North Central State College

MASTER SYLLABUS	2026-2027

A. Academic Division: Health Sciences

B. Discipline: Science

C. Course Number and Title: BIOL-0051 Chemistry concepts for Human Anatomy & Physiology

D. Assistant Dean: Dr. Jason Tucker, Ph.D.

E. Credit Hours: 1
Lecture: 1 hour

F. Prerequisites: None

Co-Requisites: BIOL-2751

G. Last Course/Curriculum Revision Date: Fall 2025 Origin date: 10/30/2025

H. Textbook(s) Title:

Open Education Resource (available for download or view)
CHEM 1010: Introductory Chemistry – chem.libretexts.org

- Author: shared under a not declared license and was authored, remixed, and/or curated by Dr. Travis Green.
- Copyright Year: 2024
- Edition: 1st
- ISBN: (Digital)
- OER LINK: https://chem.libretexts.org/Courses/North_Central_State_College/CHEM_1010%3A_Introductory_Chemistry

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

J. Course Description: This course is designed as an introductory course in chemistry for those students who have no previous chemistry background. The focus will be on aspects of chemistry that are essential to understanding human physiology. The factor-unit method of problem solving, mathematical operations used in solving chemistry problems, chemical terminology, and basic laws of chemistry are covered.

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. Define the units of the metric system and demonstrate the ability to convert between units.	In-class assignments and/or homework throughout the term.
2. Demonstrate an understanding of the periodic table by explaining its organization; identifying selected elements; predicting the kinds, numbers, and arrangement of the subatomic particles.	In-class assignments and/or homework throughout the term.
3. Identify electron interaction in compound formation. Predict molecule nomenclature.	In-class assignments and/or homework throughout the term.
4. Identify the basic chemical reactions and show by example how to balance chemical reactions.	In-class assignments and/or homework throughout the term.
5. Identify the different kinds of chemicals bonds and evaluate how polar covalent bonding allows for hydrogen bonding.	In-class assignments and/or homework throughout the term.
6. Describe the states of matter, how changes of state occur, and energy balances involved in these changes.	In-class assignments and/or homework throughout the term.
7. Describe the properties of solutions. Predict ion interaction in aqueous solutions.	In-class assignments and/or homework throughout the term.
8. Classify the properties of acids and bases and relate these characteristics to pH values.	In-class assignments and/or homework throughout the term.
9. Evaluate chemical equilibrium and how stressors affect reversible reactions.	In-class assignments and/or homework throughout the term.
10. Describe the behavior of gases, and use the appropriate gas law to solve problems.	In-class assignments and/or homework throughout the term.
11. Describe radiation's uses to nuclear medicine.	In-class assignments and/or homework throughout the term.

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	Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Below Average
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:**	Biology
Course Coordinator:	Justin Tickhill		
Course Number:	BIOL 0051	**Course Title:**	Chemistry concepts for Human Anatomy & Physiology
Semester / Session:	Fall 2026 / Session A	**Start / End Date:**	08/17/2026 thru 10/10/2026

Instructor Information

Name:	Justin Tickhill	**Credentials:**	Master of Science in Biology
Phone Number:	4197554771	**E-Mail Address:**	jtickhill@ncstatecollege.edu
Office Location:	HS 334	**Office Hours:**	See Canvas Announcements

I. Topical Timeline / Course Calendar (Subject to Change):

Week	Date	Weekly Outcome(s)	Day 1	Day 2
1	08/21/2026	Define the units of the metric system and demonstrate the ability to convert between units. Demonstrate an understanding of the periodic table by explaining its organization; identifying selected elements; predicting the kinds, numbers, and arrangement of the subatomic particles.	**Question of the day:** How do we know what someone else is communicating?	**Question of the day:** What is an atom, an element and how do we organize them? **Turn in weekly homework**
2	08/28/2026	Identify electron interaction in compound formation. Identify the basic chemical reactions and show by example how to balance chemical reactions.	**Question of the day:** What is in the name of a molecule? How do the electric lights in this room work?	**Question of the day:** How does a fire extinguisher stop a fire? Where will I use balancing an equation outside of a chemistry class? **Turn in weekly homework** **Check Class notes for weeks 1 & 2**

Course Number: _____ **Course Title:** _____
Semester / Session: _____ **Start / End Date:** _____

