



General Chemistry – I (CHM 1045) Syllabus Spring 2025

Course Information

Course Title: ***General Chemistry – I***

CRN: **20228**

Course number with Section: ***CHM 1045, Section -1***

Course Location: ***Science Building 34, Room 121 (NA)***

Course Day and Time: ***Online***

Course Description: ***THIS COURSE IS DESIGNED FOR STUDENTS PURSUING CAREERS IN THE SCIENCES OR WHO NEED A MORE RIGOROUS PRESENTATION OF CHEMICAL CONCEPTS THAN IS OFFERED IN AN INTRODUCTORY COURSE. STUDENTS WILL ENGAGE IN PROBLEM SOLVING AND CRITICAL THINKING WHILE APPLYING CHEMICAL CONCEPTS. TOPICS WILL INCLUDE THE PRINCIPLES OF CHEMISTRY INCLUDING ATOMIC THEORY, ELECTRONIC AND MOLECULAR STRUCTURE, MEASUREMENT, STOICHIOMETRY, BONDING, PERIODICITY, THERMOCHEMISTRY, NOMENCLATURE, SOLUTIONS, AND THE PROPERTIES OF GASES.***

Prerequisites: ***Minimum grade of “C” in MAT 1033, STA 2023, high school chemistry or appropriate mathematics High school chemistry or minimum grade of “C” in CHM 1033; successful completion of an NFC developmental reading course option or appropriate reading placement score on a postsecondary readiness test. Exemptions may exist; consult an academic advisor.***

Corequisites: ***General Chemistry – I Lab (CHM 1045L)***

Instructor Information

Name: ***Manoharan Mariappan, Ph.D.***

Office Location: ***Science Building, 34, Room 123***

Office Hours:

Mon → 8:30 – 9:30, 11:00 – 3:15 (5:15 hours)

Tue → 09:30 – 10:30 (1 hour)

Wed → 8:30 – 9:30 (1 hour)

Thu → 12:30 – 3:15 (2:45 hours)

Zoom Meeting: HW help upon request.

Phone Number: **850 – 973 – 1646**

Email: ***mariappanm@nfc.edu***

Instructor Response Time for Phone/Email: *Generally, email messages will be responded within 6 hours, but no more than 24 hours during weekdays.*

Response Time for Posting Grades on D2L: *Grades will be posted in 2-4 days after the submission of any assignment.*

Department Chair: ***Dr. Guenter Maresch***

Department Chair Email: ***mareschg@nfc.edu***

Required Curriculum/Textbook and Course Materials

REQUIRED TEXT:

e-Book, Chemistry 2Ed, Openstax (Free to download:

https://d3bxy9euw4e147.cloudfront.net/oscms-prodcms/media/documents/Chemistry2e-OP_TkF9Jl3.pdf)

Chemistry 2nd edition



Paul Flowers, Klaus Theopold, Richard Langley, and William R. Robinson et al.
Publisher: **OpenStax**



**WebAssign Instant Access for OpenStax
Flowers/Theopold/Langley/Robinson's Chemistry, Multi-Term , 1st
Edition**

Paul Flowers; Klaus Theopold; Richard Langley

ISBN-10: 1-337-77775-7

ISBN-13: 978-1-337-77775-9

Webassign (for HW assignments, Quizzes or Tests) → ISBN: 9780357700006 (1 semester, unlimited access), 9780357700013 (1 year, unlimited) and 9780357700020 (2 years, unlimited access), Cengage.

Note: Visit the virtual bookstore site, [North Florida Community College New, Used, Rental and Digital Textbooks \(bkstr.com\)](http://NorthFloridaCommunityCollegeNew,Used,RentalandDigitalTextbooks(bkstr.com)) and choose one of the three options to purchase the materials (eBook including Mindtap and HW assignments).

OPTION 1 Cengage Unlimited, 1 term (4 months), 1st Edition	+
OPTION 2 Cengage Unlimited, Multi-term (12 months)	+
OPTION 3 Cengage Unlimited, Multi-term (24 months), 1st Edition	+

ADDITIONAL RESOURCE MATERIALS AND/OR SUPPLIES:

Required Course Materials/Supplies:

- Scientific Calculator & **Periodic Table** (<https://sciencenotes.org/printable-periodic-table/>)
- Computer w/internet connection
- Notebook w/straightedge or perforated paper (I will not accept papers torn out of notebooks with the frilly edges)

PENCILS w/erasers or mechanical pencils – Assignments should be completed in pencil.

