
SOUTHERN CALIFORNIA SEMINARY
2075 EAST MADISON AVENUE • EL CAJON • CALIFORNIA 92019-1108

RS-520 BIOLOGICAL SYSTEMS

SUMMER 2016, MODULE 5

MAY 10TH – JUNE 21ST

TUESDAY 7:00 PM – 10:00 PM (& ONLINE)

PROFESSOR

Dr. Kenneth B. Cumming
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ASSISTANT PROFESSOR

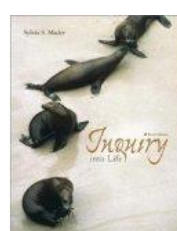
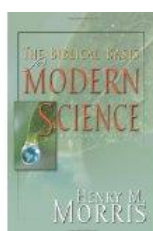
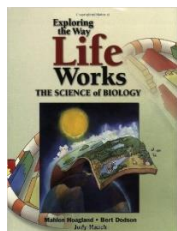
Tom Lewis 619-201-8956 (work phone) tlewis@socalsem.edu

COURSE DESCRIPTION

This course provides a general overview of the major issues in the science of biology including anatomy, physiology, genetics, and ecology. Intelligent design and naturalistic evolution are critically analyzed. This course presents the basic concepts of Biology and then relates them to Biblical principles. It begins with structural patterns in organisms from the molecular to the morphological appearance of plants and animals. It explains life's language and metabolic translations. Next, it explains how life only comes from preexisting life and is the product of living cells. Finally, it examines the unity and interaction of living systems geographically over time. *3 Units*

REQUIRED TEXTBOOKS

1. *The Holy Bible*. A translation based on formal equivalence, such as the New King James Version or the New American Standard Bible, is recommended for study.
2. Hoagland, Mahlon B., Bert Dodson, and Judith Hauck *Exploring the Way Life Works* Jones and Bartlett Publishers, 2007, 376 p. (ISBN 0-7637-1688-X).
3. Morris, Henry M. *The Biblical Basis for Modern Science*. Baker Book House, 1984, 516 pg. (ISBN 0-8010-6178-4).
4. Mader Sylvia S., *Inquiry into Life*, McGraw-Hill, 2003, 758 pg. 10th Ed. (ISBN 0-07-239965-1).



Please Note: In order to get your books before classes begin, it is your responsibility to order the texts at least one month prior to the start of class or be willing to pay expedited shipping.

STUDENT LEARNING OUTCOMES

The student who successfully completes this course will be able to . . .	PROGRAM OBJECTIVES*	SCS INSTITUTIONAL OBJECTIVES*	COURSE REQUIREMENT (CR #)
1. <i>Analyze</i> the biblical position on biology	1,3,4,5,6,7,8	1,2	1,2,3,4
2. <i>Analyze</i> the scientific position of biology.	1,2,3,4,8	1,2,4,5	2,3,5
3. <i>Describe</i> in detail the operation of the biosphere.	2,3,4,7,8	1,2,3,4,5	1,5
4. <i>Defend</i> the scientific trustworthiness and accuracy of the Bible.	2,3,4,5,7,8	1,2,3,5,6	1,2,5
5. <i>Discover</i> the scientific bankruptcy of the theory of evolution and the spiritual benefit of trusting in the biblical account.			

* *The program and institutional objectives are published in the Academic Catalog.*

COURSE REQUIREMENTS

Many if not all written assignments will be turned in through Blackboard and will be processed through software to check for plagiarism.

1. *Weekly Reading Summary Paper:* As part of each week's reading assignments, the student will write a 2-3 page summary of an assigned topic from the *Inquiry* textbook (in proper Turabian format). Any cover and/or bibliography pages do not count toward the 2-3 pages.
2. *Reading:* The student will read the assigned weekly material carefully and critically.
3. *Weekly Quizzes:* The student is responsible for the material covered in both the reading assignments due each current session and class lectures from the previous session. They are designed to evaluate the quality of your preparation for that particular class session.
4. *Participation:* The student will participate appropriately in the course including: punctuality, respect of others, relevant questions meant for edification (not for personal attention), preparation from weekly readings, and meaningful discussion each week.
5. *Research Article:* The student will choose a topic of interest and submit a well-researched article between 1,200 to 1,500 words. Format details will be given in class.
6. *Examination.* A final examination will be given the last session of the course. Review questions will be distributed to help the student prepare for the final examination.

