Chemistry Undergraduate Teaching Intern and Undergraduate Teaching Assistant Handbook

Indiana University, Bloomington
Fall 2021

Program coordinators: Prof. K Arnold and Prof. D Snaddon
Scheduling coordinator: Mrs. R Wilson
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### II Course Descriptions

- C101: Elementary Chemistry I
- C103: Introduction to Chemical Principles
- C116: Problem Solving in General Chemistry
- C117: Principles of Chemistry and Biochemistry I
- H117: Principles of Chemistry and Biochemistry I, Honors
- C118: Principles of Chemistry and Biochemistry II
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- C341: Organic Chemistry I
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- C383: Human Biochemistry
- C483: Biological Chemistry
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I. PROGRAM GUIDE AND PROCEDURES

I.1 Introduction

A Chemistry Undergraduate Teaching Intern (UTIN) is an undergraduate student who assists faculty and graduate student Associate Instructors (AIs) in the teaching mission of the department. UTIN positions can be taken for credit, see section 1.4 of this handbook for details.

A Chemistry Undergraduate Teaching Assistant (UTA) is an undergraduate student who assists faculty and graduate student Associate Instructors (AIs), but this position differs from the UTIN in that this is a paid position. See section 1.6 of this handbook for further details.

Students interested in graduate or professional school, teaching, or management will be able to explore the attributes necessary in these careers, while learning essential transferable skills.

Other benefits include review of material commonly included in the GRE and MCAT examinations, opportunities for letters of recommendation, and additional work experience to enhance a resume or program applications.

Assignments will include assisting in the lecture, discussion, or laboratory.

I.2 Eligibility

For the UTIN position students should have at least a junior class standing by the time the appointment begins, however exceptional sophomores or freshmen in their second semester may also be considered. A minimum overall GPA of 3.00 is required, and a minimum grade of A- in the course you have chosen is desirable.

For the UTA position students must have previously worked as a Chemistry UTIN.

I.3a Application procedure – information for students

Apply to work as a UTIN using the following link:

https://www.chem.indiana.edu/undergraduate/opportunities/associate-instructorship/

The application opens for Summer and Fall 2021 positions on April 14, 2021, and all applications should be in by May 7, 2021. Application will remain open until the start of the fall semester, but is recommended to complete the application before May 7.

Please note that an application must be completed each time you wish to apply for a position. Correctly choose Summer or Fall before you select 1st and 2nd course preference.

For Fall 2021, UTA positions are by invitation only. Eligible students will be contacted by the Chemistry department. Please do not complete an online UTIN application for a UTA position.
I.3b  Application procedure – information for instructors
If you would like assistance in advertising positions available for your course, please contact Rebecca Wilson (reawilso@indiana.edu).

I.4  UTIN Enrollment details and requirements
Chemistry UTINs will be enrolled in the parent course Chem-X371. One credit is offered for each course but duties will differ depending on the needs of the instructor – please refer to the individual course descriptions at the end of this document. As a general guide, 1 credit hour will require approximately 6 hours of duties. These are elective credits and cannot be used for the chemistry or biochemistry major requirements. A reduction in credit hours may be required to remain within the flat-rate credit hour fee for 12-18 credit hours. Submission of requests for a reduction are the responsibility of the student and should be directed to Rebecca Wilson via email at reawilso@indiana.edu. Please note that a 0 credit hours request (auditing) will require specific paperwork and incur the auditing fee ($25.00).

Important – If you require a certain number of credits to fulfil a scholarship or financial aid award you must consult with ‘Student Central’ (studentcentral.indiana.edu) to determine whether the credits you have enrolled in for this course will count.

I.5a  Choice of UTIN courses – information for students
When completing the application form, you may choose up to two courses. If you choose more than one course, you should put them in order of preference on the application form. Please ensure that you choose courses that you are prepared to commit to as you may not be selected for your first-choice course – selection is also dependent on the needs of each instructor and whether your schedule matches with the needs of the course.

Late applications – you may apply after the deadline and should do so using the online application form. Please note that late applications may not be considered if the needs of the course have been fulfilled.