MINIMUM TECHNOLOGICAL REQUIREMENTS AND SKILLS:

Student will have access to the internet and a computer that will run “ONLINE HOMEWORK” during non-school hours. Depending on devices possible preferred browser: Firefox / Mozilla for Mastering and D2L, Internet Explorer / Edge for PCs, Google Chrome, and Safari for Apple devices. Students need basic computer skills to include creating and submitting files using MS Word, PowerPoint, and Excel (but they will be demonstrated in class if applicable) and a familiarity with D2L Platform and other application software and Turnitin. Knowledge of correct email use and protocol is expected.

Important YouTube Videos: Mrs. Ginn has shared some wonderful YouTube videos explaining how students can utilize Turnitin, D2L Dropbox and D2L Discussion Boards. She posts these videos as student resources in her courses. The links are below if you would like to include them in your courses.

Discussion Board: <https://www.youtube.com/watch?v=q9cKlkClFcl&feature=youtu.be>

Dropbox: <https://www.youtube.com/watch?v=4bSqbQewdp0>

Turnitin: <https://vimeo.com/169997340>

For textbook questions, please contact bookstore@nfc.edu

Required Textbook: Your course is included in the Follett Access Program. You will receive an email regarding your textbook from Follett, the NFC bookstore. Through Follett Access, your textbook and materials are less costly, and they are automatically in your D2L course on the first day of class. If you choose to opt out of this program, you will need to follow the process on the email you receive and you will be responsible for purchasing all required materials for this course. If you have any questions regarding this process, please contact support at <https://customersupportcenter.highered.follett.com/hc/en-us>.

Grading Policy and Assessment Methods

Course Grading/Student Performance Evaluation:

1. **Exams (in D2L Quizzes):** There will be an exam for each set of chapters. Attendance for the exams will be required, on the date/times posted. There will be no makeup exam allowed unless a major life event (with documentation) is provided. Bonus points may be given.
2. **Quizzes (in D2L Quizzes):** Quizzes will be given either in the class or the lab depending upon the materials we cover, but it will be announced at least two days in advance.
3. **Homework (in D2L Quizzes):** Homework assignments will be posted in D2L for each chapter.
Homework (Webassign): Cengage online assignments will be given from each chapter’s EOC (3- 4% Extra credit)
Webassign → Integrated with D2L
4. **Final Exam (in D2L Quizzes):** Final exam is a cumulative one that is scheduled on **May 1**. No make-up exam is allowed for missed exams. In case of any emergencies – you **MUST** notify me

before the exam period starts. Note: For consideration of a makeup exam, specific documentation regarding the incident will be required.

All exams will be proctored through the **Lockdown browser, if you take them virtually**. Please be aware that you must take the exam with a **webcam**.

Assessments	Points	Percent of Total Overall Assessments
9 HW Assignments (20 pts each)	180	20 %
9 Quizzes (25 pts each)	225	25 %
4 Exams (100 pts each), 3 out of 4	300	35 %
Final Exam (Cumulative)	200	20 %
Total	925	100.00%
Extra Credit (WebAssign HW)	50	5.0%

Grading Scale

Percent of Total Points	Letter Grades
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0-59	F

MIDTERM AND/OR FINAL EXAM INFORMATION:

The Final Exam (2 hours) is scheduled on May 1-3, and it will be available from 8:00 AM – 11:59 PM

Note: NO MID-TERM WILL BE GIVEN, BUT IT WILL BE CONSIDERED FROM THE AVERAGE OF 1 Exam and 4 Quizzes.

Outcomes/Objectives

GENERAL EDUCATION PROGRAM LEARNING OUTCOMES:

1. **Communication Skills:** Students will demonstrate competence and understanding in both oral and written expression.
2. **Critical Thinking:** Students will demonstrate mastery of discipline-specific problem-solving skills.
3. **Diversity:** Students will interpret and evaluate societal and ethical issues, problems and values specific to time and place.
4. **Technology:** Students will demonstrate competence in use of technology appropriate to course and/or circumstance.

