



Honors TAP Committee Agenda

Monday, September 28, 2026
Mesquite Hall (MH) - 246
2:30-4:00 PM

Type of Meeting: Regular
Note Taker: Towana Catley

Please Review/Bring: Agenda Packet & Minutes

Committee members:

Towana Catley, Faculty Co-Chair Dr.
Darcy Wiewall, Faculty Co-Chair
Dr. Jedidiah Lobos, Dean MSE, Administrative Member
Carla Corona, Arts & Humanities
Dietra Jackson, Counseling
Kristal Ibrahim, Counseling
Elinda Parkinson, Health & Safety Sciences
Jacqueline Seekamp, Library
Kaitlin Bessinger, Math Sciences Engineering
Pavinee Villapando, Math Sciences, Engineering
Greg Langner, Language & Communication Arts

Dr. Matthew Jaffe, Social & Behavioral Sciences
Vejea Jennings, Ex-Officio
John Vento, Ex-Officio
Shannon Hyman, ASO Student Representative
Bianca Nichols, Honors TAP Student Representative

OPEN, Aerospace, Industrial Arts & Applied Technologies
OPEN, Athletics & Kinesiology
OPEN, Math Sciences Engineering
OPEN, Social & Behavioral Sciences
OPEN, Adjunct Representative
OPEN, At-Large

Items	Person	Action
I. Call to Order and Roll Call	Towana & Darcy	
II. Open Comments from the Public		
III. Approval of Agenda Approval of Agenda – September 28, 2026	All	
IV. Approval of Minutes Approval of Minutes – August 24, 2026	All	<u>Issues Discussed:</u> <u>Action Taken:</u> <u>Follow Up Items:</u>
V. Informational Items - Committee Membership & Terms - Honors TAP Best Practices FPD 9/11 - Fall Honors Mixer October 28, 3-5pm at UH 223	All	
VI. Report	All	<u>Issues Discussed:</u> <u>Action Taken:</u> <u>Follow Up Items:</u>
VII. Action Item - Honors Option Proposals - Cheewawisuttichai, CHEM 220 - Jennings-Tafarella, ENGL C1001, ENGL 225 - Martin, ENGL C1000, ENGL C1001, ENGL 114 - McLoughlin, MATH 150, 160, 250 - Schroer, CHEM 210 - Committee Goals 2026-2027 - UCLA Honors TAP & High School Students	All	<u>Issues Discussed:</u> <u>Action Taken:</u> <u>Follow Up Items:</u>
IX. Discussion - Honors Option Proposals - Cheewawisuttichai, CHEM 220 - Jennings-Tafarella, ENGL C1001, ENGL 225 - Martin, ENGL C1000, ENGL C1001, ENGL 114 - McLoughlin, MATH 150, 160, 250	All	<u>Issues Discussed:</u> <u>Action Taken:</u> <u>Follow Up Items:</u>

• Schroer, CHEM 210 • Committee Goals 2026-2027 • Honors TAP Handbook Draft • UCLA Honors TAP & High School Students		
• Adjournment		
• NEXT MEETING DATE: October 26, 2026		



Honors TAP Committ ee MINUTES

Monday, August 24, 2026 Mesquite Hall (MH)
- 246
2:30-4:00 PM

Type of Meeting: Regular
Note Taker: Towana Catley

Please Review/Bring: Agenda Packet & Minutes

Committee Members: (Bolded names reflect attendance)
Towana Catley, Faculty Co-Chair
Dr. Darcy Wiewall, Faculty Co-Chair
Dr. Jedidiah Lobos, Dean MSE, Administrative Member
Carla Corona, Arts & Humanities
Dietra Jackson, Counseling
Elinda Parkinson, Health & Safety Sciences
Jacqueline Seekamp, Library
Kaitlin Bessinger, Math Sciences Engineering
Pavinee Villapando, Math Sciences, Engineering
Greg Langner, Language & Communication Arts

Dr. Matthew Jaffe, Social & Behavioral Sciences Kevin North, At-Large
Dr. Rachel Jennings Tafarella, At-Large
John Vento, Ex-Officio
Shannon Hyman & Roshini, ASO Student Representative
Bianca Nichols, Honors TAP Student Representative

OPEN, Aerospace, Industrial Arts & Applied Technologies OPEN, Athletics & Kinesiology
OPEN, Math Sciences Engineering
OPEN, Social & Behavioral Sciences
OPEN, At-Large
OPEN, Adjunct Representative
Kristal Ibrahim, Guest
Christine Mugnolo, Guest/Honors Option Presenter

Items	Person	Action
I. Call to Order and Roll Call	Towana & Darcy	2:36pm
II. Open Comments from the Public		Welcome Back and Happy New School Year! (Towana) 22 Faculty at the New Faculty Orientation, 5 were Adjunct (Dr. Wiewall)
III. Approval of Agenda Approval of Agenda – August 24, 2026	All	Carla motions approval of today's agenda. Greg seconds.
IV. Approval of Minutes Approval of Minutes – May 18, 2026	All	<u>Issues Discussed: Action Taken:</u> Greg motions approval of the last meeting's minutes. Carla seconds. <u>Follow Up Items:</u>
V. Informational Items - Committee Membership & Terms - CCN Honors Courses Fall 2026 - UCLA TAP Certifications HS/Dual/SOAR	All	Committee Membership & Terms Went through the membership and terms for each Committee member. Waiting on Academic Senate to approve Honors Committee's addition of seats 1 in LACA, 1 in LAAH, 1 in Counseling. At Large position and Adjunct Rep position was announced by Academic Senate

		President via email. Clarification was provided about the At Large position-this is Dr. Jennings's seat who does want to continue in this role. Our new student reps from ASO introduced themselves to the committee. CCN Honors Courses Fall 2026 Phase 2 Honors courses have been approved upon re-review and no longer have an end term per our Articulation Officer Dr. Eaton (ARTHC1100H, ARTHC1200H, ASTRC1001H, ECONC2001H, ECONC2002H, HISTC1001H, and HISTC1002H). Phase 1 Honors courses (COMM C1000H, ENGL C100H, ENGLC1001H, POLSC1001H, PSYCC100H, STATC1000H, SOCIC1000h) were already approved and do not have an end term at this time. Fall 2026 Honors courses are proceeding without any issues this semester-zero cancelations due to low enrollment (Darcy). UCLA Honors TAP & High School Students UCLA Admissions reported they will not recognize 1 year transfers for UCLA TAP Certification. 1 year transfers are when students graduated from high school with already completing college credits, then attend community college for just a year to finish transfer requirements to transfer to UCLA. The question brought to the committee is, do we not accept special admit/SOAR/dual enrolled high school students into Honors TAP since UCLA is not going to recognize their TAP certification for admission. A request to have this communicated to the high schools as a priority was addressed (Lobos). Another perspective was to allow these students to still join Honors TAP to remove any barriers as they may still get Honors TAP certification, though not UCLA TAP certification. Furthermore, the high school student may initially start as a 1 year transfer, but then things can happen that actually extends their time at AVC, which now makes the student potentially a 2+ traditional transfer (Kaitlin). A question was brought forth regarding what is UCLA identifying as a 1 year transfer? Does this refer to time at the CCC or units? (Pavinee). Clarification was given that UCLA must be referring to the time a student is at CCC versus reaching the required 60 transfer units (Kristal). Next meeting we will vote on this.
VI. Report	All	<u>Issues Discussed:</u> <u>Action Taken:</u> <u>Follow Up Items:</u>

