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Please put "NSC 131.81" in the subject line of all emails relating to this course

Office Hours: **MONDAYS & WEDNESDAYS – 4:30PM -6:00PM, BY APPOINTMENT**

Materials: Conceptual Integrated Science Hewitt Lyons Suchocki Yeh  
Electronic textbook packaged with Mastering Physics Online Homework System

Calculator – Any model capable of exponents and scientific notation.

**\*\*Cell phones and other electronic devices may not be used on quizzes or exams\*\***

General Information: NSC 131 is designed to introduce students to the nature of science as a process. The course presents an integrated approach to the sciences from an origins perspective. Topics from various fields of science are covered, with an emphasis on critical thinking and evaluating evidence to examine theories. The interrelationships of the sciences are stressed, as is the relationship of science and technology. The course goals include:

1. Understanding how science works as a process, and applying the same critical thinking skills used to evaluate evidence to everyday situations
2. Becoming more scientifically literate, especially concerning contemporary issues
3. Obtaining a working knowledge of measurement techniques, the metric system and construction & interpretation of graphs, diagrams and tables
4. Examining the interrelatedness of the sciences, and the relationship of scientific investigation and social values.

By performing at the 70% level on examinations over lecture material and laboratory skills, students will fulfill JC General Education Outcome #4 "Demonstrate Scientific Reasoning", which the assesses for the following:

- Describe issues raised by science for contemporary society
- Distinguish between scientific and other forms of reasoning
- Correctly use scientific terminology and explains basic principles, concepts, and theories
- Evaluates and effectively uses sources of scientific information.
- Draws appropriate conclusions from data.
- Correctly presents laboratory results and conclusions.
- Interpret charts, graphs, data and tables
- Correctly use scientific measurement systems including scientific units, scales and conversions
- Understand the difference between cause-and-effect vs. correlation

Grades: Your course grade will be based on five exams, five laboratory quizzes, laboratory performance, out-of-class work, and in-class work. Each of these is assigned a point value for a maximum of 800 points obtainable.

Assessment	Points	Details
Exams	300	5 exams, each worth 100 points, 3 highest scores
Final Exam	100	This exam can NOT be dropped.
Lab Quizzes	100	5 quizzes, each worth 20 points
Labs	100	13 labs, each worth 10 points, drop the lowest 3 scores
Out-of-class Work*	100	Online and/or paper-pencil
In-class Work/Attendance	100	4 points per non-exam class meeting days

\*or 4<sup>th</sup> lowest Exams (i.e., the exam score that was dropped), whichever score is greater

Final grades will be assigned based on the percentage of possible points earned as shown below:

Minimum %	90.0	85.0	80.0	75.0	70.0	65.0	60.0	50.0
Minimum Points	720	680	640	600	560	520	480	400
Grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5

**Exams:** All exams are a mixture of fill-in, multiple choice, problem solving, and essay questions based on specific topics. There is no time limit on any exam. The final exam will have cumulative questions. Students may use a calculator & an 8.5"x11" sheet of notes (both sides, handwritten or typed) for all exams except the final exam.

The lowest score of the first five exams will be dropped. The final exam can NOT be dropped. Make-up exams will only be given in unusual circumstances. Exams can NOT be retaken under any circumstances.

Exam	Topics	Date
1	Nature of Science, Scientific Measurement	January 30
2	Atomic Structure, Periodic Table, Radioactivity, Nuclear Power Plants	February 15
3	Waves, Doppler Effect, Spectroscopy, Cosmology, Energy	March 8
4	Energy Transport, Sun, Earth's Atmosphere, Climate Change, Seismic Waves	April 6
5	Plate Tectonics, Earthquakes, Evolution	April 31
Final	Cumulative Question from each of the proceeding exams.	Held in-class on May 3

**Laboratory:** There are 13 lab exercises. The first exercise is designed to familiarize the student with how experiments are to be conducted, measurement theory and data analysis. During the remaining 12, students will collect and interpret data to verify some well-substantiated result. Each laboratory has associated pre-lab questions to ensure that the student has read the background and procedure. These will be collected at the beginning of the lab period. The students will work in small groups that may be assigned by the instructor and turn in a joint Data & Result worksheet.

Due to the fact that the laboratory rooms and equipment are not readily available, make-up laboratories will not be possible. However, the lowest 3 laboratory exercise grades will be dropped.

In order to fulfill the General Education Outcomes for a laboratory science course, students must complete 10 out of the 13 laboratory exercises. Failure to do so will result in a course grade of 0.0 regardless of the grades in the rest of the course.

**Lab Quizzes:** There are 5 lab quizzes. Each lab quiz is worth 20 points. Make-up quizzes will only be given in unusual circumstances. The topics are as follows:

Quiz	Topics
1	Introduction, Measurement, Density
2	Qualitative Analysis, Radioactivity
3	Spectroscopy, Energy Conservation
4	Specific Heat, Rock Identification, Earthquakes
5	Photosynthesis & Respiration, Cells & Microscopy, Evolution

**Out-of-class work:** Most of the assignments will be made available through Mastering Physics Online Homework system. If the student does not have internet access at home, they should set aside time to do this work utilizing college computer resources. The course code for our section of NSC is:

Mastering Physics NSC course – CURTNSC13181W18

Course code: WSSCIS-PATIL-CURRY-PIQUE-ELVIS-VOTES

Some topics may merit more essay-type answers. In those instances, the instructor may assign paper/pencil work. Late out-of-class work will only be accepted in unusual circumstances.

In-class Work: There are 24 non-exam class meeting times. Students actively participating during the lecture will receive 4 points if they arrive before I start class, but only 2 points if they arrive after I start class. There is no way to make up missed in-class work.

