

CHEM 1001

SCIENCE OF CONTEMPORARY ISSUES

Fall Quarter 2009

Instructor: Dr. Ronald Nohr

Phone: 303-871-2985

e-mail: [rnohr@du.edu](mailto:rnohr@du.edu)

Office: 206 Physics Bldg., and SGM 259 (Laboratory)

Text: "The Science of Contemporary Issues", 2 ed., Ronald Nohr, 2009, Pearson Custom Publishing, 2009

Office Hours: Monday and Wednesday: 11:00 to 11:50  
Thursday: 9:00 to 9:50  
or By Appointment

Lap-top computers will not be allowed in lecture. Talking during lecture will not be tolerated.

Examinations: There will be three one-hour exams during the course.  
Each test will count 200 points and there will be no make-up exams. If you miss an exam for any reason you will be allowed to count your comprehensive final examination twice.

Quizzes: There will be a short quiz everyday on the material covered the lecture before. One of your lowest quiz scores or missed quizzes will not be counted. The total possible quiz points will equal 200 points.

Examinations: 3 x 200 points = 600 points

Quizzes 200 points = 200 points

Laboratory 200 points = 200 points

Total Points 1000 points

Grades: The assignment of a final letter grade to a final numerical grade is somewhat flexible procedure and depends to some extent on the overall class performance. Grades however will not be fitted to a statistical bell-shaped normal distribution curve.

## LECTURE SCHEDULE

Tentative

TEXT: Section I Atomic Structure, Chemical Bonding, Intro. Organic Chemistry, Water, Air, Air Resources, Nuclear Chemistry, and Energy Resources.  
Pages 3 to 129.

### LEARNING OBJECTIVES:

- Articulate concepts and principles specific to a field of study in natural science or technology, and effectively apply scientific methods to ask questions, design and perform experiments, or judge arguments.
- Recognize science as a process that considers uncertainty when drawing conclusions from scientific evidence and making predictions from existing data.
- Apply and distinguish between qualitative and quantitative forms of analysis and evidence, and demonstrate skills for using and interpreting quantitative information in various formats based on validation and replication of results.

### COURSE SCHEDULE

Week-Of	Chapter	Topic
Sept. 14	1, 2,	Basic Intro. Chem. and Organic Functional Groups,
Sept. 21	3	Water (Chemistry, Purification)
Sept. 28	4	Air (Ozone Layer, Pollution)
Oct. 5	5	Global Warming
Oct. 12	Review Ch. 1, 2, 3, 4, 5	Examination I
Oct. 19	6	Nuclear Chemistry
Oct. 26	6	Nuclear Chemistry
Oct. 26	7	Examination II, Energy Resources

Nov. 2	7	Energy Resources
Nov. 9	7	Energy Resources
Nov. 16 - 19	Review Ch. 1,2,3,4,5,6,7	Final Examination (Comprehensive)

## CHEM 1002

### SCIENCE OF CONTEMPORARY ISSUES

Winter 2010

**INSTRUCTOR:** Dr. Ronald Nohr

**PHONE:** 303-871-2985

**E-MAIL:** [rnohr@du.edu](mailto:rnohr@du.edu)

**OFFICE:** 206 Physics Bldg. and SGM 259 (Laboratory)

**OFFICE HOURS:** Monday 1:30 to 2:30

Tuesday 11:30 to 1:00

Wednesday 11:00 to 11:50

Thursday 11:30 to 1:00

or by appointment

**TEXT:** The Science of Contemporary Issues, 2<sup>nd</sup> ed., Ronald Nohr, Pearson Custom Publishing, 2009

**EXAMINATIONS:** There will be two 1 hour and 40 minute examinations plus a 2 hour comprehensive final examination. Examination questions will be short essay, multiple choice, true or false, and matching. The questions will be similar to the practice examination handouts. There will be no make-up tests. The only exception to the no make-up policy will be to members of a University team or group. You must inform Dr. Nohr prior to the test and make arrangements at that time for the make-up test. **IF YOU MISS ONE EXAMINATION, FOR WHATEVER REASON, YOU CAN COUNT YOUR FINAL EXAMINATION TWICE.**

**QUIZZES:** At the end of each lecture there will be a short quiz. There will be no make-up quizzes. The only exception will be for University team or group members. Of the 17 quizzes only 15 of them will count toward your final grade.