VII. Action Item - Honors Faculty Approval - Razook, COMM C1000H - Honors Option Proposals - Mugnolo, Studio Arts and Art History - Committee Goals 2026-2027 - Fall Honors Mixer	<i>All</i>	<u>Actions Taken:</u> COMM C1000 H.O. Proposal Elinda moves, Kaitlinn seconds, all in favor, no opposition, no abstentions. ART 101, 102, 104 H.O. Proposal Carla motions, Elinda in favor, no opposition, no abstentions. Fall Honors Mixer To be held on October 28, 3-5pm at UH 223. Carla motions, Dietra seconds, All in favor, no oppose, no abstentions.
IX. Discussion - Honors Faculty Approval - Razook, COMM C1000H - Honors Option Proposals - Mugnolo, Studio Arts and Art History - Committee Goals 2026-2027 - Honors TAP Handbook Draft	<i>All</i>	<u>Issues Discussed:</u> COMM C1000 Honors Course Presentation Greg presented COMHC1000 on behalf of Razook Honors Option. Razook followed the Honors COR. Committee comments included "the proposal was very thorough". Honors Option Proposals for ART 101, 102, & 104 Mugnolo presented covering the submitted proposal. Explained the big project is either a piece of research or final paper that dives into how the student's field/declared major connects with art history. Committee feedback included "it looks great" and "sounds interesting". Honors Options Proposals for ART 110, 120, 121, 140, 113, & 216 Mugnolo presented. Feedback reflects "that's cool". Cultural connections. Carla motions, Elinda seconds, all in favor, no opposition. Committee Goals 2026-2027 Will update the committee goals with this current year. Goal 5: Chairs are waiting to meet with Zellet in regards to a dedicated Honors TAP student space in the new building. Roshini loves the idea of an Honors TAP space—what would it be used for? Depends on the space we are given. Potentially a study space and a place for Honors faculty may hold office hours. Goal 2: Is there a current H.O. list? Yes, its posted on the website under "Courses". Goal 11: Is there funding for HTCC Research Conference? Staff Development and Equity proposals may be places for funding. There are program grants through ASO for clubs and

	programs. After finalizing the Honors TAP Committee goals, having committee members take up a committee goal to help work on. Marketing Goal: For approval of flyers created by the program, when we use the AVC logo, then must go through the process for approval or creation of promo with Marketing. For promoting low enrollment classes, flyers can created by faculty as long as they follow ASO policy, and can be posted physically throughout campus. Honors Convocation promo should be marketed. In the past, Honors Convocation was not included in the marketing of graduation ceremonies as it was (per Marketing at that time) "exclusive to students who were recognized and their guests" and not the campus at large. There is a change in turnaround time and for the better response time under new Marketing staff/leadership. Promotion of low enrollment classes is receptive and supported by Marketing with the approval of VPAA (Vento). Committee Goals Feedback: (Carla) Can we make it shorter, and hone into goals that are a priority? Table voting on goals today and amend to make it shorter. This will be emailed to committee members to vote at the next meeting. 9/11 Honors TAP Best Practices FPD 9 to 11am, UH 201 If people want to do H.O., they can attend this and they can continue to offer H.O. Are there's areas that we need more H.O.? (Roshini)—Answer: STEM courses. We no longer have BUS 201 H and CHEM110 H, as faculty communicated to Dr. Wiewall they no longer will offer it. These may still be open for H.O. Faculty have said that the students are not "honors ready" which led to their decision for removal. If it's an Honors Course, then we need to follow the honors COR and it takes 2 years through the approval status. Honors Options can go through approval after presentation to and approved by committee. Dr. Wiewall will reach out to all honors faculty to see if anyone wants to present their honors work at the FPD. SCLA Update SCLA is a nationally accredited honors organization that provides services that include career advising, letters of recommendation,
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	scholarships, and other services. These services are also available at AVC for free. Through an AVC faculty rep, SLCA emailed and mailed invitations to students at AVC with a 3.0+ GPA and completed 12+ units. For students to sign up for the SLCA information session, the email invitation link automatically directs the user to pay the membership fee in order to attend information session. VPAA and former Academic Senate President reported that SCLA and AVC faculty member did not have approval to use AVC logo for SCLA outreach nor was there an official MOU/agreement with the organization and the college. VPAA directed AVC faculty and SCLA to cease use of AVC logo and promoting to AVC students. Moving forward, if SCLA wants to promote AVC students, they must go through our Honors TAP Committee. Committee shared concerns of "conflict of practice, policy, interest, and ethics". Shannon said her friend did sign up, and reports that she likes the SLCA resources/services that she's had access to since paying the \$90 membership. Committee reported mixed concerns and some openness of working with SCLA, but only if proper processes are honored with the college. They want students to have the freedom to choose and use their discretion if they want to join SLCA while ensuring clear communication of their services and what AVC offers. For now, the committee will wait to see if AVC faculty rep for SCLA will reach out. Honors Canvas and Handbook Canvas for honors faculty only meanwhile handbook is for faculty and students. Chairs will send the drafts to the Committee to review and provide feedback to vote on launching in the next committee meeting. Fall Honors Mixer Same location, UH 223 After midterms, before Spring registration- Halloween. Decided on having this event on Oct 28, Wednesday 3-5pm; Alpha Iota Was inactive last year 2025-2026. Alpha Gamma Sigma was seated by Dr. Jaffe and Dr. Jaffe led as faculty advisor to Alpha Iota for many years. He expressed the duties this position requires and supports for a new advisor who is "lively and energetic" as it Alpha Iota does more activities off campus and night activities as it is the local
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		chapter of the statewide honors society- Alpha Gamma Sigma. FPD Credit Darlene in Academic Senate requests for committee members to provide details regarding their presenter role at Honors Convocation and to claim the appropriate hours (planning, co presenting, organizing students backstage, etc) <u>Action Taken:</u> <u>Follow Up Items:</u> Honors Committee Goals to be revisited and to make it shorter. Will be sent out to the committee for review and vote on in the next meeting. Alpha Iota & Honors Options Chairs asked the committee to make an announcement to their divisions that we are seeking a faculty advisor for Alpha Iota <u>and</u> to remind faculty who teach an H.O. to present their H.O. to the committee at any of our committee meetings this academic year. This is to keep their H.O. active.
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• Canvas Launch for Honors TAP Faculty • Darlene's email- Honors Convocation- claiming FPD credit • Alpha Iota • SCLA update • Honors TAP Best Practices FPD 9/11 • Fall Honors Mixer		
• Adjournment		3:59pm
• NEXT MEETING DATE: September 28, 2026		

Honors TAP Option by Contract Instructor Proposal

INSTRUCTOR USE ONLY: By agreeing to offer an honors option to honors students, you agree to fulfill the high standards of the honors program and to submit all appropriate paperwork by the deadlines in order for the student to get honors credit for your course. Your project must be approved by the honors coordinator/committee. The following criteria will help us to determine if the project meets honors option criteria and standards. Please be very detailed and specific in your responses. The form below will help you to design an appropriate proposal for consideration. Please fill out completely and with ample details. You only need to fill out this form once for a particular course. Honors Option projects do not figure into the grade for the course, but they should be done to a high standard. Honors option work is intended to enrich the course content that encourages students to go above and beyond the course. If an instructor wants to grade the project, CREDIT or NO CREDIT should be used. Instructors reserve the right to deny the opportunity of an honors option.

Faculty Name: Thamrongsak Cheewawisuttichai

Course Title and Number: CHEM 220: Organic Chemistry

Check which of the following honors objectives will be met by the proposed course? Select all that apply.

- ☒ Option will provide content about the history or background of the field being studied.
- ☒ Option will show an awareness of some of the field's major theories or current trends.
- ☒ Option will require students to perform a case study, field experience, or other research projects.
- ☒ Option utilizes research methods including proper documentation for the discipline.
- ☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.
- ☐ Option will focus on performance activities.

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

Organic Chemistry (CHEM 220) includes two weekly 80-min lectures and two 3-hour lab sessions. Typically, students perform guided experiments by following clearly defined procedures that are designed for students to success in each lab setting. Each lab handout provides detailed information including the reaction setup, reagents, experimental procedure, expected outcomes, and characterization process. Students are required to maintain lab notebooks and turn in lab report for each experiment.