Course Level Student Learning Outcomes/Goals

All courses with multiple sections must use the same wording for all SLOs, and assessments must share common attributes.

Course Level SLO #	Gen Ed Outcome #	Summative Assessments (A student artifact: A specific assignment that could be submitted as evidence of a General Education competency)
1	1, 2, 4	STUDENTS WILL EXPLAIN THE FUNDAMENTAL PROPERTIES OF MATTER INCLUDING BUT NOT LIMITED TO ATOMIC AND ELECTRONIC STRUCTURE, AND PERIODICITY.
2	1, 2, 4	STUDENTS WILL APPLY THE LAW OF CONSERVATION OF MATTER AND ENERGY. STUDENTS WILL IMPLEMENT RULES OF SIGNIFICANT NUMBERS TO ALL MEASUREMENTS.
3	2, 4	STUDENTS WILL APPLY IUPAC RULES OF NOMENCLATURE.
4	1, 2, 3, 4	STUDENTS WILL PREDICT MOLECULAR GEOMETRY AND PROPERTIES FROM BONDING THEORIES. STUDENTS WILL PREDICT AND EXPLAIN THE PRODUCTS OF CHEMICAL REACTIONS (E.G., ACID-BASE, OXIDATION-REDUCTION, PRECIPITATION, DISSOCIATION).

Course Content and Schedule (Tentative)

Date	Topic
Jan. 6	Meet & Greet - Introductions, Orientation & Discussing the syllabus -Zoom Meeting
Week 1 (1/6-1/12)	Ch. 1: Essential Ideas
Week 2 (1/13-1/19)	Ch. 1: Essential Ideas, and Ch. 2: Atoms, Molecules, and Ions HW 1 and QZ1
Week 3 (1/20-1/26)	Ch. 2: Atoms, Molecules, and Ions, HW2, QZ2
Week 4 (1/27-2/2)	Ch. 3: Composition of Substances & Solutions
EXAM 1, Ch. 1-2 in the weekend	
Week 5 (2/3-2/9)	Ch. 3: Composition of Substances & Solutions, HW3, QZ3
Week 6 (2/10-2/16)	Ch. 4: Stoichiometry of Chemical Reactions (Part – I)
Week 7 (2/17-2-23)	Ch. 4: Stoichiometry of Chemical Reactions (Part – II), HW4, QZ5
Week 8 (2/24-3/2)	Ch. 4: Stoichiometry of Chemical Reactions (Part – II), HW5, QZ5
EXAM 2, Ch. 3-4 in the weekend	
Week 9 (3/3-3/9)	Ch. 5: Thermochemistry
Week 10 (3/10-3/16)	Spring Break Holidays
Week 11 (3/17-3/23)	Ch. 5: Thermochemistry, and Ch 9: Gases, HW6, QZ6
Week 12 (3/24-3/30)	Ch 9: Gases, HW7, QZ7
EXAM 3, Ch. 5 & 9 in the weekend	
Week 13 (3/31-4/6)	Ch. 6: Electronic Structure and Periodic Properties of Elements
Week 14 (4/7-4/13)	Ch. 6: Electronic Structure and Periodic Properties of Elements, HW8, QZ8
Week 15 (4/14-4/20)	Ch. 7: Chemical Bonding and Molecular Geometry Atoms
Week 15 (4/21-4/27)	Ch. 7 & Ch. 8: Advanced Theories of Covalent Bonding

Last week	Ch. 7 & Ch. 8: Advanced Theories of Covalent Bonding
<i>EXAM 4, Ch. 6 - 8 in the weekend</i>	
Final Exam (Cumulative) → 8:00 – 10:00 AM	

Early Alerts: Full Term

#1: January 28th – 29th

#2: February 25th – 26th

NFC Course Policy Statements

At the beginning of the semester, the instructor must report “no show” students for this course. “No show” indicates the student will be removed from the course. To be considered as attending the online course, the student must log in to D2L and complete “Getting Started,” step #1. Students will be prompted to complete the Mandatory Attendance quiz by the deadline as given on the course schedule; this quiz will verify students’ attendance in the course.

