativity, which shows that space and time depend on relative motion. In other words, the length of an object and the amount of time that passes depends on how fast the object is moving. The faster something moves, the shorter it becomes, and the slower time passes! This is the basic concept of length contraction and time dilation.

This topic addresses the following competencies:

- Competency 207.4.1: The Birth of Modern Physics
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and
demonstrate how theories in physics change.

- Competency 207.4.4: Special Theory of Relativity
  The graduate uses the special theory of relativity to solve problems in modern physics.

**Special Theory of Relativity Conceptual Overview**

Read the following chapter in *Conceptual Physics*:

- chapter 35 ("Special Theory of Relativity")

The chapter is an excellent overview of the special theory of relativity. You will want to read this chapter several times, becoming more familiar with the topics and concepts each time.

**Michelson Interferometer**

Read the following section from *University Physics* in Mastering Physics:

- section 35.5 in chapter 35 ("Interference")

**Understanding Einstein’s Theory of Relativity**

Watch the videos in the following sections from Thinkwell:

- section 9.1 ("Understanding Einstein's Theory of Relativity")
- section 9.2 ("The Lorentz Transformations")

**Special Theory of Relativity Review**

After having completed this topic you should be able to do the following:

- explain the significance of the Michelson-Morley experiment
- describe the meaning of the two postulates of Einstein's special theory of relativity
- explain why two observers can disagree about whether two events are simultaneous
- solve problems involving the relativity of time and length and Lorentz transformations

**Quantum Theory**

You will now turn your attention to the second of the two major theories of modern physics, the quantum theory. This theory was born with the discovery that light waves come in bundles (quanta) and have some of the properties that are normally attributed to particles.

**Quantum Theory Overview**

After James Clark Maxwell formulated a complete theory on electrodynamics, light was well understood to be a type of wave. In 1905, Einstein published a paper on the photoelectric effect, where he proved that light behaved as a particle. This created two schools of thought, those who understood light to be a wave, and those who understood light to be a particle. Who was
right? This section covers the conceptual overview of the quantum theory.

This topic addresses the following competencies:

- **Competency 207.4.1: The Birth of Modern Physics**
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- **Competency 207.4.2: Early Quantum Theory and Models of the Atom**
  The graduate constructs and uses models to demonstrate early quantum physics, and demonstrates how modern appliances have developed based on Einstein's theories.

- **Competency 207.4.3: Modern Quantum Theory**
  The graduate applies principles, laws, and hypotheses of modern quantum theory to solve problems, and explains de Broglie's hypothesis.

- **Competency 207.4.5: Quantum Mechanics**
  The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

**Quantum Theory Overview**

Read the following chapters in *Conceptual Physics*:

- [chapter 31 ("Light Quanta")](#)
- [chapter 32 ("The Atom and the Quantum")](#)

In your notebook, list each experiment described in these chapters. For each experiment, describe how the experiment changed the current understanding of physics.

**Quantum Theory Review**

Now that you have completed this topic you should be able to do the following:

- describe the evolution of the atomic theory
- describe the quantum theory (i.e. wave-particle duality of light and the wave nature of particles)
- explain how important experiments led to the quantum theory
- describe the principle of complementarity and correspondence

**Particle Properties of Waves**

The quantum theory can be divided into two complementary topics. The first topic is the wave-particle duality of light, which states that light exhibits both wave and particle properties. The second topic is the wave nature of particles, which states that particles also exhibit both wave and particle properties.

You will begin by looking at the wave-particle duality of light.

This topic addresses the following competencies:
Competency 207.4.1: The Birth of Modern Physics
The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

Competency 207.4.2: Early Quantum Theory and Models of the Atom
The graduate constructs and uses models to demonstrate early quantum physics, and demonstrates how modern appliances have developed based on Einstein's theories.

Competency 207.4.3: Modern Quantum Theory
The graduate applies principles, laws, and hypotheses of modern quantum theory to solve problems, and explains de Broglie's hypothesis.

Competency 207.4.5: Quantum Mechanics
The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

**Photons, Electrons, and Atoms**

Read the following chapter from *University Physics* in Mastering Physics:

- chapter 38 (“Photons, Electrons, and Atoms”)

**Particle Properties of Waves Review**

Now that you have completed this topic, you should be able to do the following:

- explain how line spectra, the photoelectric effect, and x rays led to new theories on the nature of light
- explain how the photon theory explains the photoelectric effect and light emitted by hot objects
- explain how we can reconcile the wave and particle properties of light

**The Wave Nature of Particles**

The quantum theory can be divided into two complementary topics. The first topic is the wave-particle duality of light, which we covered in the previous topic. The second topic is the wave nature of particles, which states that particles also exhibit both wave and particle properties.

