

LECTURE: **TUESDAYS & THURSDAYS – 5:30-7:00PM (JAMES MCDIVITT HALL 219)**LAB: **THURSDAYS – 7:00-9:00PM (JAMES MCDIVITT HALL 133)**

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Please put "NSC 131.02" in the subject line of all emails relating to this course

Office Hours: **TUESDAYS – 2:00-4:00PM, THURSDAYS – 10:30AM-12:30PM, 2:00-4:00PM, BY APPOINTMENT**

Materials: Conceptual Integrated Science Hewitt Lyons Suchocki Yeh
 Electronic textbook packaged with Mastering Physics Online Homework System
 TBZ - The textbook is available in a digital format and may be purchased in the bookstore.

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 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	4 exams, each worth 100 points, drop the lowest score
Final Exam	100	This exam can NOT be dropped.
Lab Quizzes	100	5 quizzes, each worth 25 points, drop the lowest score
Labs	100	13 labs, each worth 10 points, drop the lowest 3 scores
Out-of-class work	140	Online and/or paper-pencil
In-class work	60	2 points per lecture class meeting

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). The first four exams will be available at the JC testing center for 1 week starting on the date shown in the table below.

JC Testing Center Hours

Monday & Tuesday: 10:00PM-8:00PM

Wednesday: 10:00AM-4:00PM

Thursday: 8:00AM-3:00PM

Friday: 10:00AM-4:00PM

Saturday: 12:00PM-4:00PM, OCTOBER, NOVEMBER, AND DECEMBER

A photo ID is required. For more information: <http://www.jccmi.edu/library/testinglab.htm>

If you are unable to make it to the testing center during these hours, please see me for alternate arrangements.

The lowest of score of the first four 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	Start Date
1	Nature of Science, Scientific Measurement	Sept 26
2	Atomic Structure, Periodic Table, Radioactivity, Nuclear Power Plants	Oct 12
3	Waves, Doppler Effect, Spectroscopy, Cosmology, Energy	Nov 2
4	Energy Transport, Sun, Earth's Atmosphere, Climate Change, Seismic Waves	Nov 28
Final	Plate Tectonics, Earthquakes, Evolution & Cumulative Question from each of the proceeding exams.	Held in-class on Dec 21

Laboratory: There are 13 laboratory 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 with collect and interpret data to verify some well-substantiated result. While students will work in small groups, each student must turn in their own data & results. All analysis and conclusions must be original to the student submitting the work for a grade.

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

In order to fulfill the General Education Outcomes for a laboratory science course, students must complete 8 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. Students may use a calculator & one 8.5x11" sheet of notes (both sides, handwritten or typed). Each lab quiz is worth 25 points. The lowest score will be dropped. 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:

XXXXXX-XXXXX- XXXXX- XXXXX- XXXXX- XXXXX

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

In-class Work: There are 30 lecture meeting times. Students actively participating during the lecture will receive 2 points. 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:

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

Cheating means obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

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

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 Fall 2017 - Tentative Course Calendar

Day	Date	Topic	Textbook Reading	Laboratory
1 – T	09/05	Course Introduction Nature of Science	Chapter 1	Lab #0: Laundry Ball
2 – R	09/07	Scientific Method		
3 – T	09/12	Scientific Measurement	Appendix A	Lab #1: Data Taking & Analysis
4 – R	09/14	Conversions Temperature Scales	Chapter 6.2-6.3	
– T	09/19	In Service Day		Lab #2: Scientific Measurement
5 – R	09/21	Atomic Structure	Chapter 9	
6 – T	09/26	Periodic Table	Exam 1 Starts	Lab #3: Density
7 – R	09/28	Radioactivity & Nuclear Decay	Chapter 10	
8 – T	10/03	Radioactivity continued		Lab Quiz 1
9 – R	10/05	Nuclear Power Plants		Lab #4: Qualitative Analysis
10 – T	10/10	Waves - Sound & Light	Chapter 8.1-8.4, 8.6	Lab #5: Radioactivity
11 – R	10/12	Waves, continued	Exam 2 Starts	
12 – T	10/17	Doppler Effect Spectroscopy	Chapter 8.13 Chapter 9.4	Lab Quiz 2 Lab #6: Spectroscopy
13 – R	10/19	Spectroscopy continued Cosmology & the Expanding Universe	Chapter 8C	
14 – T	10/24	Energy Conservation; Heat	Chapter 4.5, 4.7, 4.8	Lab #7: Energy Conservation
15 – R	10/26	Energy Transport Mechanisms	Chapter 6.4, 6.6, 6.8-6.10	
16 – T	10/31	Sun	Chapter 28.2	Lab #8: Specific Heat
17 – R	11/02	Solar Power	Exam 3 Starts	
18 – T	11/07	Earth's Atmosphere	Chapter 26	Lab Quiz 3
19 – R	11/09	Meteorology, Wind Power		Lab #9: Rock Cycle
20 – T	11/14	Climate Change	Chapter 27A	Lab #10: Earthquakes
21 – R	11/16	Climate Change, continued		
22 – T	11/21	Structure of Earth	Chapter 22	No Lab
– R	11/23	Thanksgiving Break		
23 – T	11/28	Seismic Waves	Exam 4 Starts	Lab Quiz 4 Lab #11: Photosynthesis & Respiration
24 – R	11/30	Plate Tectonics	Chapter 27	
25 – T	12/05	Earthquakes, Tsunamis & Volcanoes		Lab #12: Cells & Microscopy
26 – R	12/07	Nature of Life	Chapter 15	
27 – T	12/12	Theory of Evolution	Chapter 17	Lab #13: Evolution
28 – R	12/14	Evidences of Evolution		
29 – T	12/19	Evidences continued	Chapter 16.1, 16.5, 16.7	No Lab
30 – R	12/21	Final Exam; Lab Quiz 5		