The purposed honors project is Copper-Catalyzed Azide-Alkyne Click Chemistry Using an Alternate Azide Substrate. In the honors option, the student will complete an individual research-style click chemistry project based on the copper(I)-catalyzed azide-alkyne cycloaddition (CuAAC). The student will perform the reaction of an alkyne with an instructor-selected azide substrate that is not used by students in the regular CHEM 220 laboratory to prepare a substituted 1,2,3-triazole. Rather than simply following the standard classroom procedure, the honors student will conduct a literature search, predict the product, propose and justify reaction conditions, evaluate relevant safety information, carry out the synthesis under instructor supervision, monitor the reaction, select an appropriate purification method, and characterize the product. Characterization will include

techniques such as TLC, IR spectroscopy, ^1H NMR spectroscopy, ^{13}C NMR spectroscopy, melting point, and/or other methods available in the laboratory. The student will interpret the data to determine whether the desired triazole was formed and will discuss the reaction mechanism, selectivity, yield, purity, and experimental limitations. This project therefore places the student in the role of a research chemist and extends the course beyond a guided laboratory exercise.

2. Describe how the option will strive for a high degree of student participation and involvement.

In the standard CHEM 220 Lab, students typically work in pairs and follow established experimental procedures. However, the honors student will complete the project individually and will be responsible for major decisions throughout the research process. The student will search and evaluate chemical literature, develop an experimental procedure, predict the structure and key spectral data of the expected triazole product.

During the laboratory portion of the project, the student will set up the reaction under supervision, monitor its progress, document observations in a laboratory notebook, and address experimental challenges such as incomplete conversion, difficult purification, low yield, or unexpected spectral data. The student will then analyze the IR and NMR spectra independently and compare the results with relevant literature or reference data.

Scheduled meetings with the instructor will provide opportunities for the student to present progress, discuss experimental design, troubleshoot results, evaluate evidence, and refine scientific conclusions. Through these activities, the student will be actively involved in each stage of the project, from literature research and experimental planning through laboratory work, data interpretation, and scientific communication.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Week #8: Initial meeting, review the honors project, discuss project expectations, and review lab safety.

Week #10: Meet to discuss literature research findings, discuss and plan experimental procedures, assign substrates, schedule date and time to perform experiments.

Week #12: Conduct the click chemistry reaction under instructor supervision, monitor reaction progress, document observations, and repeat or modify the experiment if justified by the results.

Week #14: Collect and interpret analytical data

Week #15: Meet to report progress, summarize data, plan and discuss report expectations.

Week #16: Submit the final report.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

The project will broaden the student's understanding of modern synthetic organic chemistry by connecting course concepts with the development and applications of click chemistry. Readings will include peer-reviewed articles on the history and development of CuAAC, the basis for its high chemoselectivity and regioselectivity, and current applications of triazole-forming click reactions in areas such as medicinal chemistry, materials chemistry, and chemical biology. The student will also research reactions involving structures similar to the assigned azide and alkyne and will evaluate how substrate structure, catalyst system, solvent, stoichiometry, temperature, and reaction time may influence the reaction outcome.

In addition, students will strengthen their analytical and reasoning skills in interpreting spectral data and compare their results with published examples. While the honor project is completed individually, students will be encouraged to discuss their works and hypotheses with their peers, enhancing collaborative and independent learning experiences.

5. Describe writing assignments and discuss how the course will foster critical thinking.

Before beginning experimental work, the student will prepare a concise proposal containing background information, a reaction scheme, predicted product, proposed procedure, safety considerations

After experiment, the student will write a full-length final scientific report, which mirrors those found in research publications. It includes the following sections:

- Introduction: The final scientific report will summarize the background and significance of click chemistry, the development of CuAAC, and relevant applications of 1,2,3-triazoles.
- Experimental: In this section, the student will describe the work actually performed in clear scientific language, including reaction, workup, purification, and characterization
- Results and Discussion: The student will report yield and purity data, interpret TLC/IR/NMR results, justify the structural assignment, discuss the CuAAC mechanism and regioselectivity, compare findings with literature, and explain experimental limitations.
- Conclusion: This is a section where students reflect on the success and challenges of their experiment along with suggestions for improvement.

Planning experiments and writing the report require critical thinking skills. The project requires the student to move from literature evidence to an experimental plan, analyze and interpret complex structural data, and use peer-reviewed references to support the conclusions.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

This project is designed as a research experience rather than a routine laboratory exercise. Primary sources will include peer-reviewed journal articles describing CuAAC methodology, related

azide/alkyne substrates, triazole products, reaction optimization, and spectroscopic characterization. Chemical databases and library resources may be used to locate reaction precedents and spectral information. Textbooks, review articles, reference handbooks, and Safety Data Sheets will serve as secondary or supporting sources for mechanisms, physical properties, and safe handling information. The student will maintain a laboratory notebook and will use ACS-style in-text citations/references or the citation format specified by the instructor. Literature sources must be used not only for background information but also to justify the experimental design and to support interpretation of the final product data.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

No. This honors option is intended for a CHEM 220 section with supervised, in-person laboratory work.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This honors option will give the student a more authentic experience of how organic chemistry research is performed. The student will develop greater independence in literature searching, experimental planning, laboratory decision-making, troubleshooting, purification, and structural characterization. Because the project uses an alternate azide substrate that is not part of the regular classroom experiment, the student must apply course knowledge to a less familiar system and evaluate results without relying on a predetermined answer. The project will also strengthen scientific writing, documentation, data interpretation, and communication skills. These experiences will better prepare the student for upper-division laboratory courses, undergraduate research, transfer, and future work in STEM.

Honors TAP Option by Contract – Instructor Proposal

Faculty Name: Peter McLoughlin

Course Title and Number: MATH 150 – Calculus I

Honors Objectives

- ☒ Option will provide content about the history or background of the field being studied.
 - ☒ Option will show an awareness of some of the field's major theories or current trends.
 - ☒ Option will require students to perform a case study, field experience, or other research projects.
 - ☒ Option utilizes research methods including proper documentation for the discipline.
 - ☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.
 - ☐ Option will focus on performance activities.
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1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

The Honors Option will involve an in-depth investigation and proof of the **Power Rule for differentiation**.

In the regular MATH 150 course, students learn and apply the Power Rule as a fundamental differentiation technique. In the Honors Option, the student will instead investigate **why the Power Rule is true and how its validity can be extended from positive whole-number exponents to all real-number exponents**.

The project will develop the proof in several stages:

1. Prove the Power Rule for positive whole-number exponents.
2. Extend the result to zero and negative integer exponents.
3. Extend the result to rational exponents.
4. Extend the result to real exponents.

5. Examine the construction of real numbers from rational numbers using **Cauchy sequences**.

The final stage will introduce the idea that a real number can be represented by a Cauchy sequence of rational numbers. The student will investigate how this construction allows results established for rational exponents to be extended to arbitrary real exponents.

An important component of the project will be an **original approach developed by the instructor based on long division**. The student will study this approach as part of the development of the proof and compare it with more conventional approaches to establishing the Power Rule.

The project is substantially different from the regular course because the emphasis is not on applying differentiation rules but on **constructing, analyzing, and communicating the mathematical arguments that justify the rule**.

2. Describe how the option will strive for a high degree of student participation and involvement.

The student will actively work through the proof rather than simply reading a completed argument.

At each stage, the student will be expected to identify the assumptions being made, determine what has already been established, and explain why each step of the argument is valid.

The student will write their own explanations of the proofs and discuss them with the instructor. During meetings, the student will be asked to explain individual steps without simply reading from their written work and to respond to questions designed to test their understanding of the underlying reasoning.

The student will also investigate how the argument changes as the exponent is extended from whole numbers to integers, rational numbers, and finally real numbers.

Particular attention will be given to questions such as:

- What changes when the exponent becomes negative?
- Why does the argument for integer exponents not automatically prove the rational case?
- Why are additional ideas necessary for rational exponents?
- What difficulties arise when the exponent is irrational?
- Why is the completeness of the real numbers important?
- How can a real number be represented using rational numbers?
- How does a Cauchy sequence provide a way to approximate a real number?
- How can a result established for rational numbers be extended to real numbers?

The student will therefore participate as an active mathematical investigator rather than simply completing additional computational exercises.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Week 8: Introduce the Honors Option project and review the Power Rule. Discuss the difference between using a mathematical rule and proving the rule. Introduce the instructor's original long-division-based approach.