You will now study the wavelike properties of particles.

This topic addresses the following competencies:

- Competency 207.4.1: The Birth of Modern Physics
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- Competency 207.4.2: Early Quantum Theory and Models of the Atom
  The graduate constructs and uses models to demonstrate early quantum physics, and demonstrates how modern appliances have developed based on Einstein's theories.
• Competency 207.4.3: Modern Quantum Theory
  The graduate applies principles, laws, and hypotheses of modern quantum theory to solve problems, and explains de Broglie's hypothesis.

• Competency 207.4.5: Quantum Mechanics
  The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

The Wave Nature of Particles

Read the following chapter from *University Physics* in Mastering Physics:

- chapter 39 ("The Wave Nature of Particles")

The Wave Nature of Particles Review

Now that you have completed this topic, you should be able to do the following:

- explain how the diffraction experiment provides evidence for the wave properties of particles
- describe how De Broglie's proposal explains the wave nature of particles
- explain how the Heisenberg uncertainty principle limits what can be measured
- explain how an electron microscope can provide higher magnification than a visible-light microscope
- describe the purpose and relationship between wave functions and the Schrödinger equation

Quantum Mechanics

Erwin Schrödinger was an Austrian physicist who contributed greatly to the development of quantum mechanics. He developed the mathematical theory of wave mechanics that, for the first time, allowed the wave behavior of physical, and sometimes particle-like, systems to be calculated. The Schrodinger equation serves the same role in quantum mechanics that Newton's second law (F=ma) plays in classical physics.

Quantum Mechanics

Using Newton's laws, you are able to find the location and resulting dynamics of an object. You will learn to use the Schrödinger equation to find a particle's wave function as defined in quantum mechanics. The mathematics is difficult. Try to focus more on the concepts, such as what the equations are used for and how they are used.

This topic addresses the following competencies:

• Competency 207.4.1: The Birth of Modern Physics
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

• Competency 207.4.2: Early Quantum Theory and Models of the Atom
  The graduate constructs and uses models to demonstrate early quantum physics, and
demonstrates how modern appliances have developed based on Einstein's theories.

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- Competency 207.4.6: Quantum Mechanics of Atoms
  The graduate solves problems in quantum mechanics of atoms using Schrödinger's equations, the Pauli exclusion principle, the Stern-Gerlach experiment, the Bragg equation, and uses properties of the periodic table to solve problems.

- Competency 207.4.7: Molecules and Solids
  The graduate demonstrates the concepts of bonding of molecules in solids, and solves problems related to bonding.

Quantum Mechanics Conceptual Overview

Read the following sections from chapter 32 ("The Atom and the Quantum") in Conceptual Physics:

- "Quantum Mechanics"
- "Correspondence Principle"

Quantum Mechanics

Read the following sections from University Physics in Mastering Physics:

- sections 40.1 - 40.3 in chapter 40 ("Quantum Mechanics")

Quantum Mechanics Review

Now that you have completed this topic, you should be able to do the following:

- describe how to calculate the wave functions and energy levels for a particle confined to a box
- describe how to analyze the quantum mechanical behavior of a particle in a potential well
- explain the process of tunneling

Atomic Structures

You will learn about the structure of atoms and how the Schrödinger equation can be applied to the hydrogen atom. You will also study the exclusion principle to better understand more complex atoms.

This topic addresses the following competencies:

- Competency 207.4.1: The Birth of Modern Physics
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- Competency 207.4.2: Early Quantum Theory and Models of the Atom
The graduate constructs and uses models to demonstrate early quantum physics, and demonstrates how modern appliances have developed based on Einstein's theories.

- **Competency 207.4.5: Quantum Mechanics**
The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

- **Competency 207.4.6: Quantum Mechanics of Atoms**
The graduate solves problems in quantum mechanics of atoms using Schrödinger's equations, the Pauli exclusion principle, the Stern-Gerlach experiment, the Bragg equation, and uses properties of the periodic table to solve problems.

- **Competency 207.4.7: Molecules and Solids**
The graduate demonstrates the concepts of bonding of molecules in solids, and solves problems related to bonding.