Week	Date	Weekly Outcome(s)	Day 1	Day 2
3	09/04/2026	Identify the different kinds of chemicals bonds and evaluate how polar covalent bonding allows for hydrogen bonding. Predict molecule nomenclature. Describe the properties of solutions. Predict ion interaction in aqueous solutions.	**Question of the day:** Why do some molecules share electrons while other molecules steal electrons? What does the type of bond mean for the activity of a molecule?	**Question of the day:** Why is blood thicker than water? **Turn in weekly homework**
4	09/11/2026	Classify the properties of acids and bases and relate these characteristics to pH values.	**Question of the day:** How do pickles stay fresh in a jar?	**Activities: EQUATION PRACTICE** **Turn in weekly homework** **Check Class notes for weeks 3 & 4**
5	09/18/2026	Describe the states of matter, how changes of state occur, and energy balances involved in these changes. Evaluate chemical equilibrium and how stressors affect reversible reactions.	**Question of the day:** Why does ice float?	**Question of the day:** If our cells make CO2, then why don't we have bubbles in our blood? **Turn in weekly homework**
6	09/25/2026	CONNECTING CONCEPTS: How does balancing equations, etc work in the context of Human Anatomy & Physiology	**Activities: EQUATION PRACTICE**	**Question of the day:** What is a logarithmic value? When will I see this outside of a math class? **Turn in weekly homework** **Check Class notes for weeks 5 & 6**
7	10/02/2026	Describe the behavior of gases and use the appropriate gas law to solve problems.	**Question of the day:** Why do my tires get low in the winter and overinflate in the summer?	**Activities: EQUATION PRACTICE** **Turn in weekly homework**

Week	Date	Weekly Outcome(s)	Day 1	Day 2
8	10/09/2026	Describe radiation's uses to nuclear medicine.	**Question of the day:** How can we see inside someone without surgery?	**Question of the day:** Final day clean up. **Turn in weekly homework** **Check Class notes for weeks 7 & 8**

II. Grading and Testing Guidelines:

Final Grade Calculation (to pass this course you need to obtain at least 76% of the points for the course)

Activity	Qty	Points	Percentage
Class notes (10 points per check in, 4 check ins per course)	4	40	20%
Class attendance (5 points)	16	80	40%
Weekly homework or Class Activity (10 points)	8	80	40%
Total		200	100%

III. Examination Policy:

There are no exams in this course

IV. Class Attendance and Homework Make-Up Policy:

1. Class attendance is a graded portion of this course. To get full attendance points, you must be present and in-person at the start of class (5 points). You will get partial credit for coming in later than 15 minutes after the class begins (4 points).

2. Students are responsible for:
   a. Weekly homework as assigned via the Canvas learning management system (10 points). These will be turned in digitally and will get a 1 point deduction for every day late.
   b. Class notes and activities will be checked every 2 weeks and will be worth 10 points for each check in.

V. Classroom Expectations:

All communications & conduct in this course is subject to the NC State Student Code of Conduct

General Professionalism Expectations

In general, as a future professional in your field, **you will be expected to conduct yourself as a professional in this course in ALL communications** - assignments, discussion forums, Canvas Inbox, emails etc.

This expectation includes *but is not limited to*:

- **Being respectful of classmates' opinions, work and comments**
  Good test = Is this something I would/should say to a co-worker in person?

- **Being respectful in communications with the instructor**
  Good test = Is this something I would/should say to my boss in the workplace?
- **Being respectful of others**
  Good test = Is this a comment/joke that is at some other groups, ethnicity, political etc. expense?
  Note: Offensive "jokes", slurs or hate speech will NOT be tolerated
  - **This will immediately escalate to a second level offense if it occurs.**
- **Using Non-Profane, Appropriate Language**
  Good test = Is this language you would use in the workplace or in front of your grandmother?
- **Using proper. NON-"Text speak" Language to make Yourself Easily Understood**
  Good test = Could my older boss understand what I have written?

Consequences for Failure to Meet These Expectations

Failure to meet these standards will result in the following consequences in this course:

1st Level=
Written warning from the instructor documenting issue
(No points deductions)

2nd Level=
Mandatory meeting with the instructor and or Department Chair or Division Dean
(Related assignment/Participation subject to Point Deductions)

3rd Level=
College Disciplinary procedures filed with the NC State Judicial Committee as a violation of the NCSC Student Code of Conduct (Links to an external site.).
(Course Grade subject to F)

NOTE: For an <u>extreme single incident of disruptive unprofessional behavior,</u> I reserve the right to go directly to initiating college disciplinary procedures
NCSC Disciplinary hearings can result in a variety of consequences, including and up to suspension or being expelled from the college.

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