I.5b  Choice of UTIN students – information for instructors
To enable you to choose your UTINs you will be sent a link to the UTIN administrative web page (the ‘Admin Panel’) via email once we enter the ‘choice phase’ of the application procedure. In this notification you will also be informed of the dates between which you may choose students.

This phase will follow these steps;
1. The Admin Panel opens for 400-level classes and N330. Instructors should aim to choose students within the open dates (usually one week) before the student list is made available to the next level course instructor(s).
2. The Admin Panel opens for 300-level classes, except C341. Instructors choose students as in step 1.
3. The Admin Panel opens for C341 and all other listed courses.
Tips for choosing students

- Once you access the Admin Panel via email link you will be able to view the names of all students who chose your class. You will also see whether students placed your course as their first or second choice, and which other course they have chosen if applicable. If you have a lot of applicants it may be helpful to consider which course the students would prefer.
- An update to the Admin Panel will allow you to view immediately whether students are available to attend lecture, discussion, or lab sections for your course as the website will now match the student’s schedule (from SIS and the application form) with your class schedule automatically. Instructors will no longer need to separately load and view each student schedule or download a spreadsheet to create matches.
- If students decide they would like to be a UTIN after the application deadline they should still complete an application form. Once they have done this, they will appear in your application list regardless of whether the choice phase has moved on to lower level courses. Use the link provided initially to re-access your applicant list and choose any late applicants you require.

I.6 UTA position details and requirements

The Undergraduate Teaching Assistant (UTA) position is a paid position. As a UTA you will be expected to commit to 10-15 hours of work per week, and you will be paid at an hourly rate. All UTAs will have previous experience of working as a UTIN, and for Fall 2021 this position is by invite only.

Duties of a UTA will depend on the course in which you work and may involve a greater level of responsibility when compared to the duties of a UTIN; you may be asked to grade student work for example. It is important that you understand that any conflicts of interest must be declared at the beginning of the course to your instructor. See the Code of Ethics, section 1.9 for further details.

I.7 Participation requirements

All UTINs and all UTAs will complete FERPA and Title IX training through the relevant Canvas site. In addition, UTIN students will be provided with online tasks in ‘how learning works’, pedagogy and professionalism.

In your assigned undergraduate course, we will follow Indiana University policy with regard to duties and responsibilities asked of UTINs and UTAs. Tasks may include (but are not limited to):

- Attend lecture and/or discussion to assist in active learning activities.
- Attend weekly AI/UTIN meeting with the course instructor.
- Assist undergraduates in laboratory report writing sessions.
• Complete pre-lecture reading/assignments.
• Attend laboratory to assist lead AI.
• Hold office hours in conjunction with the lead AI.

You must fulfill all requirements specific to your chosen undergraduate course and as directed by the lead instructor.

The hours you should expect to commit are outlined in the course description pages at the end of this document.

Duties of UTINs will not include:

• Grading, or accessing grades for any reason.
• Evening exam proctoring.

I.8 UTIN Performance evaluation

All students take Chem-X371 on a pass/fail basis and will be informed of their progress throughout the semester via discussion with their course instructor (and/or AI) and bi-semester assessments. These assessments may be completed by the course instructor in conjunction with the graduate AI you are working with.

The standard evaluation form may be found on page 7 of this handbook and should be reviewed prior to the beginning of the semester.

All UTINs have the right to appeal evaluations that they feel do not accurately represent their performance. Queries should be initially directed towards the undergraduate course instructor, and then if deemed necessary, the coordinators of Chem-X371.

I.9 Code of ethics

• You must adhere to policies described in FERPA and Title IX training at all times.
• UTAs/UTINS must never discriminate against students on any basis whatsoever. Examples include, but are not limited to: race, gender, religion, age, physical disability, nationality, political view, sexual orientation, campus affiliations, personal appearance or previous performance in the course. UTAs/UTINS must treat all students equally and fairly.
• UTAs/UTINS must never show favoritism to students on any basis whatsoever. Examples include, but are not limited to: race, gender, religion, age, physical disability, nationality, political view, sexual orientation, campus affiliations, personal appearance or previous performance in the course. UTAs/UTINS must treat all students equally and fairly.
• UTAs must disclose to their course instructor if they have a personal relationship with any student in their course. Your instructor will decide whether it is appropriate that you are involved in grading of this students’ work.
• UTAs/UTINs must respect each student’s individuality and innately different approaches to life and problem solving. There are many ways to solve a problem; you are encouraged to share what works for you, but don’t try to force your style onto students.