#### FINAL GRADE:

Examination I and II	(200 points each)	400 points
Quizzes (15)	(20 points each)	300 points
Laboratory Grade		300 points
Final Examination (Required) Comprehensive		200 points
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Total Points		1,200 points

## LECTURE SCHEDULE

**TEXT:** Section II Polymers, Intro. to Genetics and Chemicals of Life (Chapters 8,9,10 and 11). Pages 167 to 241.

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- Recognize science as a process that considers uncertainty when drawing conclusions from scientific evidence and making predictions from existing data.
- Apply and distinguish between qualitative and quantitative forms of analysis and evidence, and demonstrate skills for using and interpreting quantitative information in various formats based on validation and replication of results.

### COURSE SCHEDULE

<u>WEEK OF</u>	<u>TOPIC</u>	<u>STUDY MATERIAL</u>
Jan. 4	Introduction to Polymers (Natural and Synthetic)	Chapters 8, 9
Jan. 11	Polymers (Chemistry of Polymers)	Chapter 9
Jan. 18 (Mon. Jan. 18 Holiday)	Polymers (Impact on Society)	Chapter 9
Jan. 25	Natural Polymers (Carbohydrates, Proteins, Nucleic Acids)	Chapter 10
Feb. 1	Natural Polymers (Carbohydrates, Proteins, Nucleic Acids)	Chapter 10
Feb. 8	Review Ch. 8, 9, 10	<u>EXAMINATION I</u>
Feb. 15	Biomolecules, Intro. to Genetics	Chapter 11
Feb. 22	Biomolecules, Intro to Genics	Chapter 11

**March 1**

**Review Ch. 11**

**EXAMINATION II**

**March 8**

**Review Ch. 8,9,10 and 11**

**FINAL EXAMINATION  
(Comprehensive)**

**CHEM 1003**

**SCIENCE OF CONTEMPORARY ISSUES**

**Spring 2010**

**INSTRUCTOR: Dr. Ronald Nohr**

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**QUIZZES:** At the end of each lecture there will be a short quiz. There will be no make-up quizzes. The only exception will be for University team or group members. Of the 17 quizzes only 15 of them will count toward your final grade.

**FINAL GRADE:**

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Quizzes (15)	(20 points each)	300 points
Laboratory Grade		300 points
Final Examination (Required) Comprehensive		200 points
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Total Points		1,200 points

## LECTURE SCHEDULE

**TEXT:** Section III Nervous System, Chemistry of Drugs and Chemistry of Poisons (Chapters 12,13,14,15, and 16), Pages 285 to 401.

### LEARNING OBJECTIVES:

- Articulate concepts and principles specific to a field of study in natural science or technology, and effectively apply scientific methods to ask questions, design and perform experiments, or judge arguments.
- Recognize science as a process that considers uncertainty when drawing conclusions from scientific evidence and making predictions from existing data.
- Apply and distinguish between qualitative and quantitative forms of analysis and evidence, and demonstrate skills for using and interpreting quantitative information in various formats based on validation and replication of results.

### COURSE SCHEDULE

<u>WEEK OF</u>	<u>TOPIC</u>	<u>STUDY MATERIAL</u>
March 22	Fitness , Health, Chemical Connections	Chapter 12, 13
March 29	Fitness, Health, Chemical Connections	Chapter 12, 13
April 5	Chemistry of Drugs	Chapter 14
April 12	Chemistry of Drugs	Chapter 14
April 19	Review Ch. 12, 13, 14	Examination I
April 26	Chemical Cures	Chapter 15
May 3	Chemical Cures	Chapter 15



<b>May 10</b>	<b>Review Ch. 15</b>	<b>Examination II</b>
<b>May 17</b>	<b>Chemistry of Poisons</b>	<b>Chapter 16</b>
<b>May 24</b>	<b>Chemistry of Poisons</b>	<b>Review Ch. 12,13,14,15,16</b>
<b>May 31</b>	<b>Final Examination (Comprehensive)</b>	