COURSE IMPLEMENTATION DATE: June 1994
COURSE REVISED IMPLEMENTATION DATE: Sept 2006
COURSE TO BE REVIEWED: Sept 2010
(Four years after implementation date) (MONTH YEAR)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT:	Science, Health and Human Services	
SCIENCE 400	**N/A**	**3**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

HIstory and Philosophy of Science
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This course examines the nature of science and its problems, its history, philosophy, and how current issues can be placed in a social context.

PREREQUISITES: **90 university-level credits applicable to the BSc.**
COREQUISITES: **none**

SYNONYMOUS COURSE(S)
(a) Replaces: **N/A** *(Course #)*
(b) Cannot take: **N/A** *(Course #)* for further credit.

SERVICE COURSE TO:
(Department/Program)
(Department/Program)

TOTAL HOURS PER TERM: **45**
STRUCTURE OF HOURS:

Lectures:	**30**	Hrs
Seminar:	**15**	Hrs
Laboratory:		Hrs
Field Experience:		Hrs
Student Directed Learning:		Hrs
Other (Specify):		Hrs

TRAINING DAY-BASED INSTRUCTION
LENGTH OF COURSE:
HOURS PER DAY:

MAXIMUM ENROLLMENT: **24**
EXPECTED FREQUENCY OF COURSE OFFERINGS: **once a year**

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)	☐ Yes	☐ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	☐ Yes	☒ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	☐ Yes	☒ No

AUTHORIZATION SIGNATURES:

Course Designer(s): Sharon Gillies, Lillian Martin, Erik Talvila
Chairperson: Gillian Mimmack *(Curriculum Committee)*
Department Head:
Dean: Jackie Snodgras
PAC Approval in Principle Date:
PAC Final Approval Date: February 25, 2005

COURSE NAME/NUMBER Science 400

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

Each student will be able to demonstrate
a) an understanding of the variety of world views within which science must operate, including an understanding of what science is and what are some of its problems as well as what the history of science can tell us about the relationship between science and society
b) that they are able to evaluate competing views on major controversies, trends, influences, and theories in science and the philosophy of science and how current issues in science can be placed in a social context
c) the ability to communicate with non-scientists regarding such views
d) an understanding of the responsibilities and ethics of scientific work

METHODS:

Methods will vary but would typically include lectures and one or more opportunities for active student involvement such as presentations, student-led seminars, small group discussions, or case studies.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check:) ☒ Yes ☐ No

METHODS OF OBTAINING PLAR:

To be determined on a case by case basis.

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Introduction to the Philosophy of Science: Cutting Nature at its Seams by Robert Klee
Science and Society edited by Martin Moskovits
Normally, the instructor will provide a course package for students containing additional readings.

Library Resources
Books:

QD 53 I57 2000 Instruments and experimentation in the history of chemistry, Holmes, Frederic Lawrence., 2000

W 50 W6 2001 Women's Rights and Bioethics, Dennerstein, Lorraine, 2001

QD 11 L45 2001 Transforming matter : a history of chemistry from alchemy to the buckyball, Levere, Trevor Harvey., 2001

QS 620 U556 1999 v.1 Ethical issues in human stem cell research, United States. National Bioethics Advisory Commission. 1999

QS 620 G74 2001, The human embryo research debates : bioethics in the vortex of controversy, Green, Ronald Michael. 2001

QH 332 F68 2001, Bringing life to ethics : global bioethics for a humane society, Fox, Michael W., 2001

Theory and reality: an introduction to the philosophy of Science, Godfrey-Smith, Peter,
2003

QC 7.5 S39 2001 v.1 Science and society : the history of modern physical science in the twentieth century, Galison, Peter Louis. 2001

PN 1997 M395 T35 2003 Taking the red pill : science, philosophy and religion in The Matrix, Yeffeth, Glenn, 2003

Q 175 R67 2000 Philosophy of science : a contemporary introduction, Rosenberg, Alexander, 2000

Maor, Eli, To infinity and beyond : a cultural history of the infinite (Princeton, N.J. : Princeton University Press, 1991)

Koestler, Arthur, The sleepwalkers : a history of man's changing vision of the universe (New York : Grosset & Dunlap, 1963)

Cushing, James T., Philosophical concepts in physics : the historical relation between philosophy and scientific theories (Cambridge: Cambridge University Press, 1998)

Periodicals:

The British Journal for the History of Science
History of Science (electronic resource)
Scientific American
American Journal of Bioethics (electronic resource)
Bioethics (electronic resource)
History of science (electronic resource)
International studies in the philosophy of science (electronic resource)
Philosophy of science (electronic resource)

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

short individual seminar presentation 10%
small group seminar presentation 25%
writing assignments 35%
participation 10%
term project 20%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

An examination of the following themes
1) What is science; what are some of its problems?
2) What can the history of science tell us about the relationship between science and society?
3) Is science a path to the truth--an examination of the philosophy of science?
4) What constitutes ethical and responsible scientific work?
5) How can current issues in science be placed in a social context?

An example of topics covered on a week to week basis could be:
Week 1--Introduction: what is science?
Week 2--What are the goals of science? What are some barriers to achieving those goals?
Week 3--What constitutes good and bad science?
Week 4--Introduction to the European scientific revolution
Week 5--The relationship between the Christian church and European science
Week 6--Non-European approaches and achievements in science
Week 7--Introduction to various philosophies of science such as positivism, Popperian falsificationism, reductivism and historicism
Week 8--Case studies on scientific paradigms and how they change
Week 9--Gender and ethical issues in science
Week 10--What constitues scientific responsibility
Week 11--13 Various topics of current interest such as ecology, stem cell research, funding issues, scientific working environments, and what constitutes scientific responsibility
Note: It is expected that student presentations would occur two to three weeks after the relevant topics are covered in class.