• UTAs/UTINs must respect each student’s sense of personal worth and refrain from statements or behaviors that belittle others. Never make negative or derogatory comments about students, or the other course instructors either inside or outside the classroom.

• UTAs/UTINs must keep all information about their students and student performances confidential. Teachers have a moral and legal obligation to their students to keep this information confidential.

• Confidentiality does not extend to all circumstances and UTAs/UTINs are obligated to report certain disclosures made to them by undergraduate students. See the following link regarding some of your duties as a Responsible Employee, https://policies.iu.edu/policies/ua-03-sexual-misconduct/index.html. You must also immediately inform the appropriate person if an undergraduate student discloses to you details that cause you concern for their welfare. See the Canvas Chem-X371 page titled ‘Reporting concerns about undergraduate students’. If a student lets you know of anything at all that gives you cause for concern for their safety or welfare, contact 911 for emergencies, otherwise immediately contact your course instructor.

• UTAs/UTINs must never provide early access to examination materials to any student for any reason. UTAs/UTINs must never provide assignment keys to students that course instructors have not expressly indicated students should have access to.

Behavior unbecoming of a UTIN will result in appropriate disciplinary action. This disciplinary action may include, but is not limited to: immediate dismissal, receiving a failing grade for Chem-X371, and initiation of a formal complaint to the Dean of Students.

I.10 Teaching tips

• Greet students in a courteous and friendly fashion, both inside and outside the classroom.

• Give sincere positive reinforcement whenever possible. Positive comments do more than anything else to spur students to higher levels of achievement.

• Help students develop their own solutions to problems or answers to questions, rather than simply showing them a solution. It will help them little to watch you do it; it will help them a lot if they do it themselves.

• Encourage students to talk to each other, working out problems together when they cannot solve them alone. When they can solve problems alone, encourage them to check their solutions with others.

• If you don’t know the answer to a question, say so. For example, “I don’t know, but let’s find out.” If you find the answer and help your students find the answer, you encourage scientific exploration and collaboration.

• Be prepared! Your students will not be impressed if you show up unprepared for your sessions.
• Plan ahead and show up for all obligations. If you have an unavoidable conflict, arrange in advance for another UTA/UTIN to substitute, such as swapping times. Be sure to let your course instructor know about any schedule changes.
• Remember that while your goal is to help students learn the course material, you are also teaching them how to study and how to learn. If they learn how to work independently in this course, they will be able to succeed in later courses.
• Lastly, discourage direct questions about what will be on the exam. Remind students that you are there to help them gain understanding of the concepts presented in the course, not to give them information about exams.

I.11 Working with your course instructor, Associate Instructors and fellow UTINs/UTAs.

Working with your course instructor as a UTIN or UTA will be a different experience from being a student in that class. You have responsibilities that will impact other people and so should take careful note of the following points:

• Attend everything that you have agreed to.
• Always be on time.
• Aim to fulfill your duties to the highest standard.
• Understand that if you are negligent in your duties, another person will most likely have to find time to complete that task and student learning will be negatively impacted.
• If you cannot complete a task, or attend a class or meeting make sure you contact your course instructor immediately.
• Continued contact with the course instructor, head AI, and lead AI of your section/assignment will help to prevent miscommunication and misunderstanding.
UTIN DUTY CONTRACT

Class code and title:
Course Instructor:

Your UTIN duties, as agreed with your course instructor are as follows:

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- 
- 

I understand that I must commit the agreed number of hours to these tasks each week, and that if I do not complete the tasks I have agreed to I may be dismissed from my UTIN duties, which will result in a grade of F for course Chem-X371.

