



Syllabus

NS-304 Science, Technology and Society Jack L. Espinal

Mission Statement: The mission of Park University, an entrepreneurial institution of learning, is to provide access to academic excellence, which will prepare learners to think critically, communicate effectively and engage in lifelong learning while serving a global community.

Vision Statement: Park University will be a renowned international leader in providing innovative educational opportunities for learners within the global society.

Course	NS-304 Science, Technology and Society FB
Semester	F2F2007
Faculty	Espinal, Jack L..
Title	Senior Instructor
Office Location	Fort Myer, Virginia
Office Hours	By Appointment
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Semester Dates	7 January – 9 March 2008
Class Location	Fort Belvoir
Class Days	Tuesday
Class Time	5:00PM - 10:00 PM
Prerequisites	None
Credit Hours	3

Textbook: Sagan, Carl. The Demon-Haunted World Science as a Candle in the Dark. Random House, 1995

Text Companion Site: <http://www.jespinal.com>

Textbooks can be purchased though the [MBS bookstore](#)

Additional Resources:

Feynman Richard P. The Pleasure of Finding Things Out. Perseus Books, 1999
Nickell, Joe. The Outer Edge. CSICOP, 1996
Ronan, Colin. Science Explained. Henry Holt and Company, 1993
Hawking, Stephen W. A Brief History of Time. Bantam Books, 1988
Terzian Yervant. Carl Sagan's Universe. Cambridge University Press 1997
Filkin, David. Stephen Hawking's Universe - The Cosmos Explained. Harper Collins, 1997
Resources for Independent Thinking - <http://www.rit.org/>
CSICOP / Skeptical Inquirer - <http://www.csicop.org/si/>
The Sagan Society - <http://www.uga.edu/~dogsbody/>

Metropolitan District of Washington Park Site <http://www.park.edu/virginia>
Park University Library <http://www.park.edu/library/index.asp>
Quantico Marine Corps Base Family Library <http://www.quantico.usmc-mccs.org/quanticolibrary.htm>
Fort Myer Post Library <http://www.fmmcmwr.com/librarymyer.htm>

Course Description:

The relationship between science, technology, and society. Topics include: the two cultures, the relationship between basic science and technology, the effects of technology on society, and possible future technologies. 3:0:3

Educational Philosophy:

The instructor's educational philosophy based on student interactions using discussions, readings, lab experiments, observations, quizzes, examinations, video, internet-mail exchange and writings. The instructor will engage each learner in the lively exploration of science and the scientific method, discussions of readings, oral reports/presentations; field trips; videos, and other media that may be deemed appropriate and available. Collaborative learning techniques will be used to analyze and solve problems in small groups. This course presents basic principles of Sciences they relate to everyday experiences. It will help prepare you to make decisions about important environmental, social, and ethical issues that face our society and our small planet. You will learn to use the scientific method in gathering information needed to make those decisions. Together, we will explore the world around us using science as a tool for understanding. Astrology, alien life, fortune telling, visions, and extrasensory perception will be examined from a scientific perspective. The mutual interaction of science and society will be stressed throughout the course. This will provide students with skills needed to extract scientific truth from the world around them and make informed decisions.

Learning Outcomes:

Upon completion of this course, the successful student will be able to:

1. Explain the scientific method and use it understand the environment and solve problems.
2. Explain the difference between science and non science subjects.
3. .
4. Explain the contributions of Nicholas Tesla to modern technology. List his inventions that are still in use today.
5. Students will be able to evaluate evidence of UFOs and alien abductions. They will understand the concept of extraordinary evidence being required for extraordinary claims.
6. Students will be able to explain the issues surrounding diseases like hoof and mouth, anthrax, and mad cow disease on society.
7. Given a health claim, students will be able to research and determine its veracity.
8. Students will be able to explain the science behind electricity, light, and radiation. They will be able to apply these principles to analyze problems facing society.
9. Students will be able to explain how psychics and magicians track their audiences.
10. Students will be able to use logic, skepticism and principles of science to investigate phenomena in the environment.

11. Describe the evidence that will be necessary for a scientist to accept a claim of extraterrestrial intelligence.
12. Describe the methodology currently used to search for signs of extraterrestrial intelligence.
13. Students will be able to explain how science and society interact with each other.
14. Students will demonstrate principles of observation when performing simple science experiments.
15. Students will be able to make a ten minute presentation that provides a biography and the contributions to science for an assigned scientist.

Course Assessment:

Assessment of learning will be determined by using the following:

1. **Film Assessment:** Students will review 6 science related, in-class Video Tapes/DVDs shown in class using a study group format.
2. **Quizzes:** Both announced and unannounced quizzes on material will be administered.
3. **Mid-term and Final Exams:** Students will complete two examinations.
4. **Research Project and Presentations:** A topic is to be chosen, research material gathered, and a paper formulated. Research material should be information gathered from, but not limited to, academic journals. Popular magazines should not be included. A minimum of 3 academic references must be used and cited. Select a topic from those provided on the first day of class.

Grading:

The final course grade will be determined by the following measurements:

1. Film Assessment 20 percent
2. Quizzes 20 percent
3. Midterm 15 percent
4. Final Examination 20 percent
4. Research Project and Presentation 10 percent
5. Field Trip and Presentation 15 percent

Final course grading scale:

93-100 % = A

83-92 % = B

73-82 % = C

63-72 % = D

62 % and below or more than 15 hours of course time missed) = F

Late Submission of Course Materials:

If an assignment is due on a night that the student is not present, it is the student's responsibility to get the assignment to the instructor on the due date. Assignments will not be accepted after three dates of the due date without prior approval from the instructor. Video Tapes and DVDs shown in class cannot be made-up.