Week 9: Develop the proof for positive whole-number exponents. Analyze the product rule and the algebraic structure underlying the proof.

Week 10: Extend the proof to zero and negative integer exponents. Examine which parts of the original argument remain valid and what additional reasoning is required.

Week 11: Develop the Power Rule for rational exponents. Investigate the relationship between roots, fractional exponents, and differentiation.

Week 12: Analyze the rational-exponent proof carefully. Identify assumptions, justify intermediate steps, and compare the rational case with the integer case.

Week 13: Introduce the problem of extending the Power Rule from rational to irrational exponents. Discuss approximation of real numbers by rational numbers.

Week 14: Introduce the construction of real numbers using Cauchy sequences of rational numbers. Investigate how convergence and equivalence of Cauchy sequences provide a foundation for the real-number system.

Week 15: Develop the extension of the Power Rule to arbitrary real exponents. Write a preliminary version of the final mathematical exposition and meet with the instructor for feedback.

Week 16: Submit the final Honors Option project and meet with the instructor to discuss the proof, the extension from rational to real exponents, the Cauchy-sequence construction, and the student's mathematical reasoning.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

The primary activity will be the construction and analysis of a proof of the Power Rule across increasingly general classes of exponents.

The student will work through the following progression:

Whole-number exponents → **integer exponents** → **rational exponents** → **real exponents**.

The student will investigate the mathematical ideas required at each stage and determine why a proof that works for one class of exponents does not necessarily establish the result for the next, more general class.

A significant component will be the instructor's **original long-division-based approach** to the development of the argument. The student will carefully analyze this approach and explain how long division provides a useful connection between algebraic manipulation and the limiting processes used in calculus.

Additional activities will include:

- Reconstructing proofs in the student's own words.
- Identifying hidden assumptions in mathematical arguments.
- Checking individual algebraic and logical steps.
- Comparing alternative approaches to the Power Rule.
- Investigating rational exponents and roots.
- Studying approximation of irrational numbers by rational numbers.
- Introducing Cauchy sequences of rational numbers.
- Examining how Cauchy sequences can be used to construct the real numbers.
- Connecting the construction of the real numbers to the extension of mathematical results from rational to real exponents.
- Working through examples that illustrate why the generalization requires additional mathematical justification.

The student may also consult appropriate mathematical references concerning real-number construction, sequences, limits, and the Power Rule.

5. Describe writing assignments and discuss how the course will foster critical thinking.

The primary writing assignment will be a **formal mathematical exposition proving the Power Rule and explaining its extension from whole-number exponents to arbitrary real exponents**.

The student will be expected to write the mathematics in their own words rather than simply reproduce the instructor's arguments.

A major goal of the project is to develop **proof-writing skills**. The student will practice:

- Clearly stating assumptions and conclusions.

- Organizing a proof into logically meaningful steps.
- Explaining why each step follows from previous results.
- Distinguishing definitions from theorems and assumptions.
- Identifying where limits are being used.
- Providing sufficient justification for algebraic manipulations.
- Recognizing when an argument proves only a special case.
- Explaining why a result can or cannot be generalized.
- Revising mathematical writing for clarity, precision, and logical completeness.

Critical thinking will be central to the project.

The student will be asked to consider questions such as:

- Why does the usual proof of the Power Rule work for positive integers?
- What changes when the exponent is zero or negative?
- Why does the rational case require a different argument?
- Does knowing the rule for integers automatically establish it for fractions?
- What assumptions are being made when working with roots and fractional powers?
- Why is the rational case not sufficient to establish the result for every real number?
- How can irrational numbers be approximated by rational numbers?
- What does it mean for a sequence of rational numbers to converge?
- Why is the Cauchy property useful when constructing the real numbers?
- How can a theorem established for rational exponents be extended to irrational exponents?
- What additional assumptions or properties of the real numbers are required?
- Which parts of the argument are algebraic and which depend on limits or completeness?

The student will also critically examine the instructor's long-division approach and compare it with other possible proof strategies.

Rather than treating the Power Rule as an isolated formula to memorize, the student will investigate the **logical structure of mathematical generalization**: beginning with a simple case, identifying what makes the argument work, determining what fails when the domain is enlarged, and developing additional mathematical tools to extend the result.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

The primary source for the project will be the instructor's original proof development and the instructor's **long-division-based approach** to the Power Rule.

The student will also consult the MATH 150 textbook and additional mathematical references concerning:

- The Power Rule.
- Rational exponents.
- Sequences and limits.
- Cauchy sequences.
- Construction of the real numbers.
- Completeness of the real-number system.

The student will compare the instructor's approach with approaches found in appropriate mathematical references. This comparison will allow the student to evaluate different proof strategies and consider the strengths and limitations of each.

Any outside sources used in the final project will be properly documented using an appropriate academic citation style. The student will distinguish clearly between the instructor's original material, mathematical results obtained from outside sources, and the student's own explanations and analysis.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

No. This Honors Option is intended for students enrolled in the instructor's in-person MATH 150 sections.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This Honors Option will give the student an opportunity to investigate one of the most frequently used rules in Calculus I at a depth substantially beyond the regular MATH 150 curriculum.

Students in the regular course learn to apply the Power Rule efficiently when differentiating functions. The Honors Option student will investigate the deeper mathematical question of **why the rule is true and how its validity can be extended to increasingly general exponents.**

The progression from whole numbers to integers, rational numbers, and ultimately real numbers provides a natural framework for developing mathematical maturity. The student will experience firsthand that extending a theorem to a larger class of mathematical objects often requires new definitions, new ideas, and additional justification.

The introduction of **Cauchy sequences of rational numbers** will provide an especially valuable opportunity for the student to see how the real-number system itself can be constructed from rational numbers. This will allow the student to explore how mathematical results can be extended through approximation and limits rather than simply assumed to remain true.

The instructor's original long-division-based approach will give the student an opportunity to work with an approach that is not simply a standard textbook presentation and to critically analyze how an alternative proof strategy can be developed.

Most importantly, the project will strengthen the student's ability to **read, construct, evaluate, and communicate mathematical proofs**. The student will learn to question assumptions, identify gaps in reasoning, distinguish special cases from general results, and determine what additional mathematical structure is required when extending an argument.

The project will therefore develop not only a deeper understanding of the Power Rule, but also the broader skills of **critical thinking, mathematical reasoning, proof-writing, and mathematical generalization**. These skills will benefit students who continue into higher-level mathematics and other STEM fields.

Honors TAP Option by Contract – Instructor Proposal

Faculty Name: Peter McLoughlin

Course Title and Number: MATH 160 – Calculus II

Honors Objectives

- ☒ Option will provide content about the history or background of the field being studied.
 - ☒ Option will show an awareness of some of the field's major theories or current trends.
 - ☒ Option will require students to perform a case study, field experience, or other research projects.
 - ☒ Option utilizes research methods including proper documentation for the discipline.
 - ☒ Option will help students to demonstrate critical thinking and/or metacognitive abilities.
 - ☐ Option will focus on performance activities.
-

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

The Honors Option will involve an in-depth study of **Taylor's Theorem**, with particular emphasis on understanding and analyzing a formal proof of the theorem and then applying the theorem to a variety of examples.

The student will study a proof of Taylor's Theorem written by the instructor, "**A Simple Proof of Taylor's Theorem**," which was published in the *American Mathematical Monthly* in 2012. The student will carefully work through the proof and explain the mathematical reasoning behind each major step.

After studying the proof, the student will apply Taylor's Theorem to a variety of functions and examples involving Taylor and Maclaurin polynomials, approximation, Taylor series, and error

estimates. The student will investigate how Taylor's Theorem provides a rigorous foundation for approximating functions with polynomials.

This project will go beyond the regular Calculus II curriculum. While students in the regular course will learn how to construct and use Taylor and Maclaurin series, the Honors Option student will investigate the **theoretical foundation of Taylor's Theorem through a formal proof** and then use that understanding to analyze applications and examples in greater depth.

The project is intended to develop mathematical maturity by requiring the student to read and interpret a published mathematical proof, explain mathematical reasoning, and connect theoretical results to computational applications.

