CONCORDIA UNIVERSITY
WISCONSIN & ANN ARBOR

CCE140: SCIENCE AND HUMANITY

Course Overview: Science and Humanity is a team-taught, interdisciplinary course that will promote scientific literacy by developing student understanding of how the natural sciences, social sciences, and technology are practiced, while at the same time providing the foundation for the required lab science and social science courses. By focusing on both the natural and social sciences, students will learn the types of questions asked by each, the ways knowledge is acquired in each, and how to evaluate the claims made by each. The increased impact of computer science (modelling, algorithms, and big data) on science and society will also be covered. Ethical considerations of the uses of scientific knowledge form a key part of this course.

Grading:

Discussions & Homework	15%
Reading assignments	15%
Quizzes	10%
Project	10%
Midterm & Final Exams	50%

Attendance:

Attendance is recorded for each discussion or assignment that is submitted. Students are encouraged to log on about 4 times per week and dedicate about 6 hours each week to their coursework.

Course connected to CUW Mission:

In our culture, the practice of science is arguably the most widely accepted method of obtaining knowledge. The practice of scientific thinking is crucial for liberal arts students to be able to think critically and to analyze data. At the same time Christians realize that science is not the only source of knowledge and cannot on its own provide a framework for ethical behavior or explain what it means to be human. In this course, students will reflect on how the practice of sciences coheres with the Christian faith as well as how non-Christian worldviews portray and utilize science. They will also examine how scientific knowledge can guide decisions they make as individuals and as citizens, with a special emphasis on the idea of Christian environmental stewardship.

15 week course

Not self-paced; assignments Have weekly deadlines.

Students can access their course any time, from any location.

A laptop or desktop is recommended.

Students will set up a university email & use this while in the course.

Orientation will be required prior to the start of the course.

COURSE SCHEDULE

Week 1: Important Assumptions and Types of Knowledge

Topics: Differentiate between: Induction v. Deduction, Correlation v. Causation, Data v. Theory, and Empirical v. Paradigm statements

Week 2: Data, Units, Measurements and Graphs

Topics: Understand how scientists gather data, use units, and evaluate significance

Week 3: Observation and Experiment

Topics: Establish the characteristics of science and display scientific literacy

Week4: Truth and Worldview

Topics: Identify the role of science in society

Week 5: Church and Science

Topics: Explain how science and ethics are intermingled and when they are separated.

Test #1

Week 6: Paradigms

Topics: Explain various modes of thinking including postmodernism, scientism, and naturalism

Week7: Logistics of Science

Topics: Analyze contemporary issues by comparing and contrasting science with a variety of disciplines

Week 8: When to turn to Science or Religion

Topics: Compare and contrast religion with science

Week 9: Pseudoscience

Topics: Detect pseudoscience in contrast with actual scientific work

Week 10: Statistics

Test # 2

Week 11: Computing and Science

Topics: Explain the role of large data sets, algorithms, and artificial intelligence in science and society

Week 12: Stewardship

Topics: Explain stewardship and its value

Week 13: Social Science and Natural Science

Topics: Employ the Scientific method and explain how it has been used successfully in health & technology

Week 14: class – specific topic

Week 15: class – specific topic

Test # 3

Project due

Final Exam