***All laptop computers, electronic devices, writing and reading material brought to class are to be used only as directly related to the immediate class discussion and in a way that does not distract others. Browsing the internet, playing computer games, checking e-mail, text messaging, etc. is inappropriate and unacceptable during class.

SEQUENCE OF INSTRUCTION

Read the table like this, “At Session ____ on _____, the scheduled session content is _____, and the assignment *due before that session* is _____.”

SESSION	DATE	SESSION CONTENT	ASSIGNMENT DUE
1	5/10	Setting the Stage <ul style="list-style-type: none"> • Unity with diversity • Thinking small • Tools of Biology • Branches of Biology 	<p><i>Failure to complete this assignment by the first night of class may result in your removal from the course.</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Life Works</i> Chapter 1 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapter 1 ^ <input type="checkbox"/> <i>Inquiry</i> Chapter 1 * <input type="checkbox"/> Weekly Quiz
2	5/17	Patterns <ul style="list-style-type: none"> • The prime directive • Complexity from chains • Words make life • Life is imperfect • Life comes from bonds • Life works in cycles • Life is interdependent 	<ul style="list-style-type: none"> <input type="checkbox"/> <i>Life Works</i> Chapter 2 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 2-3 ^ <input type="checkbox"/> Summary paper on <i>Inquiry</i> Chapter 2-5 * <input type="checkbox"/> Weekly Quiz
3	5/24	Energy <ul style="list-style-type: none"> • Binding and breaking • Enzymes and nucleotides • Metabolism and distribution 	<ul style="list-style-type: none"> <input type="checkbox"/> <i>Life Works</i> Chapter 3 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 7-8 ^ <input type="checkbox"/> Summary paper on <i>Inquiry</i> Chapters 6-10 * <input type="checkbox"/> Weekly Quiz <input type="checkbox"/> Note: It's Time to Order All Textbooks for Next Module!
4	5/31	Information – the Word <ul style="list-style-type: none"> • Life from preexisting life • Information in language • Pattern of nucleic acids • Decoding 	<ul style="list-style-type: none"> <input type="checkbox"/> <i>Life Works</i> Chapter 4 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 9-10 ^ <input type="checkbox"/> Summary paper on <i>Inquiry</i> Chapters 23-26 * <input type="checkbox"/> Weekly Quiz

SESSION	DATE	SESSION CONTENT	ASSIGNMENT DUE
5	6/7	Mechanics <ul style="list-style-type: none"> Life's Rosetta Stone Life's unity 	<input type="checkbox"/> <i>Life Work</i> Chapter 5 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 11-12 ^ <input type="checkbox"/> Summary paper on <i>Inquiry</i> Chapters 21-22 * <input type="checkbox"/> Weekly Quiz
6	6/14	Feedback <ul style="list-style-type: none"> Molecular communication Neural circuits 	<input type="checkbox"/> <i>Life Works</i> Chapter 6 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 5-8 ^ <input type="checkbox"/> Summary paper on <i>Inquiry</i> Chapters 17-20 * <input type="checkbox"/> Weekly Quiz
7	6/21	Community <ul style="list-style-type: none"> Organizing principles Evolution <ul style="list-style-type: none"> Origin of life – 1st Law 2nd Law implications Test of Evolution 	<input type="checkbox"/> <i>Life Works</i> Chapter 7-8 ++ <input type="checkbox"/> <i>Biblical Basis</i> Chapters 13-16 ^ <input type="checkbox"/> <i>Inquiry</i> Chapters 27-36 * <input type="checkbox"/> Final Examination <input type="checkbox"/> Research Article

STUDENT EVALUATION

++ Reading only

* Reading and answering Chapter Questions.....	110	11%
Weekly Quizzes (6 at 40 points each).....	240	24%
Weekly Summary Papers (5 at 30 points each).....	150	15%
^ Weekly Participation.....	100	10%
Research Article.....	200	20%
<u>Final Examination.....</u>	<u>200</u>	<u>20%</u>
	1000 pts.	100%

GRADE SCALE

The final course grades are not given out until at least three weeks after the course is finished. A student will not be given their final grade unless the course has been paid for in full.

