CHE 532/596 Course Syllabus

CHE 532/596 – Core ChE Concepts: II

Sections 302 (Hybrid) and 607 (Online: Distance Education)

Spring 2025

3 Credit Hours

Course Description

This online/hybrid chemical engineering bridging course is part of a comprehensive two-course sequence (three credits each) consisting of core undergraduate level chemical engineering topics. This homework-intensive course is designed to prepare students with backgrounds in chemistry, biology and other non-chemical engineering subjects for graduate study in chemical engineering. It is not equivalent to a four-year degree in chemical engineering, but the proposed course is designed to help you obtain the additional knowledge and skills to successfully undertake graduate classes offered by a chemical engineering program.

Learning Outcomes

By the end of this course, students should be able to:

- Describe and analyze energy and heat transport through single and multiple phases as well as steady-state and transient mass transfer processes.
- Apply first and second laws to multicomponent systems to calculate thermodynamic properties.
- Develop rate equations from known elementary reactions or available kinetic data, size a reactor given reaction kinetics, and evaluate reactor design options for multiple reactions.

Course Structure

Students will watch the short lecture videos for each module, as well as videos that detail worked out examples. Students will submit homework individually, and after the late due date may access annotated on-line solutions. There will be three tests and one final exam.

Instructors

Dr. Hassan Golpour - *Instructor*
Email: hgolpou@ncsu.edu
Web Page: https://www.cbe.ncsu.edu/person/hgolpou/
Virtual Office Hours (online only): Mondays 11:00 AM – 1:00 PM
(Office hours start from the second week of classes)
Zoom link: https://ncsu.zoom.us/my/hassan.golpour

Dr. Leah Granger – *Instructor*
Email: lcgrange@ncsu.edu
Web Page: https://engr.ncsu.edu/people/lcgrange/

Course Meetings

Section 607 (distance section): None

Section 302 (hybrid section):

Lecture: We will meet in EB1-2018 (O'Dell Room) on the first Friday of the semester (January 10) at 9:00 AM. This is a one-time only in-person lecture.

Problem Session (optional): Students in the hybrid section can meet with Dr. Leah Granger in person at EB1-2096 from 12:50 PM to 1:40 PM on Wednesdays to go over examples, homework problems, and questions they may have.

Course Materials

Textbooks

This textbook, also used in Course I, is required.
Introduction to Chemical Engineering Thermodynamics - *J.M. Smith, Hendrick Van Ness, Michael Abbott, and Mark Swihart*
Edition: 8th edition
ISBN: 978-1259696527
Web Link: https://www.mheducation.com/highered/product/introduction-chemical-engineering-thermodynamics-smith-van-ness/M1259696529.html
Cost: $160.28 (hard copy)

This textbook, also used in Course I, is required.
Transport Phenomena - *R. Bryon Bird, Warren E. Stewart, Edwin N. Lightfoot*
Edition: Revised 2nd edition
ISBN: 978-0470115398
Web Link: https://www.wiley.com/en-us/Transport+Phenomena%2C+Revised+2nd+Edition-p-9780470115398
Cost: $94.99 (hard copy)

Elements of Chemical Reaction Engineering – *H. Scott Fogler*
Edition: 5th edition
ISBN: 978-0133887518
Web Link: https://www.pearson.com/us/higher-education/program/Fogler-Elements-of-Chemical-Reaction-Engineering-5th-Edition/PGM265957.html
Cost: $150.46 (hard copy)
This textbook is required.

Expenses

None.

Materials

None.

Requisites and Restrictions

Prerequisites

There are no formal (i.e. no course number) prerequisites for the course. However, it is recommended that students have taken general chemistry as well as math courses up to and including differential equations.

Co-requisites

None.

Restrictions

None.

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

None.

Grading

Grade Components

Component	Weight
Homework Sets	**10%**
Quizzes	**5%**
3 Tests	**20% each**
Final Exam	**25%**

Letter Grades

This course is a graduate course, and as such letter grades adhere to a different standard of expectations than undergraduate courses. With this in mind this course does not necessarily use the standard NCSU letter grading scale.

Requirements for Credit-Only (S/U) Grading

Performance in research, seminar and independent study types of courses (6xx and 8xx) is evaluated as either "S" (Satisfactory) or "U" (Unsatisfactory), and these grades are not used in computing the grade point average. For credit only courses (S/U) the requirements necessary to obtain the grade of "S" must be clearly outlined.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at http://policies.ncsu.edu/regulation/reg-02-20-04.

