

CHEMISTRY CAPSTONE

CH4500 – SPRING 2020



DR. TANIA HOUEIRY

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Office hours: Tuesdays, Wednesdays and Thursdays 10:00 am – noon; Fridays 1:00 pm – 3:00 pm and by appointment

Office: 267 Hunter labs

COURSE INFORMATION

MEETING TIME

- i** This class meets on **Wednesdays at 5:45 pm** in **313 Watt Innovation Center**.
The class is 2 hours 45 minutes long.

COURSE OBJECTIVES

- i** CH4500 is the Chemistry Capstone course intended for Chemistry majors in their final year of study. This course is part of the Clemson Thinks² (CT²) quality enhancement plan that focuses on critical thinking, a skill very vital for your success in college and after your graduation. The main objectives for this course is to introduce students to the tools that help them (1) synthesize knowledge of all of their experiences in the chemistry curriculum; (2) develop critical thinking to improve their creativity and problem solving skills; and (3) develop literacy in some of the major scientific and technological challenges of the 21st century.

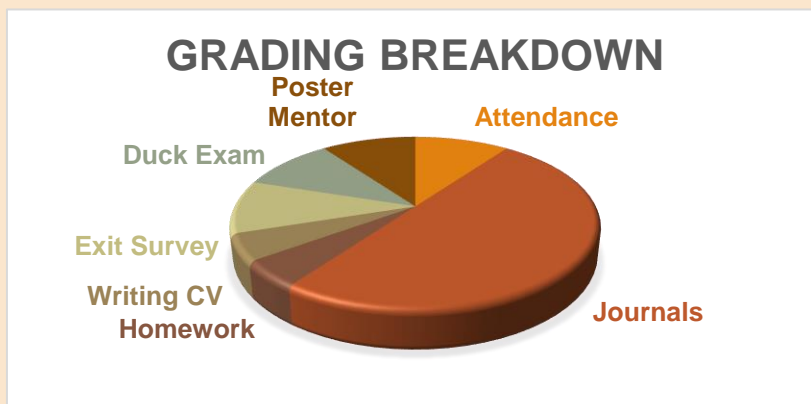
LEARNING OUTCOMES

- i** Students completing this course will demonstrate:
 1. A strong background in chemical research fields.
 2. Self-directed learning skills.
 3. The ability to develop intrinsic interest in subject matter and, subsequently, motivation to learn how to think critically.
 4. Analyze problems from multi-disciplinary viewpoints, and integrate information from many different sources.
 5. Demonstrate collaborative learning practices.
 6. Construct cognitive and character skills which are important factors in creating critical thinking.

GRADING

- i** The class has total of 1000 points. Grades will be assigned according to the following scale:

A	900 ≥ pts
B	800 ≥ pts
C	700 ≥ pts
D	600 ≥ pts
F	600 < pts



CLASS ACTIVITIES

- i** **Attendance** is required for each class session. **Class participation has total of 100 points**, 10 points for active participation per week (we meet). Class participation is reflected in both group participation or/and individual participation. The instructor will inform you of the type of participation expected during the class meeting. The purpose of these discussions is to help develop meaningful interpretations of the course topics and readings. The discussions will be either facilitated by a set of study questions or individual questions prepared while reading articles and attending presentations.

Excused absences from class include documented illness, death of an immediate family member and other documented crises, call to active military duty or jury duty, religious holy days, and official university activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose children experience serious illness.

Note 1: Travel plans as part of university activities should be discussed with your instructor at **least one week** before they occur.

Note 2: documents for illness should be issued before the class time.

Note 3: the student is responsible for all material discussed in class.

Individual Journals: each class member is required to keep a journal during the term. The journal is meant to be a portfolio of ideas and should represent a continuing account of that which interests, confuses, or otherwise stimulates your critical thinking about course material.

Journal entries should address the topic of the reading material. You are encouraged to include your own experiences as practicing scientists and students of science. Each journal should:

- Indicate critical attitude toward the course material and the discussions held in class.
- Show learning as well as critical thinking about the topics covered.
- Show what you find problematic or hard to understand.
- Have questions you want to ask and answers to your questions.
- Show what points have come through as a major intellectual breakthrough either while reading or attending the class discussion.

Each journal entry is preferred not to exceed two pages. A copy of the journal entry should be turned in the week they are due using Turnitin on Canvas. Late submissions will receive a deduction penalty. The journals will be graded for breadth and depth; a rubric will be up for each journal entry. The journal entries are preferred to be typed.

Journal Entries have a total of 500 points. There are total of 10 individual journals assigned throughout the semester, each worth 50 points.

Homework Assignment: One homework assignment will be handed in class and will cover basic chemistry knowledge to help you refresh your memory for DUCK exam. ***HW assignment is worth 50 points.***

Curriculum Vitae: as graduating students, you should have a strong CV before applying to jobs. CV will be graded according to a standard rubric that will be provided on Canvas. ***This assignment is worth 50 points.***

Departmental Assessment is the standardized "Diagnostic of Undergraduate Chemistry Knowledge" exam provided by ACS. ***The DUCK exam counts towards 100 points.***

Exit Survey: This survey is related to the chemistry undergraduate curriculum at Clemson University, to help our department improve. Details will be communicated before it is due. ***This survey is worth 100 points.***

Poster Mentor/Critique for CH1520 Poster Presentations. Each student must sign up for two days out of the three poster session dates for CH1520. Sixteen students are needed to evaluate each poster session. Details of assignment will be communicated by Dr. Marcus. ***This activity is worth 100 points.***

Guest Speakers: We will have 6 weeks of lecturers given by different guest speakers. Each guest speaker will talk about an area in chemistry research.