2. Describe how the option will strive for a high degree of student participation and involvement.

The project will require the student to actively work through and analyze the proof rather than simply read a description of Taylor's Theorem.

The student will identify the major steps of the proof, explain why each step is valid, and describe how the individual steps combine to establish the theorem. The student will prepare written explanations and discuss the proof with the instructor.

The student will also independently work through several examples illustrating the theorem and its applications. These examples will require the student to construct Taylor polynomials, use Taylor's Theorem to estimate errors, compare approximations, and explain the mathematical significance of the results.

The student will meet with the instructor periodically throughout the project to discuss progress, mathematical questions, and the student's interpretation of the proof and examples. During these meetings, the student will be expected to explain the mathematics in their own words and respond to questions concerning the reasoning used in the proof.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Week 8: Introduce the Honors Option project and Taylor's Theorem. Meet with the student to discuss project requirements and provide the instructor's 2012 paper, *"A Simple Proof of Taylor's Theorem."*

Week 9: Read and begin analyzing the proof. Identify the major steps and mathematical ideas used in the proof.

Week 10: Work through the proof in detail. The student will prepare written explanations of the major steps and meet with the instructor to discuss questions and mathematical reasoning.

Week 11: Apply Taylor's Theorem to several functions and construct Taylor and Maclaurin polynomials.

Week 12: Investigate the remainder term and use Taylor's Theorem to estimate approximation errors. Work through selected examples.

Week 13: Compare Taylor polynomial approximations of different degrees and analyze their accuracy. Investigate additional examples and applications.

Week 14: Examine convergence and the relationship between Taylor series and the functions they represent. Begin organizing the final written report.

Week 15: Submit a preliminary draft of the written report. Meet with the instructor to discuss the student's understanding of the proof, examples, and analysis. Revise the project based on instructor feedback.

Week 16: Submit the final Honors Option project and meet with the instructor to discuss the student's findings and overall understanding of Taylor's Theorem.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

The primary reading for the theoretical portion of the project will be the instructor's 2012 paper, **"A Simple Proof of Taylor's Theorem," published in the *American Mathematical Monthly*.**

The student will carefully analyze the proof and compare its approach with the presentation of Taylor's Theorem in the Calculus II textbook.

The student will also work through a collection of examples involving:

- Taylor and Maclaurin polynomials.
- Taylor's Theorem and the remainder term.
- Polynomial approximation of functions.
- Estimating approximation errors.
- Comparing approximations of different degrees.
- Taylor series for functions such as (e^x) , $(\sin x)$, $(\cos x)$, and $(\ln(1+x))$.
- Radius and interval of convergence.

- The relationship between a Taylor series and the function it represents.
- Applications of Taylor approximations to numerical calculations.

The student will use both symbolic calculations and graphical or numerical comparisons to investigate how polynomial approximations behave as the degree of the polynomial increases.

5. Describe writing assignments and discuss how the course will foster critical thinking.

The student will prepare a written report explaining the proof of Taylor's Theorem and applying the theorem to several examples.

A significant portion of the writing will require the student to explain the proof in their own words. Rather than simply reproducing the published proof, the student will explain why each major step is valid and how the steps combine to establish the theorem.

The student will also provide written analyses of selected examples, including calculations of Taylor polynomials and error estimates.

The project will foster critical thinking by requiring the student to consider questions such as:

- What assumptions about the function are required by Taylor's Theorem?
- Why does the proof establish the theorem?
- How does the remainder term arise?
- Why does the theorem justify using a polynomial to approximate a function?
- How does the degree of the polynomial affect the approximation?
- Under what circumstances is a Taylor approximation particularly useful?
- What limitations should be considered when using a Taylor series to represent a function?
- What is the relationship between the theoretical remainder estimate and the actual approximation error?

The student will be expected to justify conclusions mathematically rather than simply provide numerical answers.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

The project will introduce the student to mathematical research through the study of a published mathematical paper and additional scholarly and textbook sources.

The primary mathematical source for the theoretical portion of the project will be the instructor's 2012 article, "**A Simple Proof of Taylor's Theorem,**" published in the *American Mathematical Monthly*.

The student will also consult the Calculus II textbook and additional appropriate mathematical references to examine alternative presentations and proofs of Taylor's Theorem.

The student will properly document all outside sources used in the project and provide a bibliography. An appropriate academic citation style will be used consistently throughout the written report.

The student will distinguish between the instructor's original proof, information obtained from other sources, and the student's own explanations and mathematical analysis.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

No. This Honors Option is intended for students enrolled in the instructor's in-person Calculus II sections.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This Honors Option will allow the student to explore one of the central topics of Calculus II at a depth that is not possible within the regular course curriculum.

Studying an actual proof of Taylor's Theorem will expose the student to mathematical reasoning beyond routine computational exercises. The student will gain experience reading and interpreting a published mathematical argument, identifying the logical structure of a proof, and explaining mathematical ideas clearly.

The subsequent application of the theorem to a variety of examples will connect the theoretical work to the computational and practical aspects of Taylor polynomials and series. The student will develop a deeper understanding of **why Taylor approximations work, how their accuracy can be evaluated, and what conditions affect their validity.**

The project will also strengthen the student's ability to conduct independent mathematical research, read mathematical literature, communicate mathematical ideas in writing, and critically evaluate mathematical arguments.

Overall, the Honors Option will promote greater mathematical maturity and provide valuable preparation for students who intend to continue their studies in mathematics, engineering, physics, computer science, or other STEM disciplines where mathematical modeling, approximation, and infinite series are important.

Honors TAP Option by Contract – Instructor Proposal

Faculty Name: Peter McLoughlin

Course Title and Number: MATH 250 – Multivariable Calculus

Honors Objectives

- ☒ Option will provide content about the history or background of the field being studied.
 - ☒ Option will show an awareness of some of the field's major theories or current trends.
 - ☒ Option will require students to perform a case study, field experience, or other research projects.
 - ☒ Option utilizes research methods including proper documentation for the discipline.
 - ☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.
 - ☐ Option will focus on performance activities.
-

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

The Honors Option will involve an in-depth study of the **Change of Variables Theorem for multiple integrals**, with particular emphasis on mathematical proof, proof-writing, logical reasoning, and critical thinking.

The student will study a sequence of **six original lemmas developed by the instructor**, followed by an instructor-developed proof of the Change of Variables Theorem in the special case of a parallelogram. The student will carefully examine each lemma, understand its assumptions and conclusion, and analyze how each lemma contributes to the proof of the final theorem.

The student will then develop written explanations of the lemmas and reconstruct the logical progression of the proof in their own words. The emphasis will be on understanding the reasoning behind the proof rather than simply reproducing the instructor's work.

This project goes beyond the material normally covered in MATH 250. In the regular course, students learn to apply the Change of Variables Theorem to transform and evaluate multiple integrals. The Honors Option student will instead investigate **why the theorem works and how it can be established through a sequence of logically connected mathematical arguments**.

The project will therefore provide an opportunity for the student to develop mathematical maturity through reading, analyzing, writing, and discussing mathematical proofs.

2. Describe how the option will strive for a high degree of student participation and involvement.

The student will actively work through each of the six lemmas and the final theorem rather than simply reading a completed proof.

For each lemma, the student will identify the assumptions, conclusion, and purpose of the result. The student will explain the mathematical reasoning used to establish the lemma and analyze how it contributes to the overall proof.

The student will prepare written explanations and meet periodically with the instructor to discuss their understanding. During these meetings, the student will be expected to explain the mathematical arguments in their own words, answer questions about individual steps, and defend the reasoning used in their explanations.

The student will also work through selected examples involving coordinate transformations and multiple integrals. These examples will help the student connect the formal proof with the computational methods encountered in the regular MATH 250 curriculum.

The project will require active intellectual participation throughout the process, with the student continually evaluating and revising their own mathematical reasoning and written arguments.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Week 8: Introduce the Honors Option project and the Change of Variables Theorem. Discuss the geometric motivation for the theorem and provide the six instructor-developed lemmas.