Signed:
UTIN
_______________________________ Date _____________

Course Instructor
_______________________________ Date _____________
<table>
<thead>
<tr>
<th>PERFORMANCE CRITERIA</th>
<th>NEEDS IMPROVEMENT</th>
<th>SATISFACTORY</th>
<th>EXCEPTIONAL</th>
</tr>
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<tr>
<td>ATTENDANCE</td>
<td>&gt; 2 days missed</td>
<td>1-2 days missed</td>
<td>0 days missed</td>
</tr>
<tr>
<td>WILLINGNESS TO WORK</td>
<td>just stands there and lets the AI do the work</td>
<td>will help if asked</td>
<td>assists students, peers, and superiors without being asked</td>
</tr>
<tr>
<td>ATTITUDE</td>
<td>&quot;I don’t care, I don’t want to be here&quot;</td>
<td>&quot;I’m here, and I’ll just do what I have to do&quot;</td>
<td>&quot;I’m glad to be here and I’ll encourage student interaction&quot;</td>
</tr>
<tr>
<td>MOTIVATION</td>
<td>doesn’t care about teaching</td>
<td>shows motivation occasionally</td>
<td>displays motivation on a regular basis</td>
</tr>
<tr>
<td>WORK WITH INDIVIDUALS</td>
<td>hesitates to interact with students on an individual basis</td>
<td>will answer questions for individuals</td>
<td>provides guidance and recommends learning strategies on an individual basis</td>
</tr>
<tr>
<td>WORK WITH GROUPS</td>
<td>hesitates to interact with students in a group</td>
<td>will answer questions for individuals in a group</td>
<td>will direct and lead groups; involves all students in the group</td>
</tr>
<tr>
<td>PRESENTATION</td>
<td>presentation is not clear and organized</td>
<td>organized, but small problems (e.g., too fast, too slow, difficult to hear, etc.)</td>
<td>organized, clear, enthusiastic, paced well, no problems</td>
</tr>
<tr>
<td>PREPARATION</td>
<td>prepared on occasion</td>
<td>just covers the basics</td>
<td>always prepared and ready to go one step farther</td>
</tr>
<tr>
<td>FOLLOWS INSTRUCTIONS</td>
<td>has to be told repeatedly</td>
<td>redirected on occasion</td>
<td>needs no redirection</td>
</tr>
<tr>
<td>INITIATIVE</td>
<td>needs to be told to do everything</td>
<td>occasionally needs to be told to do something</td>
<td>a self-starter, looks for something to do</td>
</tr>
<tr>
<td>ENTHUSIASM</td>
<td>pessimistic &amp; complaining</td>
<td>mild enthusiasm</td>
<td>very enthusiastic</td>
</tr>
<tr>
<td>RESPECT OF STUDENT</td>
<td>openly criticizes or speaks negatively of students</td>
<td>keeps comments and opinions to themselves</td>
<td>always respectful, and will even discuss strategies to work with all students</td>
</tr>
<tr>
<td>CONFIDENTIALITY</td>
<td>discusses confidential matters with peers</td>
<td>usually conscious of this privilege but has mistakenly provided confidential information</td>
<td>always conscious of and never abusive of this right</td>
</tr>
<tr>
<td>COMPLETES TASKS</td>
<td>doesn’t complete tasks</td>
<td>completes required tasks, but may be late</td>
<td>completes all required tasks on time</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td></td>
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CONTACTS

Mrs. R Wilson       reawilso@indiana.edu       Chemistry C021
Prof. K Arnold      ksa2@indiana.edu          Chemistry A310
Prof. D Snaddon     dsnaddon@indiana.edu       Chemistry A610
C101: ELEMENTARY CHEMISTRY I
3 Credit hours, Offered Fall, Spring and Summer Semesters

Course Description
C101 covers essential principles of chemistry: atomic and molecular structure, bonding, properties and reactions of elements and compounds, stoichiometry, solutions, redox, and acids and bases. This course is the first semester of a 2-semester general, organic, biochemistry (GOB) sequence.

