North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Health Sciences

B. Discipline: Science

C. Course Number and Title: CHEM1220 Chemistry II

D. Assistant Dean: Heidi Kreglow, PT

E. Credit Hours: 5
Lecture: 4 hours
Laboratory: 3 hours

F. Prerequisites: CHEM1210

G. Last Course/Curriculum Revision Date: Fall 2023 Origin date: 11/15/2013

H. Textbook(s) Title:

Chemistry: A Molecular Approach
- Author: Tro, Nivaldo
- Copyright Year: 2019
- Edition: 5th
- ISBN: 9780134874371

Students will also need to purchase the mastering chemistry access code: 9780134989846.
Students may choose to purchase the eText bundle as it is not as expensive, ISBN: 9780135419441

I. Workbook(s) and/or Lab Manual:

J. Course Description: This is the second semester of chemistry for science majors or pre-professional students. A quantitative introduction to intermolecular forces, phase changes, colligative properties, chemical kinetics, chemical equilibrium, acid-base equilibria, thermodynamic, electrochemistry, organic chemistry and nuclear chemistry. Student will be exposed to applications of chemistry in society. (TAG # OSC009; If combined with CHEM1210 TAG # OSC023)

K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Demonstrate intermolecular forces and phase diagrams.	Quiz - 2nd week Written lab report Midterm Exam – 4th week Final – 15th week
2. Describe the solution process and demonstrate colligative properties.	Quiz – 3rd week Written Lab Report Mid-Term Exam – 4th week Final – 15th week
3. Explain chemical kinetics	Written Lab Report Mid-Term Exam – 4th week Final – 15th week
4. Demonstrate chemical equilibrium	Quiz – 5th week Written Lab Report Mid-Term Exam-8th week Final Exam – 15th week
5. Explain and demonstrate acid-base equilibria and buffers.	Quiz-6th, 7th week Written Lab Reports Mid-Term Exam-8th week Final Exam – 15th week m – 8th week
6. Describe chemical thermodynamics, entropy and free energy.	Quiz-9th week Mid-Term Exam- 12th week Final Exam – 15th week
7. Explain and demonstrate electrochemistry.	Quiz- 10th & 11th week Written Lab Report Mid-Term Exam-12thweek
8. Define organic chemistry.	Quiz- 13th week Formal Written Lab Report Mid-Term Exam- 12th week
9. Explain transition metals & coordination chemistry.	Quiz – 14th week Final Exam – 15th week
10. Describe nuclear chemistry.	Quiz- 14th week Final Exam 15th week
11. Discuss social and philosophical implications of scientific discoveries and describe the potential of science and technology to address problems of the contemporary world.	Formal Written Lab Reports - weekly Midterm Exam – 12th week Final Exam – 15th week

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at

https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Health Sciences	**Discipline:**	Chemistry
Course Coordinator:	Travis Green		
Course Number:	CHEM 1220	**Course Title:**	General Chemistry II
Semester / Session:	Spring 2026	**Start / End Date:**	1/12/2026 – 05/08/2026

Instructor Information

Name:	Travis Green	**Credentials:**	PhD, Photochemical Sciences
Phone Number:	419-755-4556	**E-Mail Address:**	tgreen@ncstatecollege.edu
Office Location:	Health Science 322	**Office Hours:**	M- 12:00 – 1:00, T- 9:00 – 12:00, W- 12:00 – 1:00

I. Topical Timeline (Subject to Change):

Weeks	Tuesday Lecture Topic	Lab Experiment	Thursday Lecture Topic
1	Course Orientation	Safety, Notebooks, 1210 Review	General Chemistry I Review
2	Sections 12.1 – 12.3	Clausius-Clapeyron	Section 12.4
3	Sections 13.1 – 13.2	Determination of an Equilibrium Constant	Sections 13.3 – 13.4
4	Sections 14.1 – 14.3	Titration Curves	***No Lecture- Travel***
5	Sections 14.4 – 14.7	Solubility Product Constant	Section 15.1
6	Sections 15.2 – 15.3	***Exam 1 Review***	***Exam 1***
7	Sections 16.1 – 16.3	Research Day	Sections 16.4 – 16.7
8	Sections 17.1 – 17.3	Catechol Kinetics	Sections 17.4 – 17.7
9	***No Lecture- Spring Break***	***No Lab- Spring Break***	***No Lecture- Spring Break***
10	Sections 18.1 – 18.6	Ion Separation	Sections 18.7 – 18.12
11	***No Lecture- Travel***	Jobb's Plot	Sections 19.1 – 19.2
12	Section 19.3	***Exam 2 Review***	***Exam 2***
13	Sections 20.1 – 20.3	Aspirin Synthesis 1	Sections 20.4 – 20.6
14	Functional Groups	Aspirin Synthesis 2	Sections 21.1 – 21.2
15	Sections 21.3 – 21.4	***Lab Practical***	***Chosen Topic 1***
16	***Chosen Topic 2***	***Exam 3 Review***	***Exam 3***
17	***Presentations***	***Final Exam Review***	***Final Exam***

II. Course Assignments:

1. Classwork
   a. The classwork assignments are comprised of chapterly assignments to give practice with the course material. These are 5-10 question problem sets. These are to be turned in before leaving class or submitted on canvas that evening by 11:59 pm.
2. Homework
   a. The homework assignments are taken out of the textbook. You are responsible for completing the assigned problems and submitting the assignment on canvas. These will be due on Monday evenings at 11:59 pm.
3. Laboratory Exercises
   a. The laboratory experiments are designed to both supplement lecture material and teach essential lab techniques. Most lab exercises consist of prelab questions, data collection, data analysis and post lab discussion. All lab exercises are due the week following the lab completion.