Policies on Incomplete Grades

If an extended deadline is not authorized by the Graduate School, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) by the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at http://policies.ncsu.edu/regulation/reg-02-50-03. Additional information relative to incomplete grades for graduate students can be found in the Graduate Administrative Handbook in Section 3.18.F at http://www.fis.ncsu.edu/grad_publicns/handbook/

Late Assignments

Homework is typically due at 11:59 PM ET on the Wednesday of the week the assignment is stated to be due in the course schedule below. Students who are unable to submit the homework on time should contact the instructor in advance of the deadline if possible to explain their circumstances. Unexcused late homework will be accepted with a penalty of -10% for each 24 hours of delay. Homework submitted more than 72 hours late (11:59 PM on Saturday for an 11:59 PM Wednesday due date) will not be accepted. Homework solutions will be accessible on Moodle 72 hours after the assignment is due.

Quizzes are typically due at 11:59 PM ET on the Thursday of the week the assignment is stated to be due in the course schedule below. Late quiz submissions will not be accepted and will receive a grade of zero. With this strict penalty in mind, students should be sure to submit quiz solutions well before the deadline to allow time for any unforeseen technical problems.

Each test/exam will be given as a “take-home” exam that will be posted to the Moodle site. Typically, exams will be posted at 8:00 AM ET on the first day of the testing window, and will remain there until 11:59 PM ET on the second day of the

testing window, i.e. a ~40 hour testing window is provided. A submission link similar to that used for homework will appear on the Moodle site – students must submit all solutions (as one PDF file) by 11:59 PM ET on the second day of the testing window. Late submissions of any exam are immediately penalized 10% (AKA 10 points for an exam graded out of 100 points). Each pro-rated hour of delay after the corresponding deadline will decrease the grade by an additional 10%; for example, if an exam is submitted 15 minutes late, a 12.5% deduction will be applied – in other words, the immediate 10% deduction, as well as an additional 2.5% deduction for 0.25 hours late at 10% per hour. With these penalties in mind, students should be sure to submit solutions well before the deadline to allow time for any unforeseen technical problems.

Attendance Policy

For complete attendance and excused absence policies, please see http://policies.ncsu.edu/regulation/reg-02-20-03

Attendance Policy

None.

Absences Policy

None.

Makeup Work Policy

None.

Additional Excuses Policy

None.

Academic Integrity

Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at http://policies.ncsu.edu/policy/pol-11-35-01

It is the instructor's understanding and expectation that the student's name or signature on any test or assignment means that the student contributed to the assignment in question (if a group assignment) and that they neither gave nor received unauthorized aid (if an individual assignment). Authorized aid on an individual assignment includes discussing the interpretation of the problem statement, sharing ideas or approaches for solving the problem, and explaining concepts involved in the problem. Any other aid would be unauthorized and a violation of the academic integrity policy. Any computer work submitted must be completed on your own personal computer or from your own NCSU account to avoid confusion about the origin of the file, and no sharing of files in any way is

allowed. All cases of academic misconduct will be submitted to the Office of Student Conduct. Students found guilty of academic misconduct will be subject to, at a minimum, a zero on the assignment in question, up to a zero for that course component (e.g. a zero for the homework portion of the final grade), or a failing grade in the course, depending on the nature of the violation.

Academic Honesty

See http://policies.ncsu.edu/policy/pol-11-35-01 for a detailed explanation of academic honesty. Authorized aid on an individual assignment includes discussing the interpretation of the problem statement, sharing ideas or approaches for solving the problem, and explaining concepts involved in the problem. Any other aid would be unauthorized and a violation of the academic integrity policy. Coordinating with other students, or individuals outside the course, on any assignments and/or exams in any way can result in a 0 on homework and/or exams and an academic integrity violation with the university. Unauthorized aid additionally includes uploading or accessing on-line solutions (e.g. Chegg), whether that involves posted problem solutions or paying someone to assist in solving problems, as well as using AI tools such as ChatGPT toward any course activities. Posting questions from an assignment elsewhere (such as homework help websites or AI tools) can result in a 0 on homework and/or exams and an academic integrity violation with the university.