Group Discussions: Over the course of the semester, we will hold group discussions related to different topics, such as: careers in science, ethics in science workplace, issues of diversity and inclusion in science fields, philosophy of science, and other topics that will help you succeed in your professional career.

IMPORTANT INFORMATION

i **Electronics Policy:** Computers are **not allowed** in class **unless** they are used to follow and write down notes. Seeing any student using his/her laptop for other reasons will be prevented from bringing his/her laptop to class. Cell phones **are not allowed** and should be kept on "silent" mode.

Group Work: a large portion of the course work will be completed in groups. Groups of 4 students will be assigned by the end of week 1 (during week 2 meeting). Each student is expected to actively and respectfully participate in his/her group. Any student failing to participate in a given activity will receive a score of zero for that activity.

Late Instructor Policy: Students must remain in classroom for 15 minutes past the scheduled start time of class if the instructor is late.

DISABILITIES ACT INFORMATION

- i** *Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments.*

ACADEMIC INTEGRITY

- i** *"As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning". Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the respect of others. Furthermore, we recognize that academic dishonesty detracts from value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form". For more information visit <http://www.clemson.edu/academics/academic-integrity/>*

CLEMSON UNIVERSITY TITLE IX STATEMENT

- i** *Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at www.clemson.edu/campus-life/campus-services/access/title-ix/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).*

ACADEMIC CONTINUITY PLAN

- i** *In the event the physical classroom facility becomes unavailable, as determined by the University's administration, class will be conducted in a virtual (online) format. The University issues official disruption notifications through email /www /text notification/social media. When notified, use one of the following links to navigate to Clemson Canvas where you will find important information about conducting class:*
- *Primary access link: <http://www.clemson.edu/canvas/>*
 - *Secondary access link, if needed: <https://clemson.instructure.com/>*
 - *You can also use the Canvas Student App.*

*On E-Learning Day, **Feb. 19, 2020**, a real-time test of the Academic Continuity Plan will be conducted. For further information, see the [Academic Continuity Guide](#), and the Academic Continuity [webpage](#).*

IMPORTANT DATES

- i** *According to the university withdrawal policy, last day to drop the course without receiving a "W" grade is **January 22nd 2020**. Last day to drop a class with a "W" grade is **March 13th, 2020***

COURSE CALENDAR

This schedule is tentative and it is subject to change.

Date	Type of Activity	Assignment / Deadline
January 8, 2020	Introduction	Reading Assignment
January 15, 2020	Group Discussion	Journal (#1) / January 22
January 22, 2020	<i>No Meeting</i>	Reading assignment Writing CV deadline (upload to canvas)
January 29, 2020	Group Discussion	Journal (#2) / February 5
February 5, 2020	Guest Speaker – Dr. Chumanov	Journal (#3)/ February 12
February 12, 2020	Guest Speaker – Dr. Brumaghim	Journal (#4)/ February 19
February 19, 2020	<i>No Meeting (e-Learning day)</i>	Reading assignment
February 26, 2020	Group Discussion	Journal (#5)/ March 4
March 4, 2020	Guest Speaker – Dr. Casabianca	Journal (#6)/ March 11
March 11, 2020	Guest Speaker – Dr. Creager	Journal (#7)/ March 25
March 18, 2020	<i>No Meeting (spring break)</i>	<i>None</i>
March 25, 2020	<i>No Meeting</i>	Reading Assignment
April 1, 2020	Group Discussion	Journal (#8)/ April 8
April 8, 2020	Guest Speaker – Dr. Garcia	Journal (#9)/ April 15
April 15, 2020	Guest Speaker – Dr. Tran	Journal (#10)/ April 22
April 22, 2020	DUCK Exam	<i>None</i>

Important notes:

- Assignments for every week will be available the week before.
- Journals are generally due the day of the following class.

ABOUT THE PROFESSOR



Tania Houjeiry is a senior lecturer in the Chemistry Department at Clemson University. She joined Clemson in August 2013 and teaches General Chemistry I and II (CH1010 & CH1020), Organic Chemistry I and II (CH2230 & CH2240), Survey of Organic Chemistry (CH2010) and Chemistry Capstone (CH4500). In addition to teaching, Houjeiry is the coordinator of Chemistry REU Program and the coordinator of Organic Chemistry Program, she is a RISE Faculty Fellow and a Faculty Senate delegate. Houjeiry was born and raised in Lebanon. In 2003, she earned her Bachelor of Science in Chemistry from the Lebanese University then joined the American University of Beirut (A.U.B) to pursue her Master of Science degree. In 2007, she moved to America where she joined Florida State University and earned her Ph.D. five years later. In 2010 while at FSU, Houjeiry won an award for her outstanding research, and, in 2012, she won an award for outstanding organic recitation teaching assistant.

CONTACT

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HOBBIES

Cooking

Netflix

CrossFit

Lake days

Hiking