

Astronomy Syllabus

Room	A-5, periods 3 and 4
Instructor	Ms Sarah Walsh
Course Philosophy	This two semester course covers the discoveries, equipment and methods of astronomy, from historical constructs, through historical instrumentation and discoveries, to current research. Laboratory work guides students toward recreating important astronomical discoveries and using their skills to make new discoveries. Basic physics concepts pertaining to astrophysics will be emphasized in this course as well. A Biblical young universe worldview will be focused on thorough the course along with theories of conventional astronomy.
Contact	swalsh@berean-eagles.org chemlady2012@gmail.com (for faster response) Office phone: ext. 213
Textbooks	Astronomy Today: Chaisson & McMillan Astronomy: The Heavens Declare the Glory of God, Walsh

Grading Scheme	<p><u>Quarter Grades:</u> Tests and Projects: 40% Quizzes: 20% Classwork 20% Homework: 20%</p> <p><u>Semester Grades:</u> 1st Quarter: 40% 2nd Quarter: 40% Final Exam: 20%</p>
Tests and Quizzes	There will be a test and quiz given nearly every week of the year. Tests are on one chapter or two. Quizzes will usually be on part of a chapter and will be completed on either the iPad or a hardcopy.
Projects and Field Trip	There is one field trip scheduled for the year for the astronomy class in February. There will be a few different projects throughout the year to be announced later. Extensive labs will be graded under the project category.
Classwork	Classwork includes lab reports, in class activities and computer tutorials. Classwork is due at the end of class unless otherwise stated. Classwork not completed in class will be due the next day. Participation includes class activities such as review games, iPad activities, etc.
Homework	There will be about two to three homework assignments each week consisting of book problems. Students will periodically be required to do observations of the sky for planets and constellations. Also, students will periodically need to access iPad apps to observe astronomical phenomena.
Late work policy	Homework and classwork is due at the beginning of class on the due

	date. Late work turned in one day late will be marked down to the grade of a C; work turned in two days or later will be marked down 50%. Projects and formal lab reports will be marked down 10% for each day late.
Astronomy apps	Astronomy class will use the iPad on a daily basis. Some apps that require payment have already been installed on your iPad by the school, but there are some free apps that students will be required to install.
Learning Objectives:	<ol style="list-style-type: none"> 1. To understand that the science of physics is observing what God has set in motion 2. To develop the skill of observation into a viable medium for problem solving 3. To experience a hands-on approach to discovering complexities of God's creation 4. To see that the laws of physics in the natural universe are not contradictory to the reality revealed to us by God in Scripture 5. To help students gain a greater appreciation for God as our creator and the one to whom we are accountable for all that we do 6. Demonstrate conceptual and technical understanding of the objects and forces in the universe and how these objects and forces interact. 7. Manipulate the instrumentation and processes that allow humans to understand and explore distant locations; this understanding includes familiarity with astronomy, history, physics, and current research in cosmological investigations. 8. Demonstrate conceptual and technical understanding of the universe through the nature of planets, stars, black holes, pulsars, white holes, dark matter, and dark energy. 9. Understand that the universe was created with purpose and reason; and modern science with all of its experiments, exploration, and sophistication has never proven otherwise

Course Outline

Unit 1: Astronomy and the Universe

Chapters 1 - 5

Unit 2: Our Planetary System

Chapters 6 - 15

Unit 3: Stars and Stellar Evolution

Chapters 16 – 19

Unit 4: Galaxies and Cosmology

Chapters 20 - 23