Week 9: Study Lemmas 1 and 2. Identify their assumptions and conclusions and prepare written explanations of the mathematical reasoning.

Week 10: Study Lemmas 3 and 4. Analyze how these lemmas build upon the earlier results and contribute to the development of the final theorem.

Week 11: Study Lemmas 5 and 6. Complete the sequence of lemmas and analyze how they provide the mathematical foundation for the final proof.

Week 12: Meet with the instructor to review all six lemmas. The student will explain the purpose of each lemma and the logical connections among them.

Week 13: Study the instructor-developed proof of the Change of Variables Theorem for the parallelogram case. Analyze how the six lemmas are used to establish the theorem.

Week 14: Work through selected examples involving coordinate transformations, parallelograms, determinants, and multiple integrals. Connect the formal proof to the computational methods used in MATH 250.

Week 15: Prepare a written mathematical exposition explaining the six lemmas and the proof of the theorem. Submit a preliminary draft for instructor feedback and revise the mathematical arguments for clarity and completeness.

Week 16: Submit the final Honors Option project and meet with the instructor to discuss the student's understanding of the lemmas, proof, geometric interpretation, and applications.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

The primary mathematical material for the project will consist of the **six original lemmas developed by the instructor and the instructor-developed proof of the Change of Variables Theorem for the parallelogram case.**

The student will study each lemma individually before examining how the lemmas combine to establish the final theorem.

Activities will include:

- Analyzing the assumptions and conclusions of each lemma.
- Explaining the logical purpose of each lemma.
- Examining how individual lemmas depend upon one another.
- Studying the geometric interpretation of the transformation.
- Investigating the relationship between a linear transformation and a parallelogram.
- Examining the role of the determinant in measuring area scaling.
- Analyzing the connection between the geometry of the transformation and the Change of Variables Theorem.
- Working through selected examples involving coordinate transformations and multiple integrals.
- Comparing the formal proof with the computational treatment of the theorem in the MATH 250 textbook.

The student will be encouraged to read additional mathematical sources concerning the Change of Variables Theorem and linear transformations in order to compare different approaches to the theorem.

5. Describe writing assignments and discuss how the course will foster critical thinking.

The primary writing assignment will be a **mathematical exposition** in which the student explains the six lemmas and the proof of the Change of Variables Theorem for the parallelogram case.

The student will not simply copy or reproduce the instructor's proof. Instead, the student will be required to explain the mathematical reasoning in their own words and demonstrate an understanding of how the individual arguments fit together.

Particular emphasis will be placed on developing **proof-writing skills**, including:

- Clearly stating assumptions and conclusions.
- Writing logically organized mathematical arguments.
- Providing appropriate justification for significant steps.
- Identifying previously established results being used.
- Explaining the relationship between lemmas and the final theorem.
- Distinguishing between intuition and mathematical justification.
- Using mathematical notation accurately and effectively.
- Identifying and correcting gaps in an argument.
- Revising mathematical writing for clarity, precision, and completeness.

The project will foster critical thinking by requiring the student to ask questions such as:

- Why is each lemma necessary?
- What assumptions are required for each argument?
- How does each lemma contribute to the final theorem?
- Could a particular step be justified in another way?
- What would happen if one of the assumptions were removed?
- How does the algebraic transformation correspond to the geometric transformation?
- Why does the determinant appear in the Change of Variables Theorem?
- How does the area of a parallelogram relate to the determinant?
- How does the proof provide insight into the computational formula used in MATH 250?

The student will therefore be required not merely to accept a theorem or apply a formula, but to **question, analyze, justify, and communicate the mathematical reasoning underlying the theorem.**

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

The primary mathematical material for this project will be the **six original lemmas and the proof developed by the instructor**.

The student will also consult the MATH 250 textbook and appropriate mathematical references concerning the Change of Variables Theorem, linear transformations, determinants, and multiple integration.

Additional sources will allow the student to compare the instructor's approach with other presentations or proofs of the theorem and to gain a broader understanding of the mathematical ideas involved.

Any outside sources used by the student will be properly documented using an appropriate academic citation style, and the final project will include a bibliography.

The student will distinguish between the instructor's original mathematical material, information obtained from outside sources, and the student's own explanations and analysis.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

No. This Honors Option is intended for students enrolled in the instructor's in-person MATH 250 sections.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This Honors Option will allow the student to explore a fundamental theorem of Multivariable Calculus at a depth substantially beyond the standard MATH 250 curriculum.

The central benefit of the project will be the development of **mathematical proof-writing and critical-thinking skills**. The student will gain experience reading and analyzing a multi-step mathematical argument, understanding the purpose of individual lemmas, following a logical chain of reasoning, and constructing a coherent mathematical exposition.

The six lemmas and final proof were developed by the instructor specifically for this project and provide the student with an opportunity to engage with mathematical material beyond the normal computational focus of MATH 250.

The project will also help the student understand the Change of Variables Theorem conceptually and geometrically rather than viewing it simply as a formula for changing variables in an integral. The student will explore the connections among linear transformations, parallelograms, determinants, area, and multiple integration.

Most importantly, the project will help the student develop the ability to **read, analyze, construct, evaluate, and clearly communicate mathematical proofs**. These skills represent an important step toward greater mathematical maturity and will benefit students pursuing further study in mathematics, engineering, physics, computer science, and other STEM disciplines.

Honors TAP Option by Contract Instructor Proposal

INSTRUCTOR USE ONLY: By agreeing to offer an honors option to honors students, you agree to fulfill the high standards of the honors program and to submit all appropriate paperwork by the deadlines in order for the student to get honors credit for your course. Your project must be approved by the honors coordinator/committee. The following criteria will help us to determine if the project meets honors option criteria and standards. Please be very detailed and specific in your responses. The form below will help you to design an appropriate proposal for consideration. Please fill out completely and with ample details. You only need to fill out this form once for a particular course. Honors Option projects do not figure into the grade for the course, but they should be done to a high standard. Honors option work is intended to enrich the course content that encourages students to go above and beyond the course. If an instructor wants to grade the project, CREDIT or NO CREDIT should be used. Instructors reserve the right to deny the opportunity of an honors option.

Faculty Name: Dr. Rachel Jennings-Tafarella

Course Title and Number: Engl 225, English Literature from 800 to 1750

Check which of the following honors objectives will be met by the proposed course? Select all that apply.

☒ Option will provide content about the history or background of the field being studied.

☒ Option will show an awareness of some of the field's major theories or current trends.

☒ Option will require students to perform a case study, field experience, or other research projects.

☒ Option utilizes research methods including proper documentation for the discipline.

☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.

☐ Option will focus on performance activities.

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

English 225 surveys English literature from approximately 800 to 1750. Because the course spans nearly a millennium of literary history and includes numerous authors, genres, and critical approaches, students are introduced to a wide range of ideas and texts. The Honors Option allows students to explore one area in substantially greater depth: philosophical approaches to literature.

While all students in the course engage with literary analysis and complete research assignments, honors students will undertake an extended investigation of philosophical concepts that frequently arise in literature, such as virtue, free will, evil, skepticism, and taste. Students will listen to selected episodes of the BBC's *In Our Time* podcast series, locate and

evaluate scholarly sources related to these topics, and apply philosophical concepts to works studied in class. Honors students will also participate in additional meetings with the instructor and share their findings through written reports and a final presentation. This work adds both breadth and depth to the regular course curriculum while encouraging independent inquiry and intellectual exploration.

2. Describe how the option will strive for a high degree of student participation and involvement.

The Honors Option is designed around active student engagement rather than passive consumption of information. Students will select scholarly sources that align with their own intellectual interests, formulate questions arising from the podcasts and readings, and apply philosophical concepts to literary texts studied in the course.

Regular meetings with the instructor will provide opportunities for discussion, questioning, feedback, and collaborative exploration of ideas. Students will be expected to contribute actively to these conversations by sharing insights from their research, defending interpretations with evidence, and responding thoughtfully to alternative viewpoints. The final presentation will further encourage participation by requiring students to communicate their findings to classmates and lead discussion of the concepts they have investigated.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Weeks 1 – 3. Meet for 15 mins. Introduction to honors option requirements.