Extra Credit: There is NO extra credit in this class.

Incompletes: In accordance with JC's Incomplete Grade policy, a student may request the grade of Incomplete if they are unable to complete the course work for some documentable unforeseen circumstance. The Incomplete will be granted if at least 50% of the assigned work in the course (including both assignments and exams) has been performed with sufficient quality (with an average grade of 2.0) and the student provides documentation of the circumstance. The student will be required to provide a detailed written schedule with due dates for making up the missing work during the following semester.

Course Help and Special Needs: If you have special needs that I should be aware of in order to help you to best learn course material, please let me know as soon as possible. Students requiring special assistance (including those affected by the Americans With Disabilities Act) should contact the Center for Student Success in Bert Walker Hall Room 138 (517-796-8414). Tutoring services are free at JCC - if at any point in the course you feel that you would benefit from a tutor, contact the Center.

JetNet Resources: many course materials can be accessed through the JetNet course management system. This is the way you will be able to view your grades, announcements, screencasts, animations, etc. You are expected to use JetNet to help you track assignments and due dates.

Plagiarism and Cheating: Be sure that all homework and assignments are your own work. Copying someone else's work is plagiarism, and plagiarized work will **not be accepted**. Evidence of plagiarism or cheating on any exam or assignment will result in a "0" score for that assignment and notification of the Academic Dean, with no possibility of dropping the zero.

#### **JC Academic Honesty Policy**

Academic honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others' work as their own, either by plagiarism, by cheating, or by helping others to do so.

**Plagiarism** is the failure to give credit for the use of material from outside sources.

Plagiarism includes but is not limited to:

- Using data, quotations, or paraphrases from other sources without adequate documentation
- Submitting others' work as your own
- Exhibiting other behaviors generally considered unethical

**Cheating** means obtaining answers/material from an outside source without authorization.

Cheating includes, but is not limited to:

- Plagiarizing in all forms
- Using notes/books without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical

#### **Collaboration**

While JCC encourages students to collaborate in study groups, work teams, and with lab partners, each student should take responsibility for accurately representing his/her own contribution.

#### **Consequences/Procedures**

A faculty member who suspects a student of academic dishonesty may penalize the student by taking appropriate action up to and including assigning a failing grade for the paper, project, report, exam or the course itself. Instructors should document instances of academic dishonesty in writing to the Dean of Faculty.

#### **Student Appeal Process**

In the event of a dispute, both students and faculty should follow the Conflict Resolution Policy.

The policy is presented in the Student Rights and Responsibilities section of the student handbook.

**NSC 131 Winter 2018 - Tentative Course Calendar**

<b>Day</b>	<b>Date</b>	<b>Topic</b>	<b>Textbook Reading</b>	<b>Laboratory</b>
1 – T 2 – R	1/16 1/18	Course Introduction Nature of Science Scientific Method	Chapter 1	No Lab
3 – T 4 – R	1/23 1/25	Scientific Measurement Conversions Temperature Scales	Appendix A Chapter 6.2-6.3	Lab #1: Data Taking & Analysis
5 – T 6 – R	<b>1/30</b> 2/01	<b>Exam 1</b> Atomic Structure	Chapter 9	Lab #2: Scientific Measurement
7 – T 8 – R	2/06 2/08	Periodic Table Radioactivity, Nuclear Decay	Chapter 10	Lab #3: Density
9 – T 10 – R	2/13 <b>2/15</b>	Nuclear Power Plants <b>Exam 2</b>		<b>Lab Quiz 1</b> Lab #4: Qualitative Analysis
11 – T 12 – R	2/20 2/22	Waves - Sound & Light Doppler Effect Spectroscopy	Chapter 8.1-8.4, 8.6 Chapter 8.13 Chapter 9.4	Lab #5: Radioactivity
13 – T 14 – R	2/27 3/01	Cosmology, Expanding Universe Energy Conservation, Heat	Chapter 8C Chapter 4.5, 4.7, 4.8	<b>Lab Quiz 2</b> Lab #6: Spectroscopy
15 – T 16 – R	3/06 <b>3/08</b>	Energy Transport Mechanisms <b>Exam 3</b>	Chapter 6.4, 6.6, 6.8-6.10	Lab #7: Energy Conservation
3/12 – 3/18 ----- ENJOY YOUR SPRING BREAK -----				
17 – T 18 – R	3/20 3/22	Sun, Solar Power Earth's Atmosphere	Chapter 28.2 Chapter 26	Lab #8: Specific Heat
19 – T 20 – R	3/27 3/29	Meteorology, Wind Power Climate Change	Chapter 27A	<b>Lab Quiz 3</b> Lab #9: Rock Cycle
21 – T 22 – R	4/04 <b>4/06</b>	Structure of Earth <b>Exam 4</b>	Chapter 22	Lab #10: Earthquakes
23 – T 24 – R	4/10 4/12	Seismic Waves Plate Tectonics, Earthquakes	Chapter 27	<b>Lab Quiz 4</b> Lab #11: Photosynthesis & Respiration
25 – T 26 – R	4/17 4/19	Tsunamis/Volcanoes Nature of Life Theory of Evolution	Chapter 15, 18	Lab #12: Cells & Microscopy
27 – T 28 – R	4/24 <b>4/26</b>	Evidences of Evolution <b>Exam 5</b>	Chapter 17 Chapter 16.1, 16.5, 16.7	<b>Lab Quiz 5</b> Lab #13: Evolution
29 – T 30 – R	5/01 <b>5/03</b>	Course Review <b>Final Exam</b>		