**Atomic Structure Overview**

Read the following chapter in *Conceptual Physics*:

- [chapter 11 (“The Atomic Nature of Matter”)]

**Atomic Structure**

Read the following chapter from *University Physics* in Mastering Physics:

- [chapter 41 (“Atomic Structure”)]

**Atomic Structure Review**

Now that you have completed this topic, you should be able to do the following:

- describe the states of a hydrogen atom in terms of quantum numbers
- describe the importance of the Stern-Gerlach experiment
- explain how the exclusion principle is used to analyze the structure of many-electron atoms
- use properties of the periodic table to solve problems

**Molecules and Condensed Matter**

You have learned how quantum mechanics can be used to describe the behavior and properties of atoms. You will now study how quantum mechanics can be used to describe the behavior and properties of molecules, liquids, and solids.

This topic addresses the following competencies:

- **Competency 207.4.1: The Birth of Modern Physics**
The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- **Competency 207.4.2: Early Quantum Theory and Models of the Atom**
The graduate constructs and uses models to demonstrate early quantum physics, and
demonstrates how modern appliances have developed based on Einstein's theories.

- **Competency 207.4.5: Quantum Mechanics**
The graduate uses the principles and theories of quantum mechanics to solve problems, applies Heisenberg's uncertainty principle to problems, and demonstrates the concept of tunneling.

- **Competency 207.4.6: Quantum Mechanics of Atoms**
The graduate solves problems in quantum mechanics of atoms using Schrödinger's equations, the Pauli exclusion principle, the Stern-Gerlach experiment, the Bragg equation, and uses properties of the periodic table to solve problems.

- **Competency 207.4.7: Molecules and Solids**
The graduate demonstrates the concepts of bonding of molecules in solids, and solves problems related to bonding.

**Molecules and Condensed Matter**

Read the following chapter from *University Physics* in Mastering Physics:

- chapter 42 ("Molecules and Condensed Matter")

**Superconductor Temperature Sensor Lab**

Complete the physics LabPaq Experiment 22: Semiconductor Temperature Sensor. E-mail your results to the course mentor for review.

**Molecules and Condensed Matter Review**

Now that you have completed this topic, you should be able to do the following:

- describe the various types of bonds that hold atoms together
- explain how rotational and vibrational dynamics are revealed by molecular spectra
- describe the energy-band concept
- explain how the free-electron model describes properties of metals
- describe how the characteristics of a semiconductor are changed by adding an impurity
- identify applications of semiconductors

**Nuclear Physics and Radioactivity**

You have studied atoms and how those atoms combine to form molecules and solids. You will now change directions and go deeper into the atom and study the nuclei of atoms. You will examine important properties of the nuclei, including the nuclear force holding them together.

**Nuclear Physics**

You will study the structure and binding that occurs in the nucleus of an atom, the stability of the nucleus and radioactive decay, and the two types of nuclear reactions (fission and fusion).

This topic addresses the following competencies:

- **Competency 207.4.1: The Birth of Modern Physics**
The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and
demonstrate how theories in physics change.

- **Competency 207.4.8: Nuclear Physics and Radioactivity**
  The graduate solves energy reaction and nuclear decay problems, and determines the basic structures and properties related to nuclear physics and radioactivity.

**Nuclear Physics Conceptual Overview**

Read the following chapters in *Conceptual Physics*:

- chapter 33 (“The Atomic Nucleus and Radioactivity”)
- chapter 34 (“Nuclear Fission and Fusion”)

**Radioactive Decay Lab**

Complete the experiment "Radioactive Decay" in the physics LabPaq. After completing the lab, e-mail your lab notes to the course mentor to verify your answers.

**Nuclear Physics**

Read the following chapter from *University Physics* in Mastering Physics:

- chapter 43 (“Nuclear Physics”)

**Nuclear Physics Review**

Now that you have completed this topic, you should be able to do the following:

- describe basic properties of the nucleus
- explain how the binding energy depends on the number of protons and neutrons
- differentiate between the types of radiation
- analyze the rate of decay
- recognize the biological hazards and uses of radiation
- compare types of nuclear reactions
- recognize important applications of nuclear reactions

**Elementary Particles and the Universe**

You will study the smallest things known to mankind (elementary particles) and the largest (the universe itself). Elementary particles are the building blocks of nature and play an important role in understanding the history of the universe on its largest scale.

