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HONORS PROGRAMS
DIVISION OF UNDERGRADUATE EDUCATION
A311 MURPHY HALL
405 HILGARD AVE.
LOS ANGELES, CA 90095-1414

October 23, 2013
Scott Chandler, Chair
General Education Governance Committee
A265 Murphy Hall
157101

Attention: Myrna Dee F. Castillo, Program Representative

Dear Professor Chandler:

Please review the course *Science and Religion from Copernicus to Darwinism,* taught by Adjunct Associate Professor Amir Alexander, for two general education foundations: Foundations of the Arts and Humanities, and/or Foundations of Society and Culture. The course is currently in CIMS for offering in Winter 2014.

Sincerely,

G. Jennifer Wilson, Ph.D.
Assist. Vice Provost for Honors
UCLA
gjwilson@college.ucla.edu
(310) 825-1752

HONORS COLLEGIUM*HONORS COLLEGIUM***

General Education Course Information Sheet
Please submit this sheet for each proposed course

Department & Course Number	HONORS COLLEGIUM 78
Course Title	Science and Religion from Copernicus to Darwinism
Indicate if Seminar and/or Writing II course	Seminar

1 Check the recommended GE foundation area(s) and subgroups(s) for this course

Foundations of the Arts and Humanities	X
• Literary and Cultural Analysis	X
• Philosophic and Linguistic Analysis	X
• Visual and Performance Arts Analysis and Practice	
Foundations of Society and Culture	X
• Historical Analysis	X
• Social Analysis	X
Foundations of Scientific Inquiry	
• Physical Science	
With Laboratory or Demonstration Component must be 5 units (or more)	
• Life Science	
With Laboratory or Demonstration Component must be 5 units (or more)	

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

This is an interdisciplinary Honors seminar that examines the relationship of religion and science in the West by focusing on leading scientists (i.e. Galileo, Newton, and Darwin), how science and religion reflect on each other's positions, and how they respond to each other's challenges.

3. "List faculty member(s) who will serve as instructor (give academic rank):
Amir Alexander, Adjunct Associate Professor

Do you intend to use graduate student instructors (TAs) in this course? Yes ____ No X

If yes, please indicate the number of TAs ____

4. Indicate when do you anticipate teaching this course over the next three years:

2013-2014	Fall		Winter	X	Spring	
	Enrollment		Enrollment	20	Enrollment	
2014-2015	Fall		Winter	X	Spring	
	Enrollment		Enrollment	20	Enrollment	
2015-2016	Fall		Winter	X	Spring	
	Enrollment		Enrollment	20	Enrollment	

5. GE Course Units
Is this an ***existing*** course that has been modified for inclusion in the new GE? Yes ___ No X
If yes, provide a brief explanation of what has changed.

Present Number of Units: ____ Proposed Number of Units: 5

6. Please present concise arguments for the GE principles applicable to this course.

X General Knowledge	This is a course that includes a discursive look at society and culture in a way that enhances general knowledge of the history of science and religion as worldviews.
X Integrative Learning	The course is interdisciplinary including religion, history, culture, anthropology, evolutionary science, and philosophy.
X Ethical Implications	Some parts of the course examine ways people, as individuals and as a society, politics, science, and religion have affected each other through seemingly incompatible worldviews.
X Cultural Diversity	Many cultural viewpoints addressing scientific and religious historical, present, and future issues are addressed (i.e. Copernicus and the Scientific Revolution, Catholic Science and Protestant Science).
X Critical Thinking	Students are required to think critically about complex concepts of culture, society, and the vast effects of science and religion's relationship throughout the Western culture.
X Rhetorical Effectiveness	Writing required and assessed
X Problem-solving	Course raises issues of "how?" (i.e. How are science and religion incompatible/compatible? What efforts have been made to bridge the divide? Have they been, and can they be, successful?) and exhorts students to seek answers.
X Library & Information Literacy	Course requires library/web research

(A) STUDENT CONTACT PER WEEK (if not applicable write N/A)		
1. Lecture:	4	(hours)
2. Discussion Section:		(hours)
3. Labs:		(hours)
4. Experiential (service learning, internships, other):		(hours)
5. Field Trips:		(hours)
(A) TOTAL Student Contact Per Week	4	**(HOURS)**