All cases of academic misconduct will be submitted to the Office of Student Conduct. Students found guilty of academic misconduct will be subject to, at a minimum, a zero on the assignment in question, up to a zero for that course component (e.g. a zero for the homework portion of the final grade), or a failing grade in the course, depending on the nature of the violation. In addition, if you are found guilty of academic misconduct in the course, you will be on academic integrity probation for the remainder of your years at NCSU and may be required to report your violation on future professional school applications.

Honor Pledge

It is the instructor's understanding and expectation that the student's name / signature on any test or assignment cover sheet means that the student contributed to the assignment in question (if a group assignment) and that they neither gave nor received unauthorized aid (if an individual assignment).

Electronically-Hosted Course Components

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the **Disability Resource Office** at Holmes Hall, Suite 304, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the **Academic Accommodations for Students with Disabilities Regulation (REG02.20.01).** Students needing special accommodations for testing are responsible for making arrangements to take exams at the on-campus testing center and ensuring that sufficient time is available to complete the exam.

Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at http://policies.ncsu.edu/policy/pol-04-25-05 or http://www.ncsu.edu/equal_op/. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

Trans-Inclusive Statement

In an effort to affirm and respect the identities of transgender students in the classroom and beyond, please contact the instructor if you wish to be referred to using a name and/or pronouns other than what is listed in the student directory.

Basic Needs Security

Any student who faces challenges securing their food or housing or has other severe adverse experiences and believes this may affect their performance in the course is encouraged to notify the professor if you are comfortable in doing so. Alternatively, you can contact the Division of Academic and Student Affairs to learn more about the Pack Essentials program https://dasa.ncsu.edu/pack-essentials/

Mental Health, Counseling and Wellness

As a student you may experience a range of personal issues that can impede learning, such as strained relationships, increased anxiety, alcohol/drug concerns, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may impact your ability to participate in daily activities. It is very important that you have a

support system and that you ask for help when you are struggling. The Counseling Center at NC State offers confidential mental health services for full time NC State students, including same-day emergency services. Please visit **https://counseling.dasa.ncsu.edu/** to get connected. Please also be aware of the WolfPack Wellness Resources (**https://wellness.ncsu.edu/resources/**) that are available to students – among the wellness resources available are Mental Health First Aid (MHFA) and QPR Training programs.

Course Schedule

NOTE: The course schedule is subject to change.

Week 1 — 1/6 - 1/10
12.1 Fourier's Law of Heat Conduction (Molecular Energy Transport) [BSL 9.1]
12.2 Temperature and Pressure Dependence of Thermal Conductivity [BSL 9.2]
12.3 Heat Transport by Convection: Forced and Free [BSL 4.4, 10.8 & 10.9]
12.4 Combined Mechanisms of Heat Transfer [BSL 10.6]
12.5 Heat Transport by Radiation [BSL 16.4]

Week 2 — 1/13 - 1/17 – Homework problems (set 1) in Topics 12.1-12.5 (2 problems total) due by 11:59 PM on 1/15 and Quiz 1 due by 11:59 PM on 1/16
13.1a The Energy Equation [BSL 11.1 & 11.2]
13.1b Special Forms of the Differential Energy Equation [BSL 11.1]
13.1c Application of the Energy Equation to Heat Generation in a Cylinder
13.2 Important Dimensionless Groups [BSL 9.1, 10.8, 10.9 & 11.5]
13.3a Heat-Transfer Equipment
13.3b Double Pipe Heat-Exchanger Analysis [BSL 15.4]

Week 3 — 1/20 - 1/24 – Homework problems (set 2) in Topics 13.1-13.3 (3 problems total) due by 11:59 PM on 1/22 and Quiz 2 due by 11:59 PM on 1/23
14.1 Fick's Law of Binary Diffusion (Molecular Mass Transport) [BSL 17.1]
14.2 Temperature and Pressure Dependence of Diffusivities [BSL 17.2]
14.3 Mass Transfer Notation and Flux Definitions [BSL 17.7 & 17.8]

Week 4 — 1/27 - 1/31 – Homework problems (set 3) in Topics 14.1 –14.3 (2 problems total)due by 11:59 PM on 1/29 and Quiz 3 due by 11:59 PM on 1/30
15.1 Equation of Continuity for Mass Transfer [BSL 19.1]
15.2 Special Forms of the Equation of Continuity [BSL 19.1]
15.3 Mass Transfer Equipment [BSL 22.8]

