
PROFESSOR: Marius Coman, Ph. D.

PHONE NUMBER: 239-732-3721

OFFICE LOCATION: N-230

E-MAIL: Use Canvas' Email

OFFICE HOURS: See Canvas' conference schedule

SEMESTER: Fall 2020/Live Online

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:

ISC 1001C FOUNDATIONS OF INTERDISCIPLINARY SCIENCE I (3 CREDITS)

Foundations of Interdisciplinary Science is designed to provide a broad foundation in science for non-science majors. The two-course sequence emphasizes scientific and laboratory activities in a hands-on learning environment. ISC 1001C addresses the scientific method, geologic processes and the structure of the Earth, the solar system and star formation, electricity and magnetism, and wave energy. The relationships of science to other fields of knowledge and to society are emphasized. This course is recommended as a general education course for non-science majors.

II. PREREQUISITES FOR THIS COURSE:

SB 1720 Testing Exemption or successful completion of all Developmental courses

CO-REQUISITES FOR THIS COURSE:

None

III. GENERAL COURSE INFORMATION:Topic Outline.

- The scientific method
- The universe: stars and galaxies
- The solar system
- Earth: motion, time, and tides
- Rocks and plate tectonics
- Earthquakes, volcanoes, and geologic time
- Freshwater resources
- Seawater: waves, oceans, and currents
- Electromagnetism: charges, currents, and magnetism

IV. ALL COURSES AT FLORIDA SOUTHWESTERN STATE COLLEGE CONTRIBUTE TO THE GENERAL EDUCATION PROGRAM BY MEETING ONE OR MORE OF THE FOLLOWING GENERAL EDUCATION COMPETENCIES:

Communicate clearly in a variety of modes and media.

Research and examine academic and non-academic information, resources, and evidence.

Evaluate and utilize mathematical principles, technology, scientific and quantitative data.

Analyze and create individual and collaborative works of art, literature, and performance.

Think critically about questions to yield meaning and value.

Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.

Visualize and engage the world from different historical, social, religious, and cultural approaches.

Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Describe the scientific method and use it to solve problems
- Recognize and justify the importance of measurement in scientific studies and use the concept of variation to explain physical phenomena
- Describe and analyze the composition of the universe, and compare different models on the origin and evolution of the universe
- Describe and analyze observational evidence related to our solar system
- Use information on the motion of the earth to illustrate our current concept of time
- Analyze the effects of pollutants and greenhouse gases on the earth's atmosphere and appraise the impact of our actions on the atmosphere
- Describe and analyze the earth's crust and interior and appreciate the ever changing recycling process that transform the earth
- Describe and explain the phenomena associated with earthquakes, volcanoes and geologic time
- Construct a model for the future weather phenomena based on physical changes in the atmosphere
- Explain the concepts of waves and currents and show their connection to weather and atmospheric phenomena
- Explain magnetic and electric phenomena and apply them in interpreting everyday phenomena

V. DISTRICT-WIDE POLICIES:

PROGRAMS FOR STUDENTS WITH DISABILITIES

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

REPORTING TITLE IX VIOLATIONS

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual

misconduct. Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at equity@fsw.edu. Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online. Additional information and resources can be found on the College's website at <http://www.fsw.edu/sexualassault>.

VI. **REQUIREMENTS FOR THE STUDENTS:**

This course will be offered live online; <https://www.fsw.edu/online/standards>

Prerecorded or live videos will be available during scheduled times/days.

Technology Requirements: laptop or desktop computer with an up-to-date OS; stable high speed internet; external webcam with microphone.

The proctorio camera directions are found on the main page in canvas:

<https://fsw.instructure.com/courses/1095908/files/76558508/download?wrap=1>

Quizzes/Tasks

There will be weekly online quizzes covering the material.

Classroom tasks will be administered each session; they consist of conceptual and/or calculated questions. Classroom tasks account for **10 %** of the grade. There will be no make-ups for classroom tasks.

Exams

During an exam some formulas and constants will be provided. If you miss an exam you must contact the professor as soon as possible in order to schedule a make-up exam;

however, you will receive zero points for that exam unless you have a substantiated unforeseen occurrence or a written excuse from a physician, the Dean, or an academic advisor.

The final exam is cumulative. All exams will include calculated/numerical questions, multiple choice questions and a few short answer questions, and a request to interpret some drawings/graphs or to construct them.

Class Participation/Assessments

Due to the nature of this course you will greatly benefit from the continuous classroom interaction.

The multimedia classroom presentations and simulations that provide an auditory/visual supplement to assignments facilitate learning in a variety of ways. Come prepared, ask questions and keep an open and critical mind. Cheating on an exam or quiz will result in a grade of zero.