NFC Information and Policy Statements

Academic Honesty

NFC is committed to providing a high-quality educational experience to all students, and students are expected to follow appropriate and honest academic practices. This information is available in the Academic Regulations section of the college catalog at www.nfc.edu. All cases of academic dishonesty will be reported to the Office of Academic Affairs.

Statement about Generative AI Technology:

Individual course instructors are free to set their own policies regulating the use of generative AI tools in their courses, including allowing or disallowing some or all uses of such tools. Course instructors should set such policies in their course syllabi and clearly communicate such policies to students. Students who are unsure of policies regarding generative AI tools are encouraged to ask their instructors for clarification.

Use of or consultation with generative AI shall be treated analogously to assistance from another person. Absent a clear statement from a course instructor, using generative AI tools to complete an assignment or exam (e.g., for idea generation or for entering exam or assignment questions) is not permitted. Students should acknowledge the use of generative AI and default to disclosing such assistance when in doubt.

Instructors use www.turnitin.com to review papers and projects for improper citation and/or plagiarism by comparing each student’s report against billions of internet pages, a repository of

works submitted to Turnitin in the past, and thousands of academic sources. A comparison document called the *Similarity Report* details the areas of a student paper that may have been documented incorrectly or used improperly. **Refer to instructor's course policy statements for usage details.**

Attendance Policy

Regular and consistent attendance facilitates student success. Absences beyond the equivalent of two weeks of class are considered to be excessive and thus may impact a student's course grade. Typically, two weeks of class would be described as follows:

- For a three-credit hour class that meets MW or TR: 4 class meetings (2 weeks).
- For a three-credit hour class that meets once a week for three hours: 2 class meetings (2 weeks).

Students are responsible for material covered during their absence. Refer to instructor makeup policy.

If there is no verifiable participation within the first week of the term, a student will be dropped from the class for non-attendance. This includes classes delivered in face-to-face, online, or hybrid format. See instructor policy.

Textbook Purchases

Textbook Purchases

All required course materials are listed in the Virtual Bookstore tab on NFC's homepage. Course materials purchased through Follett, NFC's only contracted vendor, can be charged against a student's financial aid account. Course materials may also be purchased from any other source with the understanding that these non-Follett purchases cannot be charged against a student's financial aid account.

Used Book Purchases

Students should check the Follett book list found in the Virtual Bookstore tab on NFC's homepage for correct titles and editions. Note: The ISBN listed in Follett may include both the required text and the required access code. When considering purchasing used books, students should be sure the purchase includes the ACCESS CODE in courses where required. If not, the access code must be purchased separately at an additional cost.

Students/Visitors: Where to Park on Campus

If you have any questions about parking on campus, contact Campus Security at (850) 973-0280. Park in designated parking spaces only. Do not park on the grass or in undesignated areas. Faculty/Staff parking areas are to be used only by full- and part-time employees of the college. Faculty and staff parking spaces are lined in yellow and are clearly marked "STAFF". Students and visitors can park in any spaces that are lined in white. **NOTE: Some visitor parking spaces are lined in yellow with the word "Visitor" in the center. These are for visitors only. Students are not allowed to park in these spaces. Vehicles cannot be parked by backing into the space. Any vehicle that is illegally parked will be towed at the owner's expense. Refer to the college catalog or student handbook for all other parking regulations.**

Enforcement: If a vehicle is parked illegally anywhere on campus, it is subject to be towed at the owner's expense (\$85.00+). An illegally parked vehicle will be given a **WARNING on the FIRST OFFENSE**. **There will be no second warning.** Illegally parked vehicles will be **TOWED ON THE SECOND OFFENSE**. Signs will be displayed near parking areas with the name and address of the company to contact if the vehicle is towed.