(B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)		
1. General Review & Preparation:	1	(hours)
2. Reading	2	(hours)
3. Group Projects:	1	(hours)
4. Preparation for Quizzes & Exams: **(Amortized)**	1	(hours)
5. Information Literacy Exercises:	1	(hours)
6. Written Assignments: **(Amortized)**	3	(hours)
7. Research Activity: **(Amortized)**	2	(hours)
(B) TOTAL Out-of-class time per week	11	**(HOURS)**
GRAND TOTAL (A) + (B) must equal at least 15 hours/week	15	**(HOURS)**

Science and Religion from Copernicus to Darwinism

Honors Collegium seminar proposal
Amir Alexander
amiralex@ucla.edu, Bunche Hall 7266

Course description:

Are science and religion incompatible worldviews? Judging by today's headlines, it often seems so. On the one side is religion, based on revelation and faith; on the other is science, founded on experience and reason. The two seem doomed to conflict.

A broader historical view reveals a far richer story. For some of the greatest scientists, religious faith served as an inspiration to their work, whereas others were atheists who resented the presumptions of religion. Some religious movements actively promoted scientific innovation, whereas others viewed science as a threat to their authority.

The seminar will trace the relationship of religion and science in the West by focusing on leading scientists such as Galileo, Newton, and Darwin. Each dealt with the competing demands of science and religion and in each case the interaction was different. But through it all religion and science maintained a constant dialogue -- reflecting on each other's positions and responding to each other's challenges.

The course is conceived as a 5-unit lower division seminar for 15-20 students with no TA, and will take place preferably in the Winter or Spring quarter of academic year 2013-14. It will have broad interdisciplinary appeal, combining students in the humanities with interest in religion, history, and contemporary culture, with students in the sciences interested in the broad cultural significance of their chosen field.

Course requirements:

- Weekly mandatory readings completed before class
- 15 minute presentation on one of the readings
- 20 page final paper to be submitted on the last class meeting.

Grading:

- Class discussion: 30%
- Class presentation: 20%
- Final Paper: 50%

Topics Covered:

Week 1: Introduction

Are science and religion incompatible? Reading of traditional text on the "war" between science and religion (probably by Draper). Then open discussion on students' views of relationship between the two.

Week 2: The Medieval World

The medieval era provides a prelude to the emergence of modern science. It is a world in which science and religion are closely integrated, and yet tensions do arise. Some of these are harbingers of the struggles to come.

Week 3: Copernicus and the Church
The publication of Copernicus' *De Revolutionibus* in1540 is often considered the launch of the Scientific Revolution. The challenge to religion and the Church was recognized immediately, and yet ways were found to prevent a crisis for almost a century. Were Copernican astronomy and the Catholic Church doomed to clash?

Week 4: Galileo
The clash did come in the trial of Galileo, rightly considered a turning point in the relationship of science and religion in the West. Why did the crisis come about, and what were its implications?

Week 5: Catholic Science / Protestant Science
Seventeenth century Europe was marked by the irreconcilable rivalry between Catholics and Protestants. Both sides integrated science into their faith and ideologies, and sought to use it against their rivals. How did Catholics and Protestant interpretations of science differ? Does it make sense to speak of Catholic science and Protestant science in this era?

Week 6: Newton and Newtonianism
Newton was likely the greatest scientist of the early modern age, but he was also a profoundly religious man who understood his work in deeply religious terms. What were the religious roots of Newton's accomplishment? How was Newtonianism later used both in the service of religion and against it?

Week 7: Geology and the Age of the Earth
Many of the early geologists of the 18th and early 19th centuries were clergymen, inspired by Biblical accounts of the history of the world. Their work, however, ultimately posed a severe challenge to those accounts. How did geologists and clergymen negotiate these difficulties? Was a breach inevitable?

Week 8: Darwin and Darwinism
Since the publication of *On the Origin of Species* in 1859, Darwinism has been the chief point of friction between science and religion. Why did Darwinism seem so dangerous to 19th century religion, and why is it still considered a challenge today? What efforts have been made to bridge the divide? Have they been, and can they be, successful?

Week 9: Anti-Evolutionism in America
The anti-Evolutionary movement is stronger, more organized, and more politically powerful in the United States than in any Western country. The struggle has been ongoing in Churches, universities, classrooms, and state legislatures for over a century. Why did anti-Evolutionism resonate so deeply in America? Can a compromise be reached, or will the struggle continue ntil one side is vanquished?