- Is very important that you come to class fully prepared and submit the assignments/quizzes on time.
- A lab report is due at the end of each laboratory session. Each laboratory report is completed and submitted individually.
- All assignments are due at their assigned times, regardless of absence. There are no make ups for missed experiments.
- Students must follow the social distancing guidelines as elaborated by the faculty to include following any and all directions for seating and moving around the classroom. Properly worn face coverings (shielding nose and mouth) are required in classrooms. Social distancing, face coverings and good hygiene (specifically hand washing) are critical elements for safety of all. Students enrolled in classes where close contact between persons is likely, may have additional Personal Protective Equipment (PPE) requirements on campus and in clinical sites as elaborated by the course instructors. Absolutely no eating or drinking is permitted in the classrooms. The College is committed to making reasonable modifications to its rules, policies, and practices as required by law to afford individuals with disabilities equal opportunity to access its programs, services, and activities.

VII. **ATTENDANCE POLICY:**

Attendance in class is your responsibility. You are also responsible for all presentations and/or

discussions taking place in the classroom. Part of your grade is derived from participation in classroom presentations and discussions, including group presentations conducted during the class session.

Classroom interaction is vital for the understanding of the major concepts in this course. If a class is missed, it is your responsibility to get from a fellow student, any material covered or assignments made during the session. If you miss more than two classes the instructor will expect you to schedule an appointment to discuss the situation.

.There are no "Make-ups" for exams.

VIII. GRADING POLICY:

The weight for exams, labs reports and quizzes is specified in the following table:

Assessment tool	Weight in %
3 Exams	30
12 Lab reports	30
12 Quizzes/Assignments	20
10 Classroom tasks	10
1 Essay	10
Total:	100

Class participation/Essay: I will evaluate the communication competency by measuring the degree of effectiveness in describing - in writing and orally - basic science concepts using examples from everyday experiences, or by describing, using standard language, the meaning of these concepts. Other means will be evaluating the success in presenting a topic to the class, as well as the ongoing oral participation during regular classes. Forms of intra-personal learning will be supplemented by inter-personal work and interactions designed to encourage discussion, clarification, and sharing of individual understanding of the concepts involved. The exams will include conceptual questions, problems and multiple choice questions drawn from lectures and labs.

Your final grade is calculated as a weighted average:

$$FinalGrade = \overline{Exams} \times \frac{30}{100} + \overline{Labs} \times \frac{30}{100} + \overline{Quizzes} \times \frac{20}{100} + \overline{Tasks} \times \frac{10}{100} + \overline{Essay} \times \frac{10}{100}$$

$$\overline{Exams} = \frac{(Exam_1 + Exam_2 + Exam_3)}{3}$$

$$\overline{Quizzes} = \frac{\sum_{i=1}^{10} Quiz_i}{10}$$

Letter grades are assigned as follows:

90 – 100	=	A
80 – 89.9	=	B
70 – 79.9	=	C
60 – 69.9	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An

“incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.”)

IX. NOT REQUIRED BUT RECOMMENDED COURSE MATERIALS:

Recommended: *Integrated Science, 6/e* (without Access Code), Tillery, MCGRAW HILL.

X. RESERVED MATERIALS FOR THE COURSE:

None.

XI. CLASS SCHEDULE:

(*) NOTE: This schedule is a guideline and may change as the course progresses.**

Week	ISC 1001 Lecture Topics	Lab/Experiment
1	Syllabus presentation	Introduction, measurements
2	Chap. 1 What is science. Quantifying properties, the scientific method	Exp. Graphing
3	Chap. 2 Motion	Exp. Motion
4	Chap. 12 The universe; stars and galaxies	Exp. Free Fall
5	Chap. 13 The solar system	Exp. Centripetal force
6	EXAM I - Chap. 1, 2, 12, 13	Exp. Power output of sun
7	Chap. 6 Electricity I, Electric circuits II	Exp. Static electricity/Exp. Electric Circuits
8	Chap. 6 Electricity III, Magnetism	Exp. Ohm's law
9	EXAM II - Chap. 6	Exp. Magnetic fields
10	Chap. 14 Earth in space, motion, time and tides	Exp. Density of Igneous Rocks
11	Chap. 15 Earthquakes, Plate Tectonics	Exp. Speed of Sound in air
12	Chap. 21 Geologic time (selected topics)	Exp. Water Vapor in Air
13	Chap. 17 Earth's Weather, Chap. 18 Earth's waters(selected topics)	Exp. Natural water/ Essay presentation
14	Final Exam, Cumulative, proctored https://www.fsw.edu/online/testing	Wednesday December 9th 12PM-1: 50PM

XII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:

- You must abide by all the Laboratory Safety Rules provided to you and/or posted in the classroom /laboratory.
- Please note that eating and drinking are not allowed in the class and laboratory.
- It is expected that all assignments are your original work. If you misrepresent your work by using outside sources without fully and properly crediting those sources you may be subject to a grade penalty or disciplinary action.
- Looking at others' work or talking to another student **during exams** is considered cheating.
- Only those persons enrolled in a class, or those persons who have authorization to be in attendance for a particular class, will be permitted to attend the class.
- Prerecorded or live videos may be available during scheduled times/days.
- **Class sessions may be recorded. By joining any class session, you consent to being recorded.**
- **Students may disable video and mute the microphone to protect their privacy.**
- **Sharing of video recordings is restricted only to enrolled students.**