Week 4. Students submit contracts and professor approves them.

Weeks 4 – 5. Meet for at least 30 mins. Discuss first podcast on Virtue and related journal articles.

Weeks 6 – 7. Meet for at least 30 mins. Discuss second podcast on Free Will or Evil and related journal articles.

Weeks 8 – 9. Meet for at least 30 mins. Discuss third podcast on Skepticism or Evil and related journal articles.

Week 10 to 12. Meet for at least 30 mins. Discuss fourth podcast on Taste and related journal articles.

Week 15. Students present their findings to the class.

Week 16. Students submit reports to Professor.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

PODCASTS

Students will listen to four podcasts from the acclaimed BBC In Our Time series. They will listen to four of the following episodes: Virtue, Free Will, Evil, Skepticism, and Taste. I have selected

these for the insights they provide into the literature we are reading. For example. Virtue provides perspective on *Beowulf*, *Sir Gawain and The Green Knight*, *Dr. Faustus*, *Othello*, *Paradise Lost*, and more. Skepticism gives background on the Enlightenment and rise of science, giving perspective on *Dr. Faustus*, *Paradise Lost*, *Gulliver's Travels*, and more. Taste fits very well with *The Rape (Theft) of the Lock* in which Alexander Pope mocks the beauty conventions of his time.

READINGS

Students will identify and read a journal article to accompany each podcast—an article that goes into more depth on something addressed in the podcast. Each student will read a different article and share their findings with the group.

5. Describe writing assignments and discuss how the course will foster critical thinking.

For each of the four philosophical concepts selected, students will complete a written report of approximately two pages. Each report will include: (1) a summary and analysis of key ideas from the podcast and scholarly source, (2) a series of interpretive questions that could be applied to literary analysis, and (3) an application of one or more of those questions to a work studied in English 225.

These assignments foster critical thinking by requiring students to move beyond summary and engage in evaluation, analysis, interpretation, and synthesis. Students must assess the quality and credibility of scholarly arguments, compare perspectives, identify assumptions, and apply abstract philosophical ideas to concrete literary texts. The project also promotes metacognition by encouraging students to reflect on how philosophical concepts shape their interpretations and how their own assumptions influence their reading of literature.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

Students will engage in independent research by locating and evaluating scholarly journal articles connected to each philosophical topic.

Students will use both primary and secondary sources throughout the project. Primary sources will consist of literary works studied in English 225, including texts such as *Beowulf*, *Sir Gawain and the Green Knight*, Shakespeare's plays, *Paradise Lost*, and other readings from the course. Secondary sources will include the selected scholarly articles and relevant philosophical discussions presented in the podcasts.

Students will evaluate sources for credibility, qualifications, evidence, and relevance before incorporating them into their work. All sources will be documented using MLA style, which is the standard documentation format for literary studies.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

Currently, this option is for a face-to-face course. In future, if I offer it for an asynchronous course, regular and substantive interaction will occur throughout the semester. The instructor will meet individually or in small groups with honors students at least four times during the semester, either in person or via Zoom, to discuss podcasts, research findings, and progress toward their reports and final presentations. Students will also have access to the instructor through scheduled office hours held both in person and on Zoom, by telephone during office hours, through email, and through the Pronto messaging platform.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This Honors Option provides students with an opportunity to pursue a sustained intellectual investigation that goes beyond the scope of the regular course. Through engagement with philosophy, literary analysis, and scholarly research, students will deepen their understanding of major themes that have shaped English literature across multiple historical periods.

The project will strengthen research skills, information literacy, close reading, oral communication, and academic writing. Students will gain experience evaluating scholarly evidence, constructing independent interpretations, and applying theoretical concepts to literary texts. The option also encourages intellectual curiosity and metacognitive awareness by prompting students to reflect on their own assumptions, reasoning processes, and interpretive practices. As a result, students will leave the course with a richer understanding of both literature and the broader philosophical questions that literature invites readers to explore.

Honors TAP Option by Contract Instructor Proposal

INSTRUCTOR USE ONLY: By agreeing to offer an honors option to honors students, you agree to fulfill the high standards of the honors program and to submit all appropriate paperwork by the deadlines in order for the student to get honors credit for your course. Your project must be approved by the honors coordinator/committee. The following criteria will help us to determine if the project meets honors option criteria and standards. Please be very detailed and specific in your responses. The form below will help you to design an appropriate proposal for consideration. Please fill out completely and with ample details. You only need to fill out this form once for a particular course. Honors Option projects do not figure into the grade for the course, but they should be done to a high standard. Honors option work is intended to enrich the course content that encourages students to go above and beyond the course. If an instructor wants to grade the project, CREDIT or NO CREDIT should be used. Instructors reserve the right to deny the opportunity of an honors option.

Faculty Name: Eric Martin

Course Title and Number: College Reading and Writing (ENGL C1000), Introduction to Creative Writing (ENGL 114), Critical Thinking and Writing (ENGL C1001)

Check which of the following honors objectives will be met by the proposed course? Select all that apply.

- ☒ Option will provide content about the history or background of the field being studied.
- ☒ Option will show an awareness of some of the field's major theories or current trends.
- ☒ Option will require students to perform a case study, field experience, or other research projects.
- ☒ Option utilizes research methods including proper documentation for the discipline.
- ☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.
- ☐ Option will focus on performance activities.

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

Overview: The student will produce two slideshows, each based on research connecting a course theme to a specific topic and connecting an assortment of four texts to that topic.

The honors option project will be a two-part project (two slideshows) pairing research and critical thinking skills wherein the student will be assigned a theme/concept directly relating to a core course theme. Themes may include ideas like "issues of citizenship and heritage," "individual identity and media consumption choices," or "higher education and the marketplace." These themes are explored in the standard course through discussion and writing assignments based on novels, short stories and articles.

Detailed Explanation: For the honors option, the student will produce two slideshows, each based on original research that extends and connects a course theme to new texts and to real world events. The nature of the slideshow will be discursive and conversational in the sense that the goal for the student is to identify, assess and analyze a variety of texts then articulate connections between those texts - effectively putting them into a single "conversation."

Students will be asked to locate and incorporate four high quality and expressly relevant sources: *two scholarly sources*, *one news item* (or one article on a real world event) and *one creative work* (a poem, short story, song, television show, or film).

Analysis of these sources will be synthesized into a slideshow (15-20 slides) that offers (1) a summary of key points and important concepts presented in each of the two scholarly sources, (2) direct citations from each scholarly source, (3) a summary of the news item and a brief explanation as to how the key points or concepts from the academic sources can be intelligibly applied to the news item and (4) a brief summary of the creative work and an explanation as to how the key points or concepts from the academic works can be intelligibly applied to the creative work. (5) The slideshow will also offer a brief explanation as to how the “conversation” represented by the contents of the slideshow fits into the context of the course theme and will (6) present a set of discussion questions for class discussion. (7) A “Works Cited” page formatted according to MLA guidelines will be required as the final slide in the slideshow. (This assignment will be produced twice – once in the second quarter of the course (Week 5 or 6) and once in the third quarter of the course (Week 11 or 12).)

Each of the two slideshows will be shown to the whole class. The slideshow will culminate in a set of discussion questions for the class looking for ways to connect the contents of the slideshow to discussions and texts previously addressed in the course. The student will have the option of introducing the slideshow in front of the class, taking questions from the class and/or verbally presenting any conclusions regarding the slideshow’s topic and texts.

The overall instructional aim of this project is to exercise critical thinking through synthesis, assessment of resources, conceptual thinking and connective thinking. In keeping with these aims, the final product will emphasize concise thought (and will not emphasize composition techniques or lengthy writing requirements).

As this course is an academic writing skills course, composition and documentation techniques will be extensively covered in other areas of the course wherein students produce works of expressive writing, literary analysis, and research-based argument. The research and critical thinking components of the honors option project will offer a more challenging level of lateral and connective thinking. Creating discussion questions within the slides will push honors option students to think in different ways about the content and concepts they are exploring. And the formal elements of the project will offer a quite different set of tasks for navigating layout, presenting source material, and offering concise commentary.