Week 10: Movie *Inherit the Wind* and general discussion.
Discussion of the movie about the Scopes monkey trial, then an open discussion on the topics of the course, similar to the one in the first meeting. Students will be invited to reflect on the course, and whether it caused them to rethink their earlier position.

Overview of Readings:

Textbook:
Gary B. Ferngren ed., *Science and Religion*. The book is a collection of articles by leading scholars in the field.

Other major books used:
David C. Lindberg and Ronald C. Numbers eds., *God and Nature*.
David C. Lindberg and Ronald L. Numbers eds., *When Science and Christianity Meet*.
Richard G. Olson, *Science and Religion 1450-1900*.
Michael Ruse, *The Darwinian Revolution*.
Peter J. Bowler, *Evolution: The History of an Idea*.

Additional secondary sources:
Chapters and articles by Thomas Kuhn, Richard Olson, Olaf Pedersen, Pierre Duhem, Rivka Feldhay, Reijer Hooykaas, Margaret Jacob, Alexandre Koyre, George Webb, Edward Larson, and Amir Alexander.

Primary Sources:
John William Draper, excerpts from *History of the Conflict between Religion and Science*.
Nicholas Copernicus, introductory materials to *On the Revolutions of the Heavenly Spheres*.
Georg Joachim Rheticus, *Holy Schripture and the Motion of the Earth*.
Galileo Galilei, selections from "Letter to the Grand Duchess Christina," *The Assayer*, *Dialogue Concerning the Two Chief World Systems*, and document on Galileo in the Holy Office Archives.
Cardinal Bellarmine, "Letter to Foscarini."
Isaac Newton, "Preface" and "General Scholium" to the second edition of the *Principia*.
Charles Darwin, selections from *On the Origin of Species*.

Brief CV

AMIR R. ALEXANDER, Ph.D.

Adjunct Associate Professor, Department of History, UCLA
7266 Bunche Hall, (310) 825-4466, amiralex@ucla.edu

Education

Ph.D. in History of Science, Stanford University, 1996

Books

Infinitely Small, (New York: Farrar, Strauss, and Giroux, 2013), forthcoming.

Duel at Dawn: Heroes, Martyrs, and the Rise of Modern Mathematics, (Cambridge MA: Harvard University Press, 2010).

Geometrical Landscapes: The Voyages of Discovery and the Transformation of Mathematical Practice (Stanford: Stanford University Press, 2002). Recipient of the Outstanding Academic Title Award for 2003 by *Choice* magazine.

Selected Articles

"From Voyagers to Martyrs: Towards a Storied History of Mathematics," in Apostolos Doxiadis and Barry Mazur eds., *Circles Disturbed* (Princeton: Princeton University Press, 2012).

"The Skeleton in the Closet: Should Historians of Science Care about the History of Mathematics?" introduction to a focus section on the history of science and the history of mathematics, *Isis*, vol. 102, no. 3, September 2011.

"Introduction" to focus section on mathematical stories, *Isis*, vol. 97, no. 4, December 2006.

"Tragic Mathematics: Romantic Imagery and the Refounding of Mathematics," *Isis*, vol. 97, no. 4, December 2006.

"Through the Mathematical Looking Glass," in Siegfried Zielinsky and David Link eds., *Variantology 2: On Deep Time Relations of Arts, Sciences, and Technologies* (Cologne: Walther König, 2006).

"Stories and Numbers: How a Romantic Tale of Geographical Exploration Transformed Mathematics," *Historically Speaking: The Bulletin of the Historical Society*, January 2004.

"Exploration Mathematics: The Rhetoric of Discovery and the Rise of Infinitesimal Methods," *Configurations*, vol. 9, no. 1, Winter 2001.

"The Imperialist Space of Elizabethan Mathematics,"
Studies in the History and Philosophy of Science, vol. 26, No. 4, December 1995.

