

CHM6680 - MATERIALS AND MOLECULES IN ENERGY AND CATALYSIS

SPRING 2022

INSTRUCTOR INFORMATION

Instructors	Email	Office Phone	Office Location
Keith Searles	searles@chem.ufl.edu	(352) 392-0326	SIS 428A
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GENERAL INFORMATION

MEETING TIMES

This course will meet **Monday, Wednesday, and Friday (11:45 am - 12:35 pm)** in **FLI (Flint Hall) 109**.

OFFICE HOURS

Office hours will be available by appointment (email to schedule).

COURSE DESCRIPTION

CHM6680, a three-credit course, will cover modern topics related to energy and catalysis. The first half of the semester will focus on catalysis in relation to the production of chemical fuels and energy. A major emphasis will be placed on the direct, or indirect, use of hydrocarbon substrates highlighting current challenges and opportunities in transitioning to a carbon neutral society. The second half of the semester will focus on semiconductor materials and optoelectronic devices that perform energy conversions between light and electricity. The basic principles of optoelectronic devices will be introduced and a range of semiconductor materials including atomic solids, small organic molecules, polymers, and nanocrystals will be discussed.

COURSE MATERIALS

TEXTBOOK

Required Text: There is no required textbook for this course. Students will be directed to the primary literature as references to the topics covered during the course.

GRADE DISTRIBUTION

ASSIGNMENTS

The following assignments will be administered during the course:

Assignment	Weight
Quizzes	20 %

Exams (4)	50 %
Final	30 %

QUIZZES

Quizzes will be administered during the course meeting times. The lowest quiz grade will be dropped. No make-up quizzes will be given for unexcused absences.

EXAMS

Four exams will be given during the course of the semester.

Monday, Jan. 31st (11:45 am - 12:35 pm)

Friday, Feb. 25th (11:45 am - 12:35 pm)

Friday, Mar. 25th (11:45 am - 12:35 pm)

Monday, Apr. 18th (11:45 am - 12:35 pm)

FINAL EXAM

The final exam is scheduled for Thursday, Apr. 28th (10:00 am - 12:00 pm). The final exam will be cumulative.

QUIZ/EXAM QUESTION DISPUTES

If you believe you have found an error on a quiz/exam or would like to dispute a question, the deadline for requesting a regrade is within 1 week of receiving a graded quiz/exam.

ATTENDANCE, EXTENSION REQUESTS

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

UNIVERSITY POLICIES

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<https://disability.ufl.edu/students/get-started/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit

at the University of Florida. The following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.”

U MATTER, WE CARE

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing Staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

FEEDBACK

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

COVID-19

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not fully vaccinated including a booster shot, consider starting the process immediately. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment:

<https://coronavirus.ufhealth.org/vaccinations/vaccine-availability/>.

Note: Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.

- You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
 - Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
 - Hand sanitizing stations will be located in every classroom.

- If are you sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email covid@shcc.ufl.edu) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the [UF Health Screen, Test & Protect website](#) for more information. Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office.

- Continue to regularly visit coronavirus.UFHealth.org and coronavirus.ufl.edu for up-to-date information about COVID-19 and vaccination.

NETIQUETTE

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

GETTING HELP

For issues with or technical difficulties with Canvas, contact the UF Help Desk: <https://lss.at.ufl.edu/help.shtml>; (352)-392-HELP.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for Counseling and Wellness resources, disability resources, resources for handling student concerns and complaints, and library desk support.

DISCLAIMER

This syllabus represents my current plans and objectives for the course. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, which will be communicated clearly, are not unusual and should be expected.