Week 5 — 2/3 - 2/7 – Homework problems (set 4) in Topics 15.1 – 15.3 (2 problems total) due by 11:59 PM on 2/5 and Quiz 4 due by 11:59 PM on 2/6
16.1a Fundamental Relation and Chemical Potential [SVAS 10.1 & 10.2]
16.1b Chemical Equilibrium [SVAS 10.2]
16.2 Partial Properties [SVAS 10.3]
16.3 The Ideal-Gas-State Mixture Model [10.4]
16.4 Fugacity and Fugacity Coefficient: Pure Species [SVAS 10.5]
Week 6 — 2/10 - 2/14 - TEST 1 on Topics 12-15 (Wed 2/12 – Thurs 2/13)
16.5 Fugacity and Fugacity Coefficient: Species in Solution [SVAS 10.6]
16.6 Generalized Correlation For Fugacity Coefficient [SVAS 10.7]
16.7 The Ideal Solution Model [SVAS 10.8]
16.8 Excess Properties [SVAS 10.9]
17.1 Property Changes of Mixing [SVAS 11.1]
Week 7 — 2/17 - 2/21 – Homework problems (set 5) in Topics 16.1 – 17.1 (6 problems total) due by 11:59 PM on 2/19 and Quiz 5 due by 11:59 PM on 2/20
18.1 The Phase Rule - Duhem's Theory [SVAS 12.2]
18.2 VLE: Qualitative Behavior – The PTxy Diagram [SVAS 12.3]
18.3 VLE: Qualitative Behavior – PT, Pxy, and Txy Diagrams [SVAS 12.3]
18.4 VLE: Qualitative Behavior – Critical Point/Retrograde Condensation [SVAS 12.3]
18.5 VLE: Qualitative Behavior – Azeotropes [SVAS 12.3]
Week 8 — 2/24 - 2/28 – Homework problems (set 6) in Topics 18.1 – 18.5 (3 problems total)due by 11:59 PM on 2/26 and Quiz 6 due by 11:59 PM on 2/27
19.1 Excess Gibbs Energy and Activity Coefficients [SVAS 13.1]
19.2 The Gamma/Phi Formulation of VLE [SVAS 13.2]
19.3 Modified Raoult's Law, & Henry's Law [SVAS 13.3]
19.4 Flash Calculations [SVAS 13.8]
Week 9 — 3/3- 3/7 – Homework problems (set 7) in Topics 19.1 – 19.5 (3 problems total) due by 11:59 PM on 3/5 and Quiz 7 due by 11:59 PM on 3/6
20.1 The Rate of Reaction [FOG 1.1]
20.2 The General Mole Balance Equation & Batch Reactors [FOG 1.2 & 1.3]
20.3 Continuous-Flow Reactors(CSTR, Tubular, PBR) [FOG 1.4]

Week 10 — 3/10 – 3/14 – Spring Break
No assignments – enjoy the break!

Week 11 — 3/17 - 3/21 - TEST 2 on Topics 16-19 (Wed 3/19 – Thurs 3/20)
21.1 Definition of Conversion & Batch Reactor Design Equation [FOG 2.1 & 2.2]
21.2 Design Equations For Flow Reactors (CSTR, Tubular, Packed Bed) [FOG 2.3]
21.3 Reactors in Series (CSTR, PFR, Combination) [FOG 2.5]
22.1 Basic Definitions, The Reaction Order and Rate Law [FOG 3.1 & 3.2]
22.2 Non-Elementary Rate Laws [FOG 3.2]
22.3 Reaction Rate Constant, Reactor Sizing And Design Summary [FOG 3.3 & 3.4]

Week 12 — 3/24 - 3/28 – Homework problems (set 8) in Topics 20.1-22.3 (4 problems total) due by 11:59 PM on 3/26 and Quiz 8 due by 11:59 PM on 3/27
23.1 Batch Systems [FOG 4.1]
23.2a Flow Systems [FOG 4.2]
23.2b Flow Systems for Gases [FOG 4.2]

Week 13 — 3/31 - 4/4 – Homework problems (set 9) in Topics 23.1-23.2 (2 problems total) due by 11:59 PM on 4/2 and Quiz 9 due by 11:59 PM on 4/3
24.1 Design Structure For Isothermal Reactors [FOG 5.1]
24.2 Batch Reactors [FOG 5.2]
24.3 Single CSTR [FOG 5.3]
24.4 CSTR in Series [FOG 5.3]