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New Course Proposal

	Honors Collegium 78 **Science and Religion from Copernicus to Darwinism**
Course Number	**Honors Collegium 78**
Title	**Science and Religion from Copernicus to Darwinism**
Short Title	**SCIENCE & RELIGION**
Units	Fixed: **5**
Grading Basis	**Letter grade or Passed/Not Passed**
Instructional Format	**Seminar - 3 hours per week**
TIE Code	**SEMT - Seminar (Topical) [T]**
GE Requirement	**Yes**
Major or Minor Requirement	**No**
Requisites	**Designed for students enrolled in the College Honors program**
Course Description	**Seminar, three hours. Designed for College Honors students. Relationship of religion and science in West by focusing on leading scientists such as Galileo, Newton, and Darwin. Each one dealt differently with competing demands of religion, based on faith and revelation, and science founded on experience and reason. Dialog was and is constant one. P/NP or letter grading.**
Justification	**This is a course designed for College Honors students to be offered in the interdisciplinary series of courses called the Honors Collegium. It has been approved by the Honors Faculty Committee, whose members come from all disciplines, and by its Chair.**
Syllabus	File *013AmirAlexander.doc* was previously uploaded. You may view the file by clicking on the file name.
Supplemental Information	
Grading Structure	**Class discussion: 30%** **Class presentation on one of the readings: 20%** **Final term paper of 20 pages: 50%**
Effective Date	**Winter 2014**
Instructor	Name: **Amir Alexander** — Title: **Associate Adjunct Professor**
Quarters Taught	☐ Fall ☑ Winter ☐ Spring ☐ Summer
Department	**Honors Collegium**
Contact Routing Help	Name: **G JENNIFER WILSON** — E-mail: **gjwilson@college.ucla.edu**

ROUTING STATUS

Role:	Registrar's Office
Status:	Processing Completed

Role:	Registrar's Publications Office - Hennig, Leann Jean (LHENNIG@REGISTRAR.UCLA.EDU) - 56704
Status:	Added to SRS on 10/24/2013 3:14:08 PM

Changes:	Description
Comments:	Edited course description into official version.

Role:	Registrar's Scheduling Office - Thomson, Douglas N (DTHOMSON@REGISTRAR.UCLA.EDU) - 51441
Status:	Added to SRS on 10/22/2013 5:58:03 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	Registrar's Scheduling Office - Thomson, Douglas N (DTHOMSON@REGISTRAR.UCLA.EDU) - 51441
Status:	Added to SRS on 10/22/2013 5:56:05 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	Registrar's Scheduling Office - Thomson, Douglas N (DTHOMSON@REGISTRAR.UCLA.EDU) - 51441
Status:	Added to SRS on 10/22/2013 5:53:25 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	L&S FEC Coordinator - Castillo, Myrna Dee Figurac (MCASTILLO@COLLEGE.UCLA.EDU) - 45040
Status:	Returned for Additional Info on 10/22/2013 4:25:26 PM
Changes:	No Changes Made
Comments:	Routing to Doug Thomson in the Registrar's Office.

Role:	FEC Chair or Designee - Palmer, Christina (CPALMER@MEDNET.UCLA.EDU) - 44796
Status:	Approved on 10/21/2013 8:14:09 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	L&S FEC Coordinator - Castillo, Myrna Dee Figurac (MCASTILLO@COLLEGE.UCLA.EDU) - 45040
Status:	Returned for Additional Info on 10/21/2013 5:49:50 PM
Changes:	No Changes Made
Comments:	Routing to Christina Palmer for FEC approval.

Role:	Dean College/School or Designee - Friedmann, Manuela Christin (MFRIEDMANN@COLLEGE.UCLA.EDU) - 58510
Status:	Approved on 10/17/2013 5:35:49 PM
Changes:	No Changes Made
Comments:	This approval lis being forwarded on behalf of Vice Provost Patricia A. Turner.

Role:	FEC School Coordinator - Castillo, Myrna Dee Figurac (MCASTILLO@COLLEGE.UCLA.EDU) - 45040
Status:	Returned for Additional Info on 10/9/2013 4:20:38 PM
Changes:	No Changes Made
Comments:	Routing to Manuela Friedmann for Dean Turner's approval.

Role:	Department Chair or Designee - Dunkel Schetter, Christine (DUNKEL@PSYCH.UCLA.EDU) - 68116
Status:	Approved on 10/3/2013 4:36:36 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	Initiator/Submitter - Wilson, G Jennifer (GJWILSON@COLLEGE.UCLA.EDU) - 51752
Status:	Submitted on 10/3/2013 3:49:12 PM

Comments: Initiated a New Course Proposal

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