The company that tows the vehicle is an independent company contracted by North Florida College. The College has no authority to negotiate towing fees and is not in any way responsible for damage or liability to the vehicle or its contents. The company that provides the towing service is:

Jimmie's Firestone
6025 South SR 53
Madison, FL 32340
(850) 973-8546

Campus Security

The administration of NFC works diligently to make the campus as safe as possible. A few of the procedures in place include the use of security officers, the placement of security lights at strategic locations, and the locking of buildings when not in use. Students should always be alert and use normal precautionary measures. Campus crime statistics are documented annually and are available in the college catalog. Campus security can be contacted at 850-973-0280 from 7:30 a.m. until 11:30 p.m. for assistance while on campus with non-emergency security concerns. All emergency incidents should be reported directly to 911.

Library Services

The Marshall Hamilton Library, located in Building 4 at NFC, is open during the following hours (hours are subject to change):

Fall/Spring Term

Monday – Thursday 8:00 a.m. – 7: 00 p.m.

Fridays 8:00 a.m. – 4:30 p.m.

Summer Term

Monday – Thursday 8:00 a.m. – 4:30 p.m.

Resources and staff are available in the library to support student learning in the classroom. Students are encouraged to visit our website and use the online resources. Librarians are on duty to help with questions and research strategies. To gain access to the library's extensive collection of electronic resources such as eBooks and academic databases with full-text articles, students will use the Single Sign-on through the MyNFC portal or Library Website. Students should contact the library at library@nfc.edu or call (850) 973-1624 if they are having login issues. Online library resources are available to students 24 hours a day through the library's website, <https://www.nfc.edu/learning-resources/>. Wireless Internet is also accessible in the library and on the patio after hours. Specific policies and regulations applicable to the library are available in the Library or by visiting the Library's website.

Academic Success Center

The Academic Success Center (ASC) exists to provide all NFC students, regardless of academic proficiency, the help and support necessary to ensure successful completion of studies and programs. Services include one-on-one peer and professional tutoring assistance, online tutoring, organized group study sessions, workshops, study skills training, academic coaching, web resources, and more. The ASC takes pride in working closely with faculty and staff to develop resources and to support the various academic programs offered at NFC.

Walk-in and by appointment services: Students may visit the ASC (Bldg. 4) for in-person services or make an appointment to receive in-person or virtual academic support services during the posted hours:

Fall/Spring Term

Monday – Thursday 8:00 a.m. – 5:30 p.m.

Fridays 8:00 a.m. – 4:30 p.m.

Summer Term

Monday – Thursday 8:00 a.m. – 4:30 p.m.

- **Workshops, organized group study sessions, and professional tutoring:** See the ASC calendars and schedules on NFC's website for specific dates, times, and delivery methods. For additional information visit <https://guides.nfc.edu/asc>.

Academic Success Center Online Tutoring

Online tutoring is available to NFC students 24 hours a day, 7 days a week, through the Academic Success Center. The ASC offers 1 to 1 tutoring available on demand in a variety of subjects, 24/7 anytime, anywhere.

For more information about accessing the ASC online tutoring service, see the ASC webpage or contact Elizabeth Gonzales at gonzalese@nfc.edu or (850) 973-1719 and/or Brianna Kinsey at kinseyb@nfc.edu or (850) 973-9458.

For **any** additional information regarding services provided by the **Academic Success Center**, please contact any of the following:

- Elizabeth Gonzales, Academic Success Center Coordinator (850) 973-1719 / gonzalese@nfc.edu
- Brianna Kinsey, Tutor Lab Manager (850) 973-9458 / kinseyb@nfc.edu

Americans with Disabilities Act

NFC is dedicated to the concept of equal opportunity. Students desiring modifications in class or on campus due to a disability may choose to inform the instructor at the beginning of the semester or contact the Disability Resource Center directly. Accommodation and modifications will be made after the student registers with the Disability Resource Center and provides appropriate documentation of disability. After the documentation is evaluated, the instructor may be involved in providing accommodations to equalize the student's educational experience.

Students may call (850) 973-1683 (V) or (850) 973-1611 (TTY) for an appointment or additional information.

Technology Access

All NFC online learning tools are available on the MyNFC portal. To access the portal, students should click the MyNFC link at the top of the NFC website (<http://www.nfc.edu>) or type the following URL into the Internet address bar: <https://my.nfc.edu>. **When accessing the portal for the first time, students should click the "First Time User" link and follow the instructions to set up the account.**

Each NFC student is provided an email account through GoMail. The student's GoMail account is the official email address used by faculty and staff for communication with the student. A student can access his/her GoMail account via the MyNFC portal. Students are expected to check their GoMail accounts regularly.