Course Instructor(s)   Fall 2021 C101 Discussion Sections
Kimberly Arnold
Chemistry
ksa2@indiana.edu
W: 3:00 – 3:50 PM
W: 6:45 – 7:35 PM
R: 8:45 – 9:35 AM
R: 11:15 AM – 12:05 PM

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- Ideally, C101 UTINs will attend lecture (MWF 1:45-2:35 PM) to solidify their own knowledge and help participate in small group discussion with students, answer questions and disseminate written materials. (In person attendance or can watch recorded videos).
- UTINs will be assigned one weekly discussion section based on openings in their schedule. In discussion, UTINs work in coordination with the graduate student AI and one other UTIN to guide and facilitate the active participation of students. (In person)
- UTINs access the C101 canvas site and any discussion pages and help answer student questions.
- UTINs may be asked to make short videos showing worked problems from worksheets or practice exams.
- UTIN have the option to provide one hour of study session (office hours) each week. This will be online via zoom.
- Attend weekly AI meeting and complete short teaching-related assignments.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
- Study course materials so you are able to answer questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C103: INTRODUCTION TO CHEMICAL PRINCIPLES
5 Credit Hours, Offered Fall and Spring Semesters

Course Description

C103 covers essential principles of chemistry. It is a rigorous, calculation-based preparatory course that requires significant effort and time commitment from its students. This course is intended for students who plan to move on to C117, which is required for chemistry majors as well as for majors in biology, neuroscience and other sciences. Many students plan to eventually move on to medical school.

Course Instructor(s)

Deborah Snaddon
Chemistry A610
dsnaddon@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- UTINs will direct one discussion per week. In pairs you will be in charge of managing one discussion per week. The aim of this is to help create a greater sense of support and community in C103. You will be expected to take ownership of these discussions, and plan interesting, useful activities that will engage students. This will require working ahead and prior discussion with the instructor and Head AI.
- Attend AI meeting each week. You will meet with a mentor AI each week to discuss issues and receive guidance.
- Hold office hour/s in conjunction with a graduate AI.
- UTINs may be asked to make short instructional videos.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask.
- Study course materials so you are able to answer questions correctly. You are encouraged to review online lectures.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance

Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.
The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C116: Problem Solving in General Chemistry
2 Credit hour, Offered Fall & Spring Semesters

Course Description
C116: Problem Solving in General Chemistry is a supplemental instruction course that provides students with an additional discussion each week over C117 course material. C116 is designed and offered for individuals who may struggle in C117 and is taken concurrently with C117. Students in this course will have more hands-on problem solving experiences focused on course content, plus develop better study and learning skills.

Course Instructor(s)   Fall 2021 C116 Discussion Sections
Kimberly Arnold  Tues and Thurs: 8:45 – 9:35 AM
Chemistry
ksa2@indiana.edu  Tues and Thurs: 10:00 – 10:50 AM

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- C116 UTINs will help participate in small group discussion with students, answer questions and share their own experiences on successfully completing C117.
- UTINs will be assigned one weekly discussion section based on openings in their schedule. In discussion, UTINs will guide and facilitate the active participation of students. (in person, meets two times per week).
- UTINs may be asked to make short videos showing worked problems from worksheets or practice exams.
- UTIN have the option to lead a study sessions (office hours) each week. (online via zoom)
- Attend weekly AI meeting and complete short teaching-related assignments.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
- Study course materials so you are able to answer questions correctly. You are encouraged to attend C117 online lectures to help refresh any C117 content as needed.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C117: PRINCIPLES OF CHEMISTRY AND BIOCHEMISTRY I
3 Credit Hours, Offered Fall, Spring and Summer Semesters

Course Description
The course will cover foundational principles of chemistry and biochemistry. The course topics are designed to teach chemistry starting with a microscopic picture and building toward a macroscopic picture of chemistry. Topics include energy, thermochemistry, atomic structure and properties, quantum theory, molecular structure, chemical bonding, thermodynamics, equilibrium, kinetics, and a basic introduction to organic chemistry. All topics are taught with the goal of practicing and developing approaches for problem solving.