4. Exams
    a. There will be 3 exams throughout the semester covering 3-4 chapters of material and a cumulative final. The exams will be administered on Thursday during your normal lecture time. They are written exams comprised of multiple choice, short answer, and math questions.

III. Grading and Testing Guidelines:

1. **Grade Breakdown**

Assignment Type	Points	Weight towards Final Grade
Homework	10 (20 pts each)	12%
Laboratory Exercises	10 (50 pts each)	25%
Classwork	20 (10 pts each)	10%
Participation and Attendance		3%
Exams and Presentation	3 Exams (100 pts each) 3 Presentations (10 pts, 10 pts, 50 pts)	30%
Final Exam	1 Exam (100 pts)	20%

2. **Late Assignment Policy**
    a. All assignments (except exams and presentations) can be turned up to one week after the due date. If the assignment is late, it will be docked 20% automatically.
        - NOTE: Technical malfunctions will not be accepted as an automatic excuse for late work. Part of success online and as a professional is to be prepared.
        - NOTE: Once the 1-week grace period has passed a 0 will be put into the gradebook.
        - NOTE: For Dr. Green to reopen an assignment after the assignment closes you must provide documentation that shows and explains why you were unable to complete the assignment within the two-week grace period.

3. **Make-Up Assignments**
    a. Lecture Assignments:
        - With the flexible late policy there will be no makeup opportunities granted for class assignments unless documentation is provided that shows and explains why you were unable to complete the assignment within the one-week grace period.
    b. Lab Assignments:
        - With the flexible late policy there will be no makeup opportunities granted for lab assignments unless documentation is provided that shows and explains why you were unable to complete the assignment within the one-week grace period.

4. **General Turn Around Time for Work Being Graded**
    a. In general, you can expect your graded work to be returned to you one week after it has been turned in.. I will do my best to enter all grades into the canvas gradebook in a timely manner. If you see that I have not entered a grade into canvas and it has been turned in for 2 weeks feel free to email me about your grade.

IV. Examination Policy:

1. The reasons for which a student will be excused from taking an examination:
    a. Hospitalization (with documented verification)
    b. Death in the immediate family (with documented verification)
    c. Personal illness or illness in immediate family (doctor's excuse required)
    d. Personal or Family Emergency (with documented verification)
    e. Mandated work (documentation required)

V. Classroom Expectations:

1. Interactions with Dr. Green
   - I expect that you will come to Dr. Green with any questions, comments or concerns you may have!

2. Online Expectations
   a. I expect you to read through the weekly checklists and look ahead for due dates. This class moves at a fast pace and it is easy to get behind if you are not on top of everything. I expect you to watch all of the micro-lecture videos and complete the weekly quizzes on time.

3. Email Policy
   a. You need to check your NCSC emails and Canvas Inbox announcements daily. Any emails to the instructor must be from your NCSC email account or from the student to the faculty using the canvas system. They must have a subject, be written in full sentences, and be signed with your name. Do not send an email written like a text message. Your email will be answered within 24 hours of a business day.

4. Student Misconduct
   a. Misconduct is disorderly or disruptive conduct that interferes with the normal operations of the College or infringes on the rights of others. You will be told to leave the classroom or lab if you violate this policy. See Student Handbook for more information.
   b. Academic Integrity is an important issue. Any student caught cheating or plagiarizing will receive a 0 on the assignment and will be reported to the your program director and the Dean of your division. This could result in failure of the assignment, failure of the class, dismissal from your program, and or dismissal from the college.
      - If you ever find yourself in a situation where you are considering academic dishonesty STOP and contact Dr. Green. I would much rather you turn in an assignment late instead of possibly being dismissed from the college.

VI. Important Dates and Information

1. Testing Accommodations
   a. Accommodations are available for students with learning disabilities or health conditions. If you think you may qualify or have qualified in the past for accommodations you need to reach out to Doug Heestand at NCSC's disability services office. Dr. Green can refer you if needed.
   b. You must initiate this process and send Dr. Green the form to sign so it can be taken care of ASAP. There is no retroactive accommodations for exams or assignments completed before the forms are signed.

2. Withdrawal and Drop Deadlines
   a. Last Day to Withdraw: April 2nd, 2026

3. Support
   a. NCSC has many support services available. Let Dr. Green know if you need or would like to be referred to any of the following:
      i. Tutoring
      ii. Counseling / Mental Health Services
      iii. Financial Aid
      iv. Food Security / Pantry
      v. Childcare