Grade	Percent	Points	Grade	Percent	Points
A	95–100%	950–1000	C	77–79%	770–799
A-	92–94%	920–949	C-	74–76%	740–769

B+	89–91%	890–919	For graduate students, a grade lower than “C-” will be lowered to “F.”
B	86–88%	860–889	
B-	83–85%	830–859	
C+	80–82%	800–829	

ATTENDANCE POLICY

For the Modular Courses (21 lecture hours/ 7 weeks), more than 10 minutes missing from class is considered a Tardy, and more than 20 minutes missing from class is counted as an Absence. Two tardies = one absence. You are permitted one absence for a 7-week course. Two absences results in being dropped from the course.

General School Policy: A student who takes an absence from class will receive a penalty resulting in an immediate reduction of their final grade by 7 percent in a modular class and 3.5 percent in a trimester class. However, the student will have the ability to make up between 0 percent and all of the deduction at the professor’s discretion. Only extenuating circumstances such as hospitalization, death in the family, etc. will be considered for making up the deduction.

LATE COURSE WORK POLICY

No late work will be accepted with a passing grade. Late work will be given 50% of the earned total points. Only extenuating circumstances such as hospitalization, death in the family, etc. will be considered for an extension on the assignment without penalty.

ACADEMIC INTEGRITY

Southern California Seminary expects its students to conduct themselves honestly in their personal and academic lives. If evidence arises of academic dishonesty, the dean of the program will investigate the matter and take appropriate action.

Offenses Against Academic Integrity

Cheating. Cheating is never tolerated at SCS.

Plagiarism. Plagiarism can occur intentionally or inadvertently. Intentional acts of plagiarism involve knowingly and willingly treating another person's work as one's own original work. It includes copying or imitating the words, sentences, outlines, or ideas of another person. Inadvertent plagiarism can occur when a student fails to properly cite original sources. Plagiarism will not be tolerated at SCS. Therefore, all offenses of plagiarism will be reported to the dean of the program in which the offense occurred and an investigation will be made to determine what disciplinary action should be taken.

Aiding or Conspiring in the Commission of Plagiarism. Helping someone commit plagiarism is viewed as equally dishonest as plagiarism, for all participating parties.

Multiple Submissions. This offense occurs when a student submits a paper that was written for another course as if it were an original paper satisfying the requirements of the present course. Attempting to submit such work is deceptive and a form of academic dishonesty. On the occasion that a student’s previous work has some potential for expansion, improvement,

or to serve as a starting point for another line of thought (as with Doctrinal Summary/Synopsis) the student will be advised by the professor to what extent a particular previous work may be permitted. The professor may require that a copy of the previous work be submitted with the later work.

LIBRARY

The SDCC/SCS Library website is your gateway to library resources and information. For a complete description of the library's holdings, services, staff and access to its online collections, go to: <http://sdcc.edu/library>.

TURABIAN FORMAT FOR PAPERS

This information is taken from Kate L. Turabian's *A Manual for Writers of Term Papers, Theses, and Dissertations* (8th edition). It covers basic format issues you will encounter when writing your papers. Use the *Manual* to resolve unanswered questions. More information will be given during the class sessions.

Body Text

1. You will use footnotes to cite your sources. Make a complete citation for the first citation from each source. For books, a complete citation always includes: author, title, place of publication, publisher, date of publication, and page number(s). If you cite only one source by an author, only the author's name and page number is required for subsequent citations. If you cite more than one source from an author, follow the first citation of each source with a sentence explaining how you will cite it thereafter. For example, "Hereafter cited as Poe, *Tale Heart*."

