



On-Campus Course Syllabus
SCI 205a
Physical Science (Independent Study)
Spring 2019

Class Information

Day and Time: (enter your class day and time)

Room Number: (enter your class room number)

Contact Information

Instructor Name: Kirk Spencer

Instructor Email: kspencer@criswell.edu

Instructor Phone: 469.834.5211

Instructor Office Hours: Mon 10:30 to 11:00 & 1:00 to 3:00, Tues 10:30 to 11:00am & 1:00 to 2:00, Thurs 10:30 to 11:00am & 1:00 to 2:00

Course Description and Prerequisites

A survey of the structure and history of the universe focused on inanimate (non-living) forces of the physical world. This includes the principles of chemistry and physics of how these are applied within the sciences of astronomy (space science) and geology (earth science). The philosophy and history of science will be explored, as well as the interface between science and religion.

Course Objectives

Upon completion of this course the student should be able to:

- A. Express and evaluate the major scientific theories and discoveries of modern science, demonstrating a working knowledge of inanimate physical forces and scientific terminology.
- B. Recognize and analyze the natural processes that scientists believe have shaped the heavens and the earth.
- C. Articulate rudimentary facts pertaining to scientific discussions of cosmic, geologic and biologic history as proposed by current accepted theories such as the Big Bang, the Nebular Hypothesis, Plate Tectonics and Evolution.
- D. Evaluate and verbalize the viability of the different ways scientist and theologians have interacted, analyzing the strengths and weaknesses of the solutions they have proposed in the face of difficulties.

Required Textbooks

Spencer, Kirk L., Heaven and Earth; an Orientation in Natural Science. Unpublished, 2004

Spencer, Kirk L., Science and Theology; a compendium. Unpublished, 2004

Course Requirements and Assignments

Reading

Reading assignments are to be done before the class covering that material. As you read through and study the textbooks, mark-up the text using your own methods, involving highlighting or underlining or boxes around text. Also write notes, ideas and comments in the margins. This will document that you have read all of the material. At the end of the semester I will collect your manuscript to determine how thoroughly you have read the material based upon how it is marked and will assign a letter grade. Your reading grade will determine **10%** of your final grade. Be sure to write your name and box number on the outside of the front page of the manuscript. Please do not forget to mark-up and annotate the manuscript thoroughly as you read and study it. This requirement is designed to be a relatively easy assignment to document a close reading of the text. If you do it, it is a simple way to receive a high score. However if you do not do it, I am forced to average in a zero to your final grade.

Exams

A multiple-choice exam will be given approximately every two weeks (5 exams) over the reading assignment and lectures. Most material from the lectures covered on the exam will be summarized as images and captions in the content blocks on blackboard. The average of these 5 exams will determine **70%** of your course grade.

Final

There will be a comprehensive final exam which should be taken at the end of the course. This exam will be made up primarily from questions taken from previous exams. There will be one matching questions which will be drawn from you reading and discussion of the different views which try to harmonize science and Scripture covered in the manuscript "Science and Theology: a compendium." If you have a basic familiarity with this material you should be able to answer this question.

Research

Research Paper: A 15-20 page paper, double spaced; dealing with a topic or controversy which involves some aspect of Natural Science. The topic should be approved by the professor within the first four weeks of class. The grade on this paper will determine **20%** of the student's course grade.

(Because the lectures in the classroom presentation have been digitized, it is now possible for independent study and distance-learning classes to have access to them. If the student desires to view all the classroom lectures in order before taking the exams—If the student agrees to do this as a project, it will be considered as a replacement for the term paper. Please contact the professor for more information on this option.)

Attendance

In an independent Study class, attendance requirement will be based upon consistent submission of work during the semester. If a student goes more than three weeks without accessing the material and submitting work, they will be considered deficient in attendance. At this point the Professor may set deadlines for completing work during the remainder of the semester.

Grade Weight

Reading Assignments	10%
Multiple Choice Exams	70%
Participation	10%
<u>Essay Final Exam</u>	<u>10%</u>
Total	100%

EXTRA CREDIT

(Points are added to a multiple choice test score)

DALLAS

Perot Museum of Natural History	10pts
Dallas World Aquarium	10pts
Dallas Arboretum	10pts
The Rock Barrel Rock Shop	5pts

FORT WORTH ARTS DISTRICT

Japanese Garden	5pts
Museum of History and Science	5pts
Ft. Worth Zoo or Caldwell Zoo (Tyler)	10pts

Other extra credit projects will be considered with approval from the instructor. However extra-credit can only account for 10% (60pts total) of the course grade or a curve of one letter grade.

Course/Classroom Policies and Information

ONLINE EXAM PROTOCOL

Manuscript and Lecture Content Tests

These will be timed tests with multiple choice and matching questions. The student should take the exam as quickly as possible from memory. After the exam is completed, you may use the time remaining to check and change any answers by searching the manuscript and notes you have taken. While you can use the manuscript and your notes in this search, you cannot use any other sources. Each of these exams can only be taken once.

Here is a list of activities which will be considered cheating:

- Talking to someone about the exam to give or get information about the content of the exam.
- Using the course manuscripts or lecture notes to find the answer to a question before you have completed the entire exam. (Although these sources can be used to find answers in an “open-book” format after you have completed the entire exam and still have time remaining.)
- Using any other source material other than the course manuscripts and your notes to look up answers while taking the exam.
- Letting someone else take the exam for you.
- Taking the exam for someone else.

Class Attendance

Students are responsible for enrolling in courses for which they anticipate being able to attend every class session on the day and time appearing on course schedules, and then making every effort to do so. When unavoidable situations result in absence or tardiness, students are responsible for acquiring any information missed. Professors are not obliged to allow students to make up missed work. Per their independent discretion, individual professors may determine how attendance affects students' ability to meet course learning objectives and whether attendance affects course grades.

Grading Scale

A	97-100	4.0 grade points per semester hour
A-	93-96	3.7 grade points per semester hour
B+	91-92	3.3 grade points per semester hour
B	88-90	3.0 grade points per semester hour
B-	86-87	2.7 grade points per semester hour
C+	83-85	2.3 grade points per semester hour
C	80-82	2.0 grade points per semester hour
C-	78-79	1.7 grade points per semester hour
D+	75-77	1.3 grade points per semester hour
D	72-74	1.0 grade point per semester hour
D-	70-71	0.7 grade points per semester hour
F	0-69	0.0 grade points per semester hour

Incomplete Grades

Students requesting a grade of Incomplete (I) must understand that incomplete grades may be given only upon approval of the faculty member involved. An "I" may be assigned only when a student is currently passing a course and in situations involving extended illness, serious injury, death in the family, or employment or government reassignment, not student neglect.

Students are responsible for contacting their professors prior to the end of the semester, plus filing the appropriate completed and approved academic request form with the Registrar's Office. The "I" must be removed (by completing the remaining course requirements) no later than 60 calendar days after the grade was assigned, or the "I" will become an "F."

Academic Honesty

Absolute truth is an essential belief and basis of behavior for those who believe in a God who cannot lie and forbids falsehood. Academic honesty is the application of the principle of truth in the classroom setting. Academic honesty includes the basic premise that all work submitted by students must be their own and any ideas derived or copied from elsewhere must be carefully documented.

Academic dishonesty includes, but is not limited to:

- cheating of any kind,
- submitting, without proper approval, work originally prepared by the student for another course,
- plagiarism, which is the submitting of work prepared by someone else as if it were his own, and
- failing to credit sources properly in written work.

Institutional Email Policy

All official college email communications to students enrolled in this course will be sent exclusively to students' institutional email accounts. Students are expected to check their student email accounts regularly and to respond in an appropriate and timely manner to all communications from faculty and administrative departments.

Students are permitted to setup automatic forwarding of emails from their student email accounts to one or more personal email accounts. The student is responsible to setup and maintain email forwarding without assistance from college staff. If a student chooses to use this forwarding option, he/she will continue to be responsible for responding appropriately to all communications from faculty and administrative departments of the college. Criswell College bears no responsibility for the use of emails that have been forwarded from student email accounts to other email accounts.

Disabilities

In order to ensure full class participation, any student with a disabling condition requiring special accommodations (e.g., tape recorders, special adaptive equipment, special note-taking or test-taking needs) is strongly encouraged to contact the instructor at the beginning of the course, or if a student has a learning disability, please inform the professor so assistance can be provided.

Intellectual Property Rights

Unless otherwise specifically instructed in writing by the professor, students must neither materially nor digitally reproduce materials from any course offered by Criswell College for or with the significant possibility of distribution.

Resources and Support

Blackboard and CAMS: Criswell College uses Blackboard as its web-based learning tool and CAMS for student data. Students needing assistance with either of these resources should contact the Campus Software Manager at cbutler@criswell.edu.

Student Services: The Student Services Office exists to foster and encourage success in all areas of life—physical, intellectual, spiritual, social, and emotional. Students are encouraged to reach out for assistance by contacting the office at 214.818.1332 or studentservices@criswell.edu. Pastoral and certified counseling services are also available to Criswell students. Appointments are scheduled through the Dean of Students Jeff Campbell, at jcampbell@criswell.edu.

Wallace Library: Students can access academic resources and obtain research assistance by visiting the Wallace Library, which is located on campus. For more information, students can email the Wallace Library at library@criswell.edu or call 214.818.1348.

Writing Center: Students are encouraged to consult with writing tutors to improve and enhance their skills and confidence by practicing techniques of clear and effective writing. To consult with a tutor, students can visit the Writing Center located on the first floor near the Computer Lab, or they can schedule an appointment by emailing writingcenter@criswell.edu or calling 214.818.1373.

Course Outline/Calendar

BOOK 1 **Philosophy of Science**

Weekly Session

Assignment

Week 1 (January 21-25)

Introduction

Read Chapter 1 “The Scientific Enterprise”

Week 2 (January 28- February 1)

Astronomy: Starlight and Telescopes

Deep Space: Quasars, Galaxies

Read Chapter 2 “The History of Science”

Read Chapter 3 “Astronomy”

[Note: The Scientific Enterprise & History of Science Chapters are required reading and should be marked-up, but this material will not be covered in class or on any of the exams.]

BOOK 2 **Astronomy—Space Science**

Weekly Session

Assignment

Week 3 (February 4-8)

Nebulae

The Solar System: Outer Planets

Study Chapter 3 “Astronomy”

Week 4 (February 11-15)

The Solar System: Inner Planets

Comets, Meteors, UFO Video

Study Chapter 3 “Astronomy”

Reading in Science and Theology

Take Test over “ASTRONOMY” Chapter 3

BOOK 3 **Geology—Earth Science** **Oceans**

Weekly Session

Assignment

Week 5 (February 18-22)

Ocean of Air: The Atmosphere

Hurricanes and Tornadoes

Read Chapter 4 “Oceans”

Week 6 (February 25-March 1)

Earthquakes & Plate Tectonics

Mountains & Wilson Cycle

Study Chapter 4 “Oceans”

Reading in Science and Theology

Take Test over “OCEANS” Chapter 4

BOOK 4
Geology—Earth Science
Rivers

Weekly Session

Assignment

Week 7 (March 4-8)

Plate Tectonics: Mountains

Read Chapter 4 “Rivers”

(March 11-15)

SPRING BREAK

No Classes

Read Chapter 5 “Biology”

[Note: The Biology Chapter is required reading and should be marked-up, but this material will not be covered on any of the exams.]

Week 8 (March 18-22)

Volcanoes

Study Chapter 4 “Rivers”

BOOK 5
Historical Science
Origin Myths

Weekly Session

Assignment

Week 9 (March 25-29)

Streams, Caves & Shorelines

Reading in Science and Theology
Read Chapter 6 “Historical Science”

Week 10 (April 1-5)

Glaciers, Deserts & Landslides
Questions on Historical Science

Study Chapter 6 “Historical Science”

Take Test over “RIVERS” Chapter 4

Week 11 (April 8-12)

Transition to Forum
Questions on Historical Science

Reading in Science and Theology

Week 12 (April 15-19)

Science & Theology: Scientism

Reading in Science and Theology

Take Test over “Historical Science” Chapter 6

BOOK 6
Science and Theology

Weekly Session

Assignment

Week 13 (April 22-26)

Science & Theology: Creation Science

Reading in Science and Theology
Finish up all multiple-choice exams

Week 14 (April 29 – May 3)

Science & Theology: Holey Floor View

Prepare For Final

Week 15 (May 6-10)

Review for Final

Prepare For Final

Week 16 (May 13-17)

Finish all work including the Comprehensive Final Exam