Week 14 — 4/7 - 4/11 – Homework problems (set 10) in Topics 24.1 – 24.4 (3 problems total) due by 11:59 PM on 4/9 and Quiz 10 due by 11:59 PM on 4/10
25.1 Mole Balances on CSTR, PFR, PBR and Batch Reactors [FOG 6.2]

Week 15 — 4/14 - 4/18 – TEST 3 on Topics 20-25 (Mon 4/14 – Tue 4/15)
No new material – prepare for Test 3 and the Final Exam

Final Exam: Thursday Apr 24 – Friday Apr 25

Additional Policies

1. Each test/exam will be given as a “take-home” exam that will be posted to the Moodle site. Typically, exams will be posted at 8:00 AM ET on the first day of the testing window, and will remain there until 11:59 PM ET on the second day of the testing window, i.e. a ~40 hour testing window is provided. A submission link similar to that used for homework will appear on the

Moodle site as well – students must submit all solutions (as one PDF file) by 11:59 PM ET on the second day of the testing window. Late submissions of any exam are immediately penalized 10% (AKA 10 points for an exam graded out of 100 points). Each pro-rated hour of delay after the corresponding deadline will decrease the grade by an additional 10%; for example, if an exam is submitted 15 minutes late, a 12.5% deduction will be applied – in other words, the immediate 10% deduction, as well as an additional 2.5% deduction for 0.25 hours late at 10% per hour. With these penalties in mind, students should be sure to submit solutions well before the deadline to allow time for any unforeseen technical problems.

2. Student materials (e.g. homework and exams) will be submitted for grading electronically by submitting a scanned copy of your work in PDF format via the upload link provided for the problem/assignment on the course Moodle site. Submissions must be high-quality scans (not cell phone pictures) in order to ensure legibility for grading. Be aware than typical "scanning" apps that come with iPhones, etc. are often not suitable. It is suggested that students download and use the free CamScanner app for their submissions; other options are used by students at their own risk of point deductions. Since PDF images from computational software (e.g. Excel, MATLAB) typically do not explicitly show all steps of showing work, no images from computational software will be considered in grading of homework or exams.

3. Typically, in the Core ChE Concepts I and II courses, though exams are intended to last for 75 minutes (for midterm exams) or 150 minutes (for final exams), there is no 75 or 150 minute timer; rather, all exams have an extended window (e.g. 40 hours) for submission in an effort to be sensitive/understanding of students who may be juggling work, family, and other responsibilities. With this in mind, DRO has advised the instructor that all students receive the same 40-hour window to complete the exam even if a student's DRO accommodations allow extended time (e.g. 1.5x or 2x) since extended time is not appropriate considering the intended test duration and the 40 hour testing window. If you would like to use a reduced-distraction testing environment as listed on your accommodation letter, please work with DRO to secure a spot at their testing center. If a student feels any part of this policy does not apply given their specific accommodations through DRO, they should contact the course instructor.

4. In the event a student misses one exam for any reason, they have the option to take a comprehensive make-up exam in its place at the end of the semester, after the last week of classes. Make-up exams submitted by students who missed an exam for a university-approved reason are eligible for full credit. Make-up exams submitted by students who missed an exam for a non-university-approved reason (e.g. flat tire, overslept, etc.) will be penalized 30 points. In the event a student misses multiple exams during the semester, make-up exams will only be offered for missed exams for which the student has a university-approved excuse – with this in mind, if a student misses multiple exams, any exams a student misses without a university-approved excuse will be assigned a grade of zero.

5. Exams are open-book *(hard copy*) and open-notes. You may use a device (computer, tablet, etc.) during the exam only to access materials posted to the course website. Do not access any other websites for assistance during the exam, including YouTube, tutoring websites such as Chegg, AI tools such as ChatGPT, etc.

6. Quiz questions are graded in the following way: if you input the correct answer to a quiz question on your first try, you will receive full credit for the problem; if you are incorrect on your first try on a problem, you will then be given feedback for your second try. If you get the question right on your second try, you will be given 50% of the score for that problem; if you are incorrect on your second try, you will receive zero credit for the problem.

7. Homework is an important element of this class. Most students learn the topics covered in the course by practice and not simply by listening to the lecture or reading the text. Homework will typically be due via upload to the course Moodle site on Wednesday at 11:59 PM ET. As a word of advice --- do not wait until the evening before the assignment is due to start the problems.