**Elementary Particles**

You will learn about the subatomic particles that make up atomic particles. Elementary particles are the building blocks of nature. They have complex structures that, because of modern physics, are fairly well understood. You will study properties of these particles, the laws that govern them, and their classifications. You will also study how particle accelerators are used to answer some of the most fundamental questions still remaining about our universe.

This topic addresses the following competencies:

- Competency 207.4.1: The Birth of Modern Physics
The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- Competency 207.4.9: Elementary Particles
  The graduate solves problems in elementary particle physics, and demonstrates how scientists probe the nucleus and accelerate charged particles.

- Competency 207.4.10: Astrophysics, Cosmology, and General Relativity
  The graduate calculates the distance to and brightness of stars, determines why and how the universe is expanding, and uses concepts of general relativity to explain conditions of equivalence in space.

**Particle Physics**

Read the following sections from *University Physics* in Mastering Physics:

- sections 44.1 - 44.5 in chapter 44 ("Particle Physics and Cosmology")

**Particle Accelerators**

Review the information from the following websites:

- How Atom Smashers Work
- Cyclotron

The websites show examples of particle accelerators. The Large Hadron Collider has recently been fired up, and is about to investigate some very interesting questions in particle physics.

**Elementary Particle Review**

Now that you have completed this topic, you should be able to do the following:

- describe the variation in the fundamental subatomic particles
- explain how particles accelerators and detectors are used to learn about subatomic particles
- describe the four fundamental forces
- explain how the quark model can explain the structure of protons and neutrons

**Astrophysics, Cosmology, and General Relativity**

Astrophysics studies the dynamics of stars, solar systems, galaxies, and the universe as a whole. Cosmology is the study of the history and beginning of the universe. General relativity explains the effect gravity has on light.

This topic addresses the following competencies:

- Competency 207.4.1: The Birth of Modern Physics
  The graduate designs standards-based activities to teach concepts of classical physics of the 1890s, identify problems facing physicists at end of the nineteenth century, and demonstrate how theories in physics change.

- Competency 207.4.9: Elementary Particles
The graduate solves problems in elementary particle physics, and demonstrates how scientists probe the nucleus and accelerate charged particles.

- Competency 207.4.10: Astrophysics, Cosmology, and General Relativity
  The graduate calculates the distance to and brightness of stars, determines why and how the universe is expanding, and uses concepts of general relativity to explain conditions of equivalence in space.

**Astrophysics and Cosmology**

Read the following sections from *University Physics* in Mastering Physics:

- sections 44.6 - 44.7 in chapter 44 ("Particle Physics and Cosmology")

**General Relativity**

Read the following chapter in *Conceptual Physics*:

- chapter 36 ("General Theory of Relativity")

**Cosmology and General Relativity Review**

Now that you have completed this topic, you should be able to do the following:

- explain why we believe the universe is expanding
- describe the early history of the universe after the Big Bang
- explain how the concept of curved space can be used to describe an orbiting body

**Final Steps**

Congratulations on completing the activities in this course! This course has prepared you to complete the assessments associated with this course. If you have not already been directed to complete the assessments, schedule and complete your assessments now.

**The WGU Library**

The WGU Library is available online to WGU students 24 hours a day.

For more information about using the WGU Library, view the following videos on The WGU Channel:

- WGU: Accessing the Library
- WGU Library: Finding Articles, Books, & E-Reserves

**Center for Writing Excellence: The WGU Writing Center**

If you need help with any part of the writing or revision process, contact the Center for Writing Excellence (CWE). Whatever your needs—writing anxiety, grammar, general college writing concerns, or even ESL language-related writing issues—the CWE is available to help you. The CWE offers personalized individual sessions and weekly group webinars. For an appointment, please e-mail writingcenter@wgu.edu.
Accessibility Policy

Western Governors University recognizes and fulfills its obligations under the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973 and similar state laws. Western Governors University is committed to provide reasonable accommodation(s) to qualified disabled learners in University programs and activities as is required by applicable law(s). The Office of Student Accessibility Services serves as the principal point of contact for students seeking accommodations and can be contacted at ADASupport@wgu.edu. Further information on WGU's Accessibility policy and process can be viewed in the student handbook at the following link:

Student Support

WGU values your input! Please submit any feedback you have using the following form:

Access the WGU Library 24 hours a day, 7 days a week:

Visit the Student Success Center to access a variety of topics that will help you succeed at WGU:

Contact the Center for Writing Excellence (CWE) for help with any part of the writing or revision process: