



On-Campus Course Syllabus

SCI 206a

Biology

Fall 2020

Class Information

Day and Time: Thurs. 12:15 – 3:00

Room Number: E 208

Contact Information

Instructor Name: Kirk Spencer

Instructor Email: kspencer@criswell.edu

Instructor Phone: 469.834.5211 (Please sent text first)

Instructor Office Hours: Thursday 10am to 12 and Wednesday 12pm to 2pm

Course Description and Prerequisites

A survey of living systems of the world (biological sciences). The content, organization and complexity of life forms will be examined from organic molecules to single-celled organisms to the intricate senses and systems of the human body. The methods and history of science will be surveyed and discussed, as well as an integration of the biological sciences and biblical Christian theism. Practical implications and applications will be explored throughout the course, involving student research and presentations.

Course Objectives

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

- A. Explain the basics of scientific method and the history of science.
(Readings in *Heaven and Earth* and lecture/discussion)
- B. Understand the basic concepts of biology, including biochemistry, cell structure and function, genetics, life forms, senses and systems.
(Text readings and classroom lecture/discussion)
- C. Discuss various current popular movements in Biology.
(Classroom discussion and presentations).
- D. Do research and present areas of interest in the biological sciences.
(Student Research Project and Presentation)

- E. Recognize and demonstrate the importance of critical and creative thinking in regard to the integration of Christian beliefs into the study of science, exploring and evaluating the various ways this has been accomplished and applying this knowledge to the daily life of a Christian.
(Readings in *Science and Theology* and Class Debate and Guest Speakers)

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 Unpublished, 2004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 Unpublished, 2004

Mader, Sylvia. *Inquiry into Life, 13th ed.* New York: McGraw-Hill Co., 2009.

Course Requirements and Assignments

ATTENDANCE and PARTICIPATION GRADE

Attendance and participation are expected from you as a part of the classroom experience. You will begin the semester with an attendance grade of 100 points. Consistent attendance and participation in class discussion will maintain the perfect score. Each unexcused absence will deduct 4 points from the total. It is also expected that you will be in class on time. Two tardies will equal one absence. It is expected that students will not be watching computer and phone screens during class or laying their heads on the desk. These actions will significantly reduce your participation grade.

Your Attendance and Participation Grade will determine **20%** of your course grade.

READING GRADE

A reading grade will be determined from annotations (mark-up) you make while reading. 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 the material in a thoughtful way. At the end of the semester I will collect your manuscript and textbook to determine how thoroughly you have read the material based upon how it is marked and will assign a letter grade. You are required to annotate all reading material; this (especially) includes material over which you will not be tested. 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 as your reading grade. This is very significant in that your reading grade will determine **20%** of your course grade.

TEST GRADES

Three tests will be given during the course. Each will include multiple choice and matching questions. The average of these tests will determine **40%** of your course grade.

FINAL EXAM

A final exam will be given at the end of the course which will be composed solely of questions taken from previous tests. Your score on the final exam will determine **10%** of your course grade.

RESEARCH & PRESENTATION

During the first two weeks of the course you should select a topic of research. It should be related to biology in some way and something in which you are interested. During the first half of the course you will take time each week to search for information on your research topic. I expect that at least one of the sources you use in your presentation will come from the library. During the second part of the course we will schedule 30 minutes to an hour of class time for you to present what you have learned in the form of a Powerpoint presentation. Hopefully by this time the class will be a comfortable environment for you to practice communicating what you know. You are not required to write a research paper of any kind, only a brief summary of your findings as a handout to give to the class. It is also important that you support your fellow classmates by listening respectfully to their presentation and asking sincere and thoughtful questions after the presentation. At this time you can also make important additions to the discussion. Keep in mind that your participation in each other's presentations will be a significant portion of your attendance and participation grade. The Research and Presentation Grade will determine **10%** of your course grade.

Some research topic suggestions to prime the pump:

StemCells. Cloning. Vitalism. Viruses. CryptoBiology. AstroBiology. Gaia. Vestigial Organs. Sleep. Teratoma Tumors. Slime Mold. Metamorphosis. Human/ Animal DNA Hybrids (Like Spider Man). Macro Mutations (Like X-Men). Vomiting. Hiccupping. Burping. Farting. Yawning. Human Instincts. Mantis Shrimp. Color Blindness. Cryogenics. Emergent Properties.

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. Instructors are not obliged to allow students to make up missed work. Per their independent discretion, individual instructors may determine how attendance affects students' ability to meet course learning objectives and whether attendance affects course grades.

Grade Weight

Participation Grade	20%
Reading Grade	20%
Test Grades	40%
Final Exam	10%
<u>Research Presentation</u>	<u>10%</u>
TOTAL:	100%

Grading Scale

Assigning grade definitions (i.e., above average, average, below average) is optional. Please delete the last column below if not assigning definitions. Additionally, delete these instructions when completing syllabus.

			Grade Definitions (optional)
A	93-100	4.0 grade points per semester hour	Superior Work
A-	90-92	3.7 grade points per semester hour	
B+	87-89	3.3 grade points per semester hour	
B	83-86	3.0 grade points per semester hour	Above Average Work
B-	80-82	2.7 grade points per semester hour	
C+	77-79	2.3 grade points per semester hour	
C	73-76	2.0 grade points per semester hour	Average Work
C-	70-72	1.7 grade points per semester hour	
D+	67-69	1.3 grade points per semester hour	
D	63-66	1.0 grade point per semester hour	Below Average Work
D-	60-62	0.7 grade points per semester hour	
F	0-59	0.0 grade points per semester hour	Unacceptable Work

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 instructors 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 close of the term or semester in which the grade was awarded, 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 Assessment

Material submitted by students in this course may be used for assessment of the college's academic programs. Since programmatic and institutional assessment is done without reference to specific students, the results of these assessments have no effect on a student's course grade or academic standing at the college. Before submitting a student's work for this type of assessment, the course instructor redacts the work to remove anything that identifies the student.

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

Criswell College recognizes and supports the standards set forth in Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and similar state laws, which are designed to eliminate discrimination against qualified individuals with disabilities. Criswell College is committed to making reasonable accommodations for qualifying students, faculty, and employees with disabilities as required by applicable laws. For more information, please contact the Student Services Office.

Intellectual Property Rights

Unless otherwise specifically instructed in writing by the instructor, 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 Supports

Canvas and SONIS: Criswell College uses Canvas as its web-based learning tool and SONIS for student data. Students needing assistance with Canvas should contact the Canvas Help Support line at (844) 358-6140. Tech support is available at this number, twenty-four hours a day. Students needing help with SONIS should contact the Campus Software Manager at studenttechsupport@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, at deanofstudents@criswell.edu.

Wallace Library: Students can access academic resources and obtain research assistance by contacting or visiting the Wallace Library, which is located on campus. For more information, email the Wallace Library at library@criswell.edu. Offsite login information is available in Canvas in the “Criswell Student Training Course” under “Library Information.”

Tutoring Center: Students are encouraged to consult with tutors to improve and enhance their skills and confidence in any subject matter taught at the college. Tutors have been recommended by the faculty to ensure that the tutor(s) are qualified to serve the student body. Every tutor brings experience and expertise in an effort to provide the proper resources for the subject matter at hand. To consult with a tutor, students can visit the Tutoring Center located on the second floor in room E203, or schedule an appointment by emailing tutoringcenter@criswell.edu or by calling 214.818.1373.

Course Outline/Calendar

PHILOSOPHY & HISTORY OF SCIENCE

Weekly Session

Assignment

Week 1 (August 17-21)

For Next Week

Introductions and Syllabus

Perspective Earth's Age & Evolution

Read “Heaven & Earth”

Chapter 1 “The Scientific Enterprise”

Read Mader Ch. 1 Study of Life (pp. 1-17)

Week 2 (August 24-28)

For Next Week

SCIENTIFIC ENTERPRISE

Read “Heaven & Earth”

Chapter 2 “The History of Science”

Week 3 (August 31-September 4)

For Next Week

HISTORY OF SCIENCE

Study “Heaven & Earth”

Chapters 1 and 2

Week 4 (September 7-11)

For Next Week

HISTORY OF SCIENCE

Prepare for Test

Study Study-Guide

Philosophy & History of Science

Begin Reading Mader:

Ch.2. Molecules (pp.19-44),

Ch. 3 Cell Structure & Function (pp. 45-59)

Read “Heaven & Earth”

Chapter 5 “Life & Life Forms”

LIFE & LIFE FORMS

Weekly Session

Week 5 (September 14-18)

ELEMENTS OF LIFE

SIMPLE CELL

Assignment

For Next Week

Read Mader:

Ch. 4 Cell Membranes (pp. 67-74)

Ch. 5 Cell Division (pp. 81-96)

Study “Heaven & Earth”

Chapter 5 “Life & Life Forms”

TAKE TEST PHILOSOPHY & HISTORY OF SCIENCE

Week 6 (September 21-25)

LIFE FORMS

For Next Week

Read Mader:

Ch31 Higher Animals (pp.645-660)

Study “Heaven & Earth”

Chapter 5 “Life & Life Forms”

Week 7 (September 28-October 2)

LIFE FORMS

For Next Week

(Monsters)

Prepare For Test
Study “Heaven & Earth”
Chapter 5 “Life & Life Forms”

Study Life & LifeForms Study-Guide

In Preparation for Next Class
Read “Heaven & Earth”
Chapter 5 “Systems & Senses”

SYSTEMS & SENSES

Weekly Session

Week 8 (October 5-9)
SYSTEMS

Assignment

For Next Week

Read Mader:
Ch.11 Human Organization Tissues (pp.193-206),
Ch. 19 Musculoskeletal System (pp. 367-390)
Ch. 14 Digestive System (pp. 255-277)
Ch. 12 Cardiovascular System (pp. 213-231)
Ch. 15 Respiratory System (pp. 281-295)

TAKE TEST LIFE & LIFE FORMS

Week 9 (October 12-16)
SENSES

Study “Heaven & Earth”
Chapter 5 “Systems & Senses”

Read Mader:
Ch. 13 Lymphatic & Immune Sys (pp. 235-252)
Ch. 22. Development and Aging (pp. 443-448, 452-458)
Ch. 17 Nervous System (pp. 315-341)
Ch. 18 Senses (pp. 345-363)

Week 10 (October 19-23)

For Next Week

PRESENTATIONS

Prepare for Test
Study “Heaven & Earth”
Chapter 5 “Systems & Senses”

Study Systems & Senses Study-Guide

Begin reading “Science & Theology”
Begin reading remaining Chapters of “Heaven & Earth”

PRESENTATIONS

Week 11 (October 26-30)

For Next Week

PRESENTATIONS
GHOSTS

Read “Science & Theology”
Read remaining Chapters of “Heaven & Earth”

TAKE TEST SYSTEMS AND SENSES

Week 12 (November 2-6)

For Next Week

PRESENTATIONS
CLIMATE CHANGE (Subduing the Earth)

Read “Science & Theology”
Read “Heaven & Earth”

Week 13 (November 9-13)

For Next Week

PRESENTATIONS
THEOLOGICAL PERSPECTIVES
(Militarism, Concordism, Separatism)

Finish Reading “Science & Theology”
Finish Reading “Heaven & Earth”

HOLEY FLOOR VIEW

Week 14 (November 16-20)
PRESENTATIONS

For Next Week

Prepare for Final

.....
THANKSGIVING (November 23-27)

Thanksgiving Break

No Class
.....

Week 15 (November 30 – December 4)

For Next Week

FINISH PRESENTATIONS

Holy Floor View

Prepare for Final

Week 16 (May 7-11)

FINAL EXAM:

Turn in all reading assignments

EXTRA CREDIT

(Points are added to a multiple choice test score)

DALLAS

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

FORT WORTH ARTS DISTRICT

Japanese Garden	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.



On-Campus Course Syllabus

ADDENDUM FOR FA-20

SCI 206a

Biology

In the event that Criswell College has to close the campus to on-campus classes in during the FA-20 semester, this addendum specifies how your instructor intends to adjust the course in order to allow students to meet the course objectives.

The course requirements, assignments, calendar, and attendance requirements from the syllabus for this course are replicated below. Notes and changes to the information in syllabus are highlighted. Information that is no longer relevant is indicated with a ~~strike through the font~~ and *replacement or new information is placed in italics*.

Course Requirements and Assignments

ATTENDANCE and PARTICIPATION GRADE

Classes will meet as a conference in Zoom through Canvas. Attendance will be taken at the beginning of each session. To assure that you are actually in class you will need to have your video on, so chose a more remote location to attend the course. Attendance and participation are expected from you as a part of the classroom experience. You will begin the semester with an attendance grade of 100 points. Consistence attendance and participation in class discussion will maintain the perfect score. Each unexcused absence will deduct 4 points from the total. It is also expected that you will be in class on time. Two tardies will equal one absence. It is expected that students will not be watching computer and phone screens during class or laying their heads on the desk. These actions will significantly reduce your participation grade.

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A.

Class Attendance

Instructor, if you specified attendance policies in your syllabus that were not included in the section above, please paste those here and highlight any changes or notes you are making. Delete this section if not used.

Remote Class Sessions: Identity and Participation Verification

Instructor, if you specify that synchronous class sessions will be required, please specify how you will expect students to verify their identity and participation. For example, may they join by phone? Will they be required to turn on their video at the beginning and end of the class session? Will you allow them to keep their video blacked out, but expect them to respond when called upon?