Fall 2021 Course Instructor(s)
Jill Robinson    Meghan Porter
Chemistry      Chemistry
jirobins@indiana.edu    mmulcron@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- Ideally, C117 UTINs will attend and engage with every lecture to solidify their own knowledge and help answer questions, facilitate participation in small groups, and disseminate written materials.
- UTINs will be assigned one weekly discussion section based on availability. In discussion, UTINs will work in coordination with the graduate student AI to guide and facilitate the active participation of students in problem solving or guided learning activities.
- UTINs will have the option to hold review sessions during the week/weekend before each exam.
- Attend weekly AI meeting. Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information effectively and accurately. If you have questions, then please ask!
- Review C117 homework and complete discussion assignments in advance of discussion each week. Study course materials so you are able to answer questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
H117: PRINCIPLES OF CHEMISTRY AND BIOCHEMISTRY, HONORS
3 Credit Hours, Offered Fall Semester

Course Description
This is an honors course designed for students with a strong background in chemistry who are interested in deepening their understanding of core topics in chemistry. The course will cover foundational principles of chemistry and biochemistry. The course topics are designed to teach chemistry starting with a microscopic picture and building toward a macroscopic picture of chemistry. Topics include energy, thermochemistry, atomic structure and properties, quantum theory, molecular structure, chemical bonding, thermodynamics, equilibrium, kinetics, and a basic introduction to organic chemistry. These topics include the topics that are taught in the non-honors version of the course (C117), but in H117, we cover these in greater depth and discuss how they connect to other concepts in chemistry and in other sciences. Students will practice applying these principles and also develop a depth of understanding behind the principles. The course focuses on conceptual facets of chemistry that are needed to succeed in later chemistry courses, especially organic chemistry, physical chemistry, and biochemistry. This is a rigorous and challenging course. The size of the class is limited to ensure that the class sessions can be interactive. Students are expected to read the textbook in advance of class meetings, so that those sessions can be dedicated to focusing on the most interesting aspects of the course and on addressing questions that students have about the course material.

Course Instructor(s)
Steven Tait
Chemistry A108
tait@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

UTIN applicants for H117 should have already taken C117, H117, J117, or S117.

- UTINs will attend every lecture (MWF 8:45 am – 9:35 am) to solidify their own knowledge, keep up with course content, participate in small group discussion with students, observe large group questions with the instructor, and answer student questions.
- UTINs will be assigned one weekly discussion section (Tuesdays, either 10:00 am – 10:50 am or 11:15 am – 12:05 pm). In discussion, UTINs work in coordination with the graduate student AI to guide and facilitate the active participation of students on practice problems and small group discussions.
- UTINS will participate in review sessions during the week/weekend prior to each exam.
- UTIN will provide one office hour each week.
- Attend weekly AI meeting and suggest problems for weekly discussion worksheets.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
- Review lecture material and read the textbook in advance.
- Study course materials so you are able to answer questions correctly.
• Complete all assignments required for Chem-X371 as listed on Canvas.

**Evaluation of Performance**

Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the course instructor.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C118: PRINCIPLES OF CHEMISTRY AND BIOCHEMISTRY II
5 Credit Hours, Offered Fall and Spring Semesters

Course Description

C118 is an integrated lecture-laboratory course building on principles from C117. Topics include properties of solids, liquids, and solutions; applications of equilibria; electrochemistry; nuclear reactions; and transition metals. All topics are taught with the goal of practicing and developing approaches for problem solving.

Course Instructor(s)

TBD

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- Ideally, C118 UTINs will attend and engage with every lecture to solidify their own knowledge and help answer questions, facilitate participation in small groups, and disseminate written materials.
- UTINs will be assigned one weekly discussion section based on availability. In discussion, UTINs will work in coordination with the graduate student AI to guide and facilitate the active participation of students in problem solving or guided learning activities.
- UTINs will have the option to hold review sessions during the week/weekend before each exam.
- Attend weekly AI meeting. Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information effectively and accurately. If you have questions, then please ask!
- Review C118 homework and complete discussion assignments in advance of discussion each week. Study course materials so you are able to answer questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance

Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C240: Preparation for Organic Chemistry
2 Credit hour, Offered Fall & Spring Semesters

Course Description
C240 is designed for science majors at Indiana University as a supplemental program to enhance problem solving techniques in organic chemistry, preconceptions of difficulty and effort in university science courses, and better ready yourself for the science degrees you will be pursuing later in the curriculum. These extra course meetings and resources will be taken concurrently with C341: Organic Chemistry I to help students be successful.

