Course Details and Contacts

CHM 49900 “Special Assignments”, CRN variable, 1-5 credits, time/instructor/room TBA. For additional information contact Chemistry Advising (Christine Schertz, cschertz@purdue.edu, 494-5310, WTHR 116k).

Course Description

CHM 49900 is a variable credit course for students participating in undergraduate research under the guidance of a Chemistry Department faculty member. The course may be repeated. Newly admitted students in their first semester of their freshman year are prohibited from taking this course.

In CHM 49900, the student works directly with a chemistry professor or other scientists, postdoctoral fellows, and graduate students in that professor’s research group who act as the student’s mentor. The student’s research project is typically based on the professor’s research interests, which allows the student to draw upon the mentor’s expertise and resources and allows the faculty member to develop a productive research program. The professor or mentor should meet regularly with the student to make research plans, assess risks associated with the proposed research, and review results. The student is encouraged to take primary responsibility for the project and to make substantial input into its direction. The professor/mentor should assist the student in building confidence, should offer encouragement when necessary, and provide guidance and assistance for the student’s future education and career development.

Information on how to look for research opportunities and register for the class can be found here: https://www.chem.purdue.edu/courses/chm49900/index.html. Note if you are paid to work in a lab, you cannot receive credit.

Course Objectives and Learning Outcomes

1. Provide students with an official record of participation in undergraduate research.

2. Provide a practical means for professional training beyond regular coursework.

3. Learn research methodologies, build analytical thinking and problem-solving skills including:
   - Finding and evaluating relevant primary literature and background information.
   - Analyzing scientific results, papers, and presentations.
   - Engaging in safe, ethical, and responsible scientific research.
   - Learning and practicing all laboratory safety guidelines and procedures

4. Develop technical and professional written and verbal communication skills, including:
   - Explaining main scientific focus of their research, as well as how if contributes to new knowledge in the discipline.
   - Applying appropriate protocols for documenting research
   - Effectively communicate findings through essays, research papers, posters, and/or presentations.

5. Develop teambuilding and research project management skills.
   - Establishing and maintaining a positive relationship with their research mentor.
   - Agreeing on common goals and expectations.
   - Working as a team towards a common goal by defining roles and responsibilities of each team member.
Credit Hours and Attendance

- One credit of CHM 49900 corresponds to a minimum of 3 hours/week in the lab during a regular fall or spring semester; during an 8-week summer module, one credit corresponds to a minimum of 6 hours/week. Note that some professors require more than the minimum hours listed. Students may enroll for a maximum of 5 credit hours per semester.

- Students can only add the class to their schedules during weeks 1-4, and will need to make up the missed hours so they can make their required number of hours/semester (for instance, 1 credit hour equals 48 hours/semester).

- The student's work schedule in lab should be discussed and agreed upon between the student and their professor or mentor. Students should try to schedule large blocks of time in the lab.

- If you need to miss your arranged time, you must contact your mentor and/or professor to let them know in advance and to arrange to make up the hours. Future absences can be arranged with your mentor on a case-by-case basis.

- Any activity relevant to the student’s research experience (e.g. group meetings, reading literature, writing reports or talks, etc.) will count towards their weekly hours.

Grading

- Grading will reflect the priorities and expectations of your research professor. The student must discuss the course requirements with their research professor/mentor at beginning of each semester, as well as agree on the student’s work schedule.

- Course requirements may include (but are not limited to) submission of a written report at the end of the semester summarizing research and learning accomplishments, oral reports, poster presentations, literature searches, attendance at group meetings, etc.

- Failure to complete the required hours in lab will affect your final grade.

- To increase your likelihood of an optimal grade in the class, a student should do the following:
  - Complete the required hours in lab,
  - Reliably contact their professor/mentor when absent,
  - Keep an accurate record of experiments and a neatly organized written notebook,
  - Update your professor/mentor on a regular basis of your progress.
  - Understand the details of the experiment and relevance of the experiment to the scientific project,
  - Show interest in the work and be self-motivated to complete projects and ask questions,
  - Attend required talks or meetings,

Safety Training

Students are required to undergo departmental safety training (see https://www.chem.purdue.edu/chemsafety/SafetyClasses.html for updated information), as well as any laboratory-specific training before they start to work in a research lab.
Absence Policy

If you need to miss your arranged time, you must contact your mentor and/or research advisor to let them know you will be absent and to arrange to make up the hours. Future absences can be arranged with your mentor on a case-by-case basis. See this link for Purdue’s student regulations regarding attendance: [https://www.purdue.edu/studentregulations/regulations_procedures/classes.html](https://www.purdue.edu/studentregulations/regulations_procedures/classes.html). If you have extenuating circumstances (e.g., illness, quarantine, delayed flights after breaks), please contact your research advisor as soon as possible. When conflicts can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible.

**here starts the normal syllabus template from the Provost**

Grief Absence Policy

Purdue University recognizes that a time of bereavement is very difficult for a student. The University therefore provides the following rights to students facing the loss of a family member through the Grief Absence Policy for Students (GAPS, [https://www.purdue.edu/advocacy/students/absences.html](https://www.purdue.edu/advocacy/students/absences.html)). Students will be excused for funeral leave and given the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments in the event of the death of a member of the student’s family.

Accessibility Policy

If you require accommodations to access course activities or materials, the accommodations must be described and approved by Disability Resource Center, Room 830, Young Hall (49-41247, [www.purdue.edu/drc](http://www.purdue.edu/drc)). To implement accommodations you must follow the instructions listed as “Responsibilities of the Student” in the letter prepared by Adaptive Programs. **Send a copy of the accommodation letter to the Course Instructor within the first two weeks of the semester.** If you have accommodations identified and approved during the semester, you are encouraged to initiate a meeting with the Instructor within one (1) week of the date of the letter to discuss the accommodations. Timely notification of the Instructor is critical for timely implementation. You should also consider contacting the DRC if you have a chronic illness which will cause you to miss or be late to your agreed upon lab times.

Academic Dishonesty and Research Misconduct

Academic dishonesty (i.e., cheating) is a serious offense. Plagiarism will not be tolerated. You must submit your own work: do not copy from others or use others’ data, and do not copy information from texts, manuals, or the internet without proper citations. Penalties for such offenses can include a failing grade in the course, a report to the Office of Student Rights and Responsibilities (OSRR) Office, or expulsion from the University. Please read the OSRR’s page on Academic Integrity here: [https://www.purdue.edu/odos/academic-integrity](https://www.purdue.edu/odos/academic-integrity). Students can also email concerns anonymously to the OSRR.

Students are expected to maintain high ethical standards. Laboratory notebooks should be complete, and all data should be properly recorded and analyzed. Results should be effectively communicated through proper writing and presentation skills. Do not compromise data, fabricate results, or plagiarize any published paper. The data, results, samples, interpretations, and other work generated in your research lab belong to the lab. Do not send data to anyone or present any research without approval from your research advisor. Purdue’s Research Misconduct policy is listed here: [https://www.purdue.edu/policies/ethics/iiia2.html](https://www.purdue.edu/policies/ethics/iiia2.html).
Protect Purdue

The Protect Purdue Plan, which includes the Protect Purdue Pledge, is campus policy and as such all members of the Purdue community must comply with the required health and safety guidelines. Required behaviors in this class include: staying home and contacting the Protect Purdue Health Center (496-INFO) if you feel ill or know you have been exposed to the virus, properly wearing a mask in classrooms and campus building, at all times (e.g., mask covers nose and mouth, no eating/drinking in the classroom), disinfecting desk/workspace before and after use, maintaining appropriate social distancing with peers and instructors (including when entering/Exiting classrooms), refraining from moving furniture, avoiding shared use of personal items, maintaining robust hygiene (e.g., handwashing, disposal of tissues) prior to, during and after class, and following all safety directions from the instructor.

Students who are not engaging in these behaviors (e.g., wearing a mask) will be offered the opportunity to comply. If non-compliance continues, possible results include instructors asking the student to leave class and instructors dismissing the whole class. Students who do not comply with the required health behaviors are violating the University Code of Conduct and will be reported to the Dean of Students Office with sanctions ranging from educational requirements to dismissal from the university.

Any student who has substantial reason to believe that another person in a campus room (e.g., classroom) is threatening the safety of others by not complying (e.g., not properly wearing a mask) may leave the room without consequence. The student is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the Office of the Student Rights and Responsibilities. See also Purdue University Bill of Student Rights.

Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Relevant changes to this course will be posted onto Blackboard or can be obtained by contacting the instructors via email or phone. You are expected to read your @purdue.edu email on a frequent basis. Key emergency preparedness resources can be found here: https://www.purdue.edu/ehps/emergency_preparedness/

EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- Indoor Fire Alarms mean to stop class or research and immediately evacuate the building. Proceed to your Emergency Assembly Area away from building doors. Remain outside until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- All Hazards Outdoor Emergency Warning Sirens mean to immediately seek shelter (Shelter in Place) in a safe location within the closest building. “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency. Remain in place until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

EMERGENCY RESPONSE PROCEDURES:
• Review the **Emergency Procedures Guidelines**
  https://www.purdue.edu/emergency_preparedness/flipchart/index.html

• Review the **Building Emergency Plan** for WTHR and BRWN here:
  https://www.chem.purdue.edu/chemsafety/bep.php which lists:
  - evacuation routes, exit points, and emergency assembly area
  - when and how to evacuate the building.
  - shelter in place procedures and locations
  - additional building specific procedures and requirements

• Students in other buildings should see the Building Emergency Plan information posted for their location.

• **"Run. Hide. Fight.®"** is a 6-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident.
  See: https://www.youtube.com/watch?v=5mzI_5aj4Vs

**Disclaimer**

*This syllabus is subject to change.*

**Sources:**

ACS Academic Professional Guidelines document: [https://www.acs.org/content/acs/en/careers/career-services/ethics/academic-professional-guidelines.html](https://www.acs.org/content/acs/en/careers/career-services/ethics/academic-professional-guidelines.html)

Michael Harrison Hsieh, **Lab Expectations for Lab Members**
  [https://www.chem.tamu.edu/undergraduate/undergraduate-research.php](https://www.chem.tamu.edu/undergraduate/undergraduate-research.php)


[https://ag.purdue.edu/biochem/department/syllabi/bchm29800.pdf](https://ag.purdue.edu/biochem/department/syllabi/bchm29800.pdf)