Classroom Rules of Conduct:

If an assignment is due on a night that the student is not present, it is the student's responsibility to get the assignment to the instructor on the due date. Assignments will not be accepted after three dates of the due date without prior approval from the instructor. Video Tapes and DVDs shown in class cannot be made-up.

Course Topic/Dates/Assignments:

Class Meeting Schedule	Chapters	Activities	Exams and Assignments Due
Meeting 1 Tuesday 8 Jan	1- The most Precious Thing 2-Science and Hope	Scientific Method & Technology Science and Hope The Four Disciplines Video – Best Mind Since Einstein	Quiz Video Review
Meeting 2 Tuesday 15 Jan	3-The Man in the Moon and the Face on Mars 4-Aliens	Observation and Perception Science of Physics Alien Life Video: Tesla, and the Master of the Universe	Quiz Video Review Presentation Topics Due
Meeting 3 Tuesday 22 Jan	5-Spoofing and Secrecy 6-Hallucinations 7-The Demon-Haunted World	UFOs & Alien Abductions Science of Chemistry Research Topic Due Video: The Brain Eaters	Video Review
Meeting 4 Tuesday 29 Jan	10-The Dragon in My Garage 12-The Fine Art of Baloney Detection	Health and Medical Charlatans The Science of Biology Video: The Web of Life	Quiz Video Review
Meeting 5 Tuesday 5 Feb	14-Antiscience 15- Newton's Sleep	Search of Extraterrestrial Intelligence Program (SETI) Detecting Scientific Fraud Science & the Media Perceptions, Presentations Video: Life Beyond Earth	Mid Term
Meeting 6 12 Feb	16-When Scientists Know Sin 17-The Marriage of Skepticism and Wonder 18-The Wind Makes Dust	Skepticism and Wonder Astrology and Astronomy Presentations Video: The World Within	Video Review
Meeting 7 19 Feb	24-Science and Witchcraft 25-Real Patriots Ask Questions	Science & Witchcraft Science Education Earth Science, Presentations Video: Secrets of the Psychics	Quiz Video Review
Meeting 8 Saturday 23 Feb	No Reading Assignment	Smithsonian Field Trip 10:00AM - 3:00 PM (Replaces class on 4 March 2008)	National Air and Space Museum
Meeting 9 26 Feb	All previous References	Presentations	Video Review Final Exam

Academic Honesty:

Academic integrity is the foundation of the academic community. Because each student has the primary responsibility for being academically honest, students are advised to read and understand all sections of this policy relating to standards of conduct and academic life. [Park University 2007-2008 Undergraduate Catalog](#) Page 87

Academic dishonesty included committing or the attempt to commit cheating, plagiarism, falsifying academic records, and other acts intentionally designed to provide unfair advantage to the student.

- Cheating includes, but not limited to, intentionally giving or receiving unauthorized aid or notes on examinations, papers, laboratory reports, exercises, projects, or class assignments which are intended to be individually completed. Cheating also includes the unauthorized copying of tests or any other deceit or fraud related to the student's academic conduct.
- Plagiarism involves the use of quotations without quotation marks, the use of quotations without indication of the source, the use of another's idea without acknowledging the source, the submission of a paper, laboratory report, project,

or class assignment (any portion of such) prepared by another person, or incorrect paraphrasing.

- Falsifying academic records includes, but is not limited to, altering grades or other academic records.
- Other acts include:
 - Stealing, manipulating, or interfering with an academic work of another student or faculty member
 - Collusion with other students on work to be completed by one student
 - Lying to or deceiving a faculty member.

Attendance Policy:

Instructors are required to maintain attendance records and to report absences via the online attendance reporting system.

1. The instructor may excuse absences for valid reasons, but missed work must be made up within the semester/term of enrollment.
2. Work missed through unexcused absences must also be made up within the semester/term of enrollment, but unexcused absences may carry further penalties.
3. In the event of two consecutive weeks of unexcused absences in a semester/term of enrollment, the student will be administratively withdrawn, resulting in a grade of "WH".
4. A "Contract for Incomplete" will not be issued to a student who has unexcused or excessive absences recorded for a course.
5. Students receiving Military Tuition Assistance or Veterans Administration educational benefits must not exceed three unexcused absences in the semester/term of enrollment. Excessive absences will be reported to the appropriate agency and may result in a monetary penalty to the student.
6. Report of a "F" grade (attendance or academic) resulting from excessive absence for those students who are receiving financial assistance from agencies not mentioned in item 5 above will be reported to the appropriate agency. [Park University 2007-2008 Undergraduate Catalog](#) Page 89

Disability Guidelines: }

Park University is committed to meeting the needs of all students that meet the criteria for special assistance. These guidelines are designed to supply directions to students concerning the information necessary to accomplish this goal. It is Park University's policy to comply fully with federal and state law, including Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, regarding students with disabilities. In the case of any inconsistency between these guidelines and federal and/or state law, the provisions of the law will apply. Additional information concerning Park University's policies and procedures related to disability can be found on the [Park University web page](#)

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