8. Homework/Topic Forum Policy: If you have a general question about course topics or homework problems, before sending an email to the course instructor(s) you should either (1) post your question on the corresponding topic forum on Moodle, or (2) attend Dr. Golpour's virtual office hours. Regarding the forums, there is a different forum available for each main course topic. Students are encouraged to participate in responding to posted questions on the homework forum.

- Bonus: the student with the most engagement on Moodle (based on answering posted questions on HW forums) will receive Extra Credit (up to 1% of the final course grade).
- Dos: You can post a general question about how to approach a specific problem or, for example, how to find physical properties of specific molecules. You can also ask questions to better understand what a specific problem is asking for.
- Don'ts: Do not post your intermediate or final answers to check with others. Do not ask/answer questions about what specific equations to use for a specific problem.

9. Solutions to the homework assignments are expected to be posted on the course website approximately 72 hours after it is due.

10. If you have questions about homework, quiz or exam grading, email Dr. Cooper and Dr. Golpour with a brief justification/explanation of your request. The "statute of limitations" for submitting a regrade request is one week after the originally-graded homework/test/etc. is returned to the student.

11. You are not permitted to consult homework solutions from past offerings of this class or to discuss solutions with students who have previously taken the course; however, discussions with your classmates (current registered students) through the online Moodle forum about how to approach problems or about course concepts are encouraged. See the section on academic integrity that describes the boundaries around what is appropriate for consulting with classmates.

12. As specified above, questions regarding course material should be posted to the relevant discussion forum or discussed during Dr. Golpour's virtual office hours. However, if a personal circumstance arises that you would like to discuss with the instructor, e-mail the instructor to discuss / schedule an appointment to discuss over Zoom.

13. In order to maintain equal avenues of contact for all students regardless of their location,

the instructor(s) prefer to not meet with students in person to discuss course material.

14. Online class evaluations will be available beginning on or about the last week of class. You will receive an email message from the University directing you to a website where you can login using your Unity ID and complete the evaluations. All evaluations are confidential; instructors never know how any one student responded to any question.

- Evaluation website: https://classeval.ncsu.edu
- Student help desk: classeval@ncsu.edu
- More information about ClassEval: http://oirp.ncsu.edu/eval/clev

15. All materials in this course (including but not limited to: electronic and hard copies of lecture notes, lecture videos, homework problems and/or solutions, quizzes and/or solutions, exams and/or solutions, or handouts) – made available to you are copyrighted by Dr. Matthew Cooper, Dr. Lisa Bullard and/or Dr. Hassan Golpour and intended only for your personal use. You are not allowed to share content of the class with any person not signed up for the course; a personal, public, or commercial website; or any news or advertising media. To be clear, you are not permitted to upload any content from this course to the web in any form, including but not limited to Chegg, Course Hero, Coursera, Google Drive, etc. If you post course content, you risk violating the instructor's intellectual property rights as well as NCSU's Code of Student Conduct. All cases of academic misconduct will be submitted to the Office of Student Conduct. Students found guilty of academic misconduct will be subject to, at a minimum, a zero on the assignment in question, up to a failing grade in the course, depending on the nature of the violation. In addition, if you are found guilty of academic misconduct in the course, you will be on academic integrity probation for the remainder of your years at NCSU and may be required to report your violation on future professional school applications.

16. You may not consult other classmates, individuals, websites (other than the course Moodle site), entities, etc. while completing exams. Do not reveal or discuss the contents of an exam with other parties until after midnight on the day following the two-day testing window for the exam. Accessing any other websites (but particularly "tutoring" websites such as Chegg, Course Hero, etc.) to assist your work on the exam is strictly forbidden. Dr. Cooper is working closely with tutoring websites to identify copyright violations from materials uploaded to them and refer offending cases to NCSU's Office of Student Conduct in cooperation with the tutoring websites. A violation of the Code of Student Conduct could endanger your graduate career / degree at NCSU. Not only is cheating using tutoring websites unethical, it is simply not worth the downside of getting caught!

17. Artificial intelligence (AI) language tools, such as (but not limited to) ChatGPT, may not be used for course assignments except as explicitly authorized by the instructor. This includes (but is not limited to) the following actions:

- Submitting all or any part of an assignment statement to an AI tool
- Incorporating any part of an AI-generated response in an assignment
- Using AI to brainstorm, formulate arguments, or template ideas for assignments

- Using AI to summarize or contextualize source materials
- Submitting your own work to an AI tool for iteration or improvement