Course Instructor(s)  C240 Discussion Sections
Cate Reck  Thurs: 1:10 pm – 2:25 pm
Chemistry A271  Thurs: 3:15 pm – 4:30 pm
creck2@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- C240 UTINs will help participate in small group discussion with students, answer questions and share their own experiences on successfully completing C341.
- UTINs will be assigned one weekly discussion section based on openings in their schedule. In discussion, UTINs will guide and facilitate the active participation of students. (in person, meets two times per week).
- UTINs may be asked to make short videos showing worked problems from worksheets or practice exams.
- UTIN have the option to lead a study sessions (office hours) each week. (online via zoom)
- Attend weekly AI meeting and complete short teaching-related assignments.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
- Study course materials so you are able to answer questions correctly. You are encouraged to attend C341 online lectures to help refresh any C341 content as needed.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C341: ORGANIC CHEMISTRY I (Lecture)
3 Credit Hours, Offered Fall, Spring and Summer Semesters

Course Description
Chemistry of carbon compounds. Nomenclature; qualitative theory of valence; structure and reactions. Syntheses and reactions of major classes of monofunctional compounds.

In fall 2021, C341 will be executed in a “flipped classroom” instructional method. This means that students will be expected to come to class having watched a 20 – 30 min video and then “lecture” period will be spent solving problems in small groups M, W, F for most of the 50-min lecture period.

Fall 2021 Course Instructor(s)
Cate Reck   Laura Brown
Chemistry A271  Chemistry A110
creck@indiana.edu   brownlc@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour.
There are three different modes you can be a UTIN for C341 in Fall 2021:

1.) Attend every C341 lecture (choose one: Fall 2021, MWF 1:45-2:35 PM OR 3:00-3:50 PM) to help participate in small group discussion with students, assist with problem solving and answering questions.
2.) UTINs will be assigned three weekly discussion section based on openings in their schedule. In discussion, UTINs work in coordination with the graduate student AI and 1 – 2 other UTIN to guide and facilitate the active participation of students
3.) UTIN will provide three office hours each week (this can be either in person or on zoom and the schedule will be made in conjunction with all other office hours)

Additional responsibilities may include:
• UTINS will rotate providing review sessions during the week/weekend prior to each exam.
• Communicate with your instructor weekly and complete short teaching-related assignments.
• Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
• Study course materials so you are able to answer questions correctly.
• Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs. The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C342: ORGANIC CHEMISTRY I (LECTURE)  
3 Credit Hours, Offered Fall and Spring Semesters

Course Description
Syntheses and reactions of polyfunctional compounds, natural and industrial products.

Course Instructor(s)
Silas Cook  
sicook@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour.

- Ideally, C342 UTINs will attend every lecture (Fall 2021, MWF 12:30 - 1:20 PM) to solidify their own knowledge and help participate in small group discussion with students, answer questions and disseminate written materials.
- UTINs will be assigned one weekly discussion section based on openings in their schedule. In discussion, UTINs work in coordination with the graduate student AI and one other UTIN to guide and facilitate the active participation of students.
- UTINs will rotate providing review sessions during the week/weekend prior to each exam.
- UTIN have the option to provide two office hours each week.
- Communicate with your instructor weekly and complete short teaching-related assignments.
- Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information accurately. If you have questions, then please ask!
- Study course materials so you are able to answer questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance

Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C383: Human Biochemistry
3 Credit Hours, Offered Fall and Spring Semesters

Course Description
C383 is a one-semester survey of the fundamentals of biochemistry. Major topics include structure of nucleic acids, proteins, lipids, and carbohydrates, enzyme mechanism and kinetics, membrane functions, thermodynamics of biological reactions, and central metabolic pathways of carbohydrates, lipids, and amino acids. Any undergraduate who has enjoyed C383, C483, or C484 should consider applying to UTIN.

Course Instructor(s)
Rachel Horness
Chemistry A156
rhorness@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- Ideally, C383 UTINS will engage with all lectures (virtual or in-person) to solidify their own knowledge, help answer questions, and facilitate participation in small groups.
- UTINS will be assigned to weekly discussion sections based on availability. In discussion, UTINS will work in coordination with the graduate student AI to guide and facilitate the active participation of students in problem solving. UTINS will ideally be able to help in two discussions per week. If only one is possible, you will supplement your involvement with one of the options below.
- UTINS will have the option to hold weekly office hours.
- UTINS will have the option to lead review sessions during the week/weekend before each exam.
- UTINS may create short videos as minireviews of key concepts, video keys for quizzes/exams, or worked example problems.
- Attend weekly AI meeting. Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information effectively and accurately. If you have questions, please ask!
- Review C383 book problems and complete/review discussion assignments in advance of discussion each week. Study course materials as needed to facilitate answering questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
C483: Biological Chemistry
3 Credit Hours, Offered Fall and Spring Semesters

Course Description
C483 is a one-semester survey of the fundamentals of biochemistry. Major topics include structure of nucleic acids, proteins, lipids, and carbohydrates, enzyme mechanism and kinetics, membrane functions, thermodynamics of biological reactions, and central metabolic pathways of carbohydrates, lipids, and amino acids.

Course Instructor(s)
Ben Burlingham
Chemistry A206
bburling@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

- Ideally, C483 UTINs will attend and engage with every lecture to solidify their own knowledge and help answer questions, facilitate participation in small groups, and disseminate written materials.
- UTINs will be assigned two weekly discussion sections based on availability. In discussion, UTINs will work in coordination with the graduate student AI to guide and facilitate the active participation of students in problem solving and case studies based on primary literature.
- UTINs will have the option to hold review sessions during the week/weekend before each exam.
- Attend weekly AI meeting. Communicate effectively with the instructor, graduate AI, and peers to ensure that you are teaching information effectively and accurately. If you have questions, then please ask!
- Review C483 homework and complete discussion assignments in advance of discussion each week. Study course materials so you are able to answer questions correctly.
- Complete all assignments required for Chem-X371 as listed on Canvas.

Evaluation of Performance
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.
N331: INTERMEDIATE INORGANIC CHEMISTRY  
3 Credit Hours, Offered Fall, Spring, and Summer Semesters

Course Description
Focuses on structure, bonding, and reaction mechanisms of inorganic compounds using molecular orbital theory as a basis for metal-ligand interaction. Compounds covered include transition metal coordination compounds, organometallic compounds, and bioinorganic complexes. Other topics include redox chemistry, nuclear chemistry, and an introduction to solid-state chemistry.

Course Instructor(s)
Meghan Porter  
Chemistry A269  
mmulcron@indiana.edu

Responsibilities of the UTIN – 6 hours commitment required per week for 1 credit hour, to include the following points:

• Depending on schedules, some UTINs will proctor the practice challenges.
• Attend an AI meeting every other week and complete short teaching-related assignments throughout the semester.
• Study course materials so you are able to answer questions correctly.
• Work in coordination with the graduate student AI and/or instructor to guide and facilitate the active participation of student and their group in the designated active learning activities for each discussion/flipped classroom. UTINs should report poor participation or irresponsible activity to their AI when such behavior is observed. UTINs should lead by example.
• Complete all assignments required for Chem-X371 as listed on Canvas.
• UTINs in this course should plan to put in around 6-8 hours per week.

Discussion UTINs
In addition to the points above, discussion UTINs are expected to:

• Assist a graduate student AI in one or two discussion section which will be assigned based on openings in your schedule.
• Complete the discussion activities prior to the AI meetings and be prepared to discuss with the group.

Flipped Classroom UTINs
In addition to the points above, flipped classroom UTINs are expected to:

• Attend N331 class sessions during the three flipped classroom topics: Molecular Orbital Theory, Crystal and Ligand Field Theory, and Organometallics and other active flipped sessions throughout the semester.
• Complete the flipped classroom activities prior to the AI meetings and be prepared to discuss with the group.

**Student Hour UTINs**
In addition to the points above, student hour UTINs are expected to:
• Provide one or two student hours per week determined by openings in your schedule
• Complete all practice problems in order to assist students with the course material

**Evaluation of Performance**
Performance evaluation is an important part of the instructional process. Evaluation of the UTIN performance typically will be conducted twice a semester. This evaluation will be conducted by the graduate AIs.

The criteria used to evaluate UTIN performance are outlined in the UTIN Evaluation Form, found in this handbook. The evaluation for the UTIN will provide feedback regarding performance and emphasize areas where improvement may be needed.