Number all pages of the paper, including the bibliography pages. Place the page number at the bottom center of all pages.

Double-space text with the 1-inch margins from all four edges. Quotations of five lines or more are BLOCK QUOTES. Format block quotes by indenting ½-inch from the left margin, single-spacing the text, and placing a blank line above and below the quotation. Do not use quotation marks at the beginning or end of the quotation.

Single-space footnotes and bibliography entries within each entry and double-space between entries.

Begin each paper with a title page. Include the title of your paper, your name, the department name and course number found on the course syllabus, and the date submitted. Insert a blank sheet of paper after the title page. See Turabian, Section 1.6, for details.

When using a word processor, use the left margin feature. Do not use the justified-text feature. Do use the superscript feature to insert footnote numbers into the text.

Know the difference between primary and secondary sources, and use as many primary sources as possible.

Periodicals come in at least three categories—newspapers, magazines, and scholarly journals.

Learn how to use the indexes to find information in these periodicals.

Spell out numbers "one" through "ten" and those that begin a sentence.

Footnotes

Arrange notes in numerical order at the foot of each page (footnotes). Begin a footnote at the bottom of the page on which it is referenced. Extend it to the bottom of the following page if the note is long. See Turabian, sample 14.43.

Format footnote reference numbers as a superscript—an Arabic numeral typed slightly above the line. In the text, the reference number is placed immediately at the end of the material cited. In the note, the reference number is placed at the beginning, indented ½-inch. Start footnote reference numbers with 1, 2, etc. at the beginning of each chapter.

In the first citation of a work, include in the note the author's full name, title of the work, specific reference (volume, if any, and page number), and facts of publication (place of publication, publisher, and date of publication). Use the short-format described for subsequent notes.

The short format normally includes a shortened title followed by the page number. However, if the current note is from the same work cited in the immediately previous note, you may use the Latin abbreviation *ibid.* (include the period).

If the work has already been cited, but not in the immediately previous note, you may use either (a) author's last name, title of book or article, and page number, or (b) author's last name, page number, and the title of the work if more than one work by the same author is cited.

Examples of Notes

For other examples, see Turabian, pages 177–203. All note entries are marked with "N".

Book

¹ John Hope Franklin, *George Washington Williams: A Biography* (Chicago: University of Chicago Press, 1985), 54.

Editor

² Robert von Hallberg, ed., *Canons* (Chicago: University of Chicago Press, 1984), 225.

Article in a Journal

³ Richard Jackson, "Running Down the Up-Escalator: Regional Inequality in Papua New Guinea," *Australian Geographer* 14 (May 1979): 180.

Bibliographies

Bibliography entries are arranged in alphabetical order beginning on a page of their own. Do *not* classify the entries by the type of work (book, periodical, etc.). Some examples are given below. See Turabian, pages 177–203 for more. In Turabian, bibliography entries are marked with "B".

Format bibliographical entries flush left, with subsequent lines within the entry indented five spaces (known as a *hanging indent*).

Place the family name first followed by a comma and then the first name (e.g., Doe, John).

Use periods at the end of each main part—author's name, title of work, and facts of publication. In the case of periodical bibliographical entries, put parentheses around the dates of publication when these follow a volume number.

Include page numbers only when the item is a part of a whole work—a chapter in a book or an article in a periodical. Do not use *page*, *pages*, *p.* or *pp.*, simply state the page numbers.

Examples of Bibliographical Entries***Book***

- Franklin, John Hope. *George Washington Williams: A Biography*. Chicago: University of Chicago Press, 1985.

Editor

- von Hallberg, Robert, ed. *Canons*. Chicago: University of Chicago Press, 1984.

Article in a Journal

- Jackson, Richard. "Running Down the Up-Escalator: Regional Inequality in Papua New Guinea." *Australian Geographer* 14 (May 1979): 175–184