Desire2Learn (D2L) is the learning management system that houses all online and supplemented face-2-face courses. Students can log in to an online or supplemented course by accessing the MyNFC portal. Students will then see their course(s) listed under the "My Courses" widget on the D2L homepage. Click the name of the course to begin.

Student Ombudsman

The Student Ombudsman provides confidential, informal, and neutral assistance to students seeking to resolve disputes or address issues of importance. The Student Ombudsman does **not** serve as a student *advocate*, but rather serves as a guide to assist students in the navigation of college organizational structure and in understanding of policies and procedures. David Paulk is the current Student Ombudsman. He can be reached at (850) 973-9418 or paulkd@nfc.edu.

Equal Opportunity Statement

North Florida College is dedicated to the concept of equal opportunity and access to all programs and activities. In accordance with federal and state laws, and College policy, NFC does not discriminate in any of its policies, procedures, or practices based on race, ethnicity, color, religion, sex, national origin, gender, age, disability, pregnancy, marital status, genetic information or any other characteristic protected by law. Inquiries or complaints regarding equity issues of any nature may be directed to Denise Bell, Equity Coordinator, 325 NW Turner Davis Drive, Madison, FL 32340, Telephone (850) 973-9481 or email equity@nfc.edu.

Student Rights

As members of the College community, students have certain rights that include the following.

Students have the

- Right to a quality education.
- Right to freedom of expression.
- Right to hold public forums.
- Right to peacefully assemble.
- Right to a fair and impartial hearing.
- Right to participate in Student Government.
- Right to be a member in authorized student organizations.

- Right to appeal College decisions through established grievance procedures.
- Right of personal respect and freedom from humiliation and control.
- Right to make the best use of the student's time and talents and to work toward the goal which brought the student to the College; and
- Right to ask about and recommend improvements in policies that affect the welfare of students.

Student Responsibilities

As members of the College community, students have certain responsibilities that include the following.

Students are

- Expected to assume responsibility for knowing the rules, regulations, and policies of the College.
- Expected to meet the course and graduation requirements of the students' program of study.
- Expected to keep college records current with up-to-date addresses and other information.
- Expected to meet with an academic advisor at least once each term.
- Expected to comply with the College rules, regulations, and policies; and
- Expected to behave in a manner which demonstrates respect for others and self.

Student Rights Under the Family Educational Rights and Privacy Act (FERPA)

FERPA affords students certain rights with respect to their educational records.

1. The right to inspect and review the student's educational records.
2. The right to request the amendment of the student's educational records to ensure that they are not inaccurate, misleading, or otherwise in violation of the student's privacy or other rights.
3. The right to consent to disclosure of personally identifiable information contained in the student's educational records, except to the extent that FERPA authorizes disclosures without consent.
4. The right to file with the U.S. Department of Education a complaint concerning alleged failures by North Florida College to comply with the requirements of FERPA. Please write to U.S. Department of Education, 600 Independence Ave. S.W., Washington, D.C. 20203.
5. The right to obtain a copy of North Florida College's student record policy from the Office of the Registrar, North Florida College, 325 NW Turner Davis Drive, Madison, Florida 32340.

Vulnerable Persons Act

All faculty and staff of North Florida College are required by law to report any type of abuse of minors that they witness or become aware of through written or verbal communication, regardless of the time that has passed since the abuse occurred. Students are advised that any

information, written or verbal, communicated in this class, or to the instructor in any way, in regards to any willful act or threatened act that results in any physical, mental, or sexual abuse, injury, or harm that causes or is likely to cause harm to the physical, mental, or emotional health of another to be significantly impaired is subject to disclosure as required per Florida State Statutes.



North Florida College – Quality Enhancement Plan
Career Compass

QEP Outcome: NFC will increase the student success of first-generation PELL students seeking an associate in arts degree, with success defined as 150% completion and subsequent transfer into a baccalaureate degree program.