2. Describe how the option will strive for a high degree of student participation and involvement.

The student will meet with the instructor to select quality resources, narrow and sharpen the focus of each slideshow and to develop the analysis that will function as the intellectual framework for the project. These meetings will help to develop an understanding of the complexities of the selected topic, connecting them to contemporary discourse around creative writing and publishing and/or critical conversations around creative writing.

Additionally, each slideshow will extend the course themes in ways that match the student’s interest. The student gets to choose from a list of provided topics. And within the selected topic, the student will get to shape their own research through the choices of emphasis and research sources.

The course themes are complex enough and broad enough to allow for many avenues of research. The student’s own interests, curiosities and background will guide the direction of the project, leading to opportunities for rich engagement and academic satisfaction.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Week 2: At an in-person meeting, the student and instructor will review the assignment, clarifying the types of texts that need to be included in the slideshow and the types of slides, specifically, which will be produced. The research process will also be outlined so that the student is fully aware of how to locate each type of text for the assignment. An emphasis will be placed on assessing texts for relevance and quality at this meeting. At this time the student will generate a specific focus for the research, narrowing the theme down to a topic and also cultivating a list of search terms.

Week 3: The student will gather a list of resources and share this list with the instructor. The list should present multiple options for each category of text so that, with the instructor's help, the sources least likely to be beneficial can be eliminated.

Week 3-4: The student conducts the analysis required for drawing the connections required by the assignment, carefully reading each selected resource, drawing relevant citations from the academic sources, and producing brief summaries of each text.

Week 5-6: The student submits a working draft of the slideshow to the instructor and receives feedback regarding summaries, citations, design, quality of analysis and final discussion questions. Suggested changes are made. If no changes are required, the slideshow can be shown in class. If revisions are required in Week 5, the slideshow is resubmitted in Week 6 and shown to the class.

This process is repeated beginning in **Week 7** and culminating in a second slideshow on a second theme in **Week 12**.

In situations where adjustments are needed, the meeting schedule can be pushed back one or two weeks.

For summer terms, this timeline will be adjusted and the project shifted to maintain all intellectual academic components but facilitate completion in a shortened time-frame.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

This honors option project provides a greater depth and breadth of subject matter in every aspect of the assignment by asking students to become further informed as to scholarly perspectives on two course themes while also connecting those perspectives to real world events.

The additional connection to creative works demands another type of conceptual and connective thinking, which also deepens and extends the critical thinking exercised in the project. The variety of texts being connected in the student's "conversation" is expressly tailored to an enhanced breadth and depth of study *vis-à-vis* course subject matter.

5. Describe writing assignments and discuss how the course will foster critical thinking.

The specific academic and intellectual challenges posed by this project are fundamentally critical thinking challenges. Through the research process, the student will exercise skills of assessment and analysis via the selection of the texts and through the task of discerningly, accurately and concisely summarizing the contents of the texts.

In addition to the conceptual thinking demanded by summarizing the ideas of the texts, the student will also be tasked with the larger conceptualization task of fitting four different texts together into a single conversation, thus practicing abstract thinking skills as well as problem solving skills.

Producing discussion questions based on four texts while maintaining a unified focus will further exercise the skills of synthesis, evaluation, conceptualization and analysis.

Additionally, in creating a slideshow, the student is afforded an opportunity to exercise creativity and gain experience creating multimedia texts/presentations.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

As this course is a composition course, research and documentation methodology form a core element of the curriculum and will be discussed and practiced at length in other course assignments. The honors option slideshow project will focus on intellectual skill-building and research (but not on documentation style within composition *per se*). The following elements of the assignment are related to research and documentation:

- The student will conduct original research and identify, analyze, summarize and connect four different sources.
- Two of these sources will be scholarly sources – but only two.
- The variety of the sources involved in the project will lead the student to explore a number of research “locations” or modes.
- The student will provide direct citations from the academic sources (but these will not be presented within a formal composition as in-text citations).
- The student will produce an MLA-formatted “Works Cited” page for each slideshow.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

For students in asynchronous online courses, the meeting schedule described above can be conducted on Zoom or other video conferencing platforms. Email correspondence can also play a big part in fostering direct engagement with the honors option student, developing ideas and maintaining pace.

To facilitate the step-by-step process of each slideshow from ideas to research to production, a Canvas module of content and assignments can be assigned to the honors option student. That will offer a way to visualize the process and track progress.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

The student will have two opportunities to pursue their individual interests and curiosities with this honors option assignment, choosing a topic within the each provided theme. There is ample space for creativity here.

There is also lasting value for the student in encountering scholarly perspectives on a real world issue.

Applying theory to life is, essentially, the model and practice of intellectual labor both in and outside of academia. In this way, the honors student will be pursuing higher level academic work and getting a taste of the pleasures of scholarship.

Honors TAP Option by Contract Instructor Proposal

INSTRUCTOR USE ONLY: By agreeing to offer an honors option to honors students, you agree to fulfill the high standards of the honors program and to submit all appropriate paperwork by the deadlines in order for the student to get honors credit for your course. Your project must be approved by the honors coordinator/committee. The following criteria will help us to determine if the project meets honors option criteria and standards. Please be very detailed and specific in your responses. The form below will help you to design an appropriate proposal for consideration. Please fill out completely and with ample details. You only need to fill out this form once for a particular course. Honors Option projects do not figure into the grade for the course, but they should be done to a high standard. Honors option work is intended to enrich the course content that encourages students to go above and beyond the course. If an instructor wants to grade the project, CREDIT or NO CREDIT should be used. Instructors reserve the right to deny the opportunity of an honors option.

Faculty Name: Dr. Rachel Jennings-Tafarella

Course Title and Number: Engl C1001 Critical Thinking and Writing

Check which of the following honors objectives will be met by the proposed course? Select all that apply.

☒ Option will provide content about the history or background of the field being studied.

☒ Option will show an awareness of some of the field's major theories or current trends.

☒ Option will require students to perform a case study, field experience, or other research projects.

☒ Option utilizes research methods including proper documentation for the discipline.

☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.

☐ Option will focus on performance activities.

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

In my regular sections of C1001, we learn over 90 critical thinking tools and rhetorical terms (e.g. availability error, inference to the best explanation, intellectual curiosity, confirmation bias, sunk cost fallacy, false dilemma, anaphora, enumeration, ethos, logos, pathos, etc.). We learn these through class activities and writing assignments covering areas of popular culture (YouTube influencers, movie clips, dating apps, cults, social media). In addition to many articles and other readings, we read one main book: *Stolen Focus: Why You Can't Pay Attention and How to Think Deeply Again*, by Johann Hari. Hari identifies twelve causes of lost focus (e.g. loss of flow states, collapse of sustained reading, sleep deprivation/ hustle culture, helicopter parenting, etc.). Students

write three research papers over the semester (one on critical thinking and pop culture, one on an issue related to Hari's book, and one expansion of the first or second paper). They also participate in writing workshops, create a reading journal around Hari's book, give a final presentation on critical thinking tools and rhetoric in song lyrics, and complete a quiz on terminology.

For the honors option, in addition to the above, students will gain expertise in game theory. Game theory is the study of strategic decision-making in situations where the outcome of one person's choices depends on the choices of others. It is used in economics, political science, business, psychology, biology, computer science, law, military strategy, philosophy, and literary studies to analyze cooperation, competition, conflict, and decision-making. This theory will provide an extra critical lens through which to interpret class materials, adding depth. Honors students will complete some readings on game theory, adapt a class exercise with a game theory twist, work on a research project that applies game theory to a topic related to college success or use of AI, and give a presentation to the class on their research project.

2. Describe how the option will strive for a high degree of student participation and involvement.

Honors option students will be the game theory experts in the class. They will be asked to share their insights at several instances throughout the course—for example, when we do a class exercise identifying and ranking the logical fallacies apparent in the Jonestown cult, honors option students will be asked to also analyze the cult through a game theory lens. If there is more than one student completing the honors option, they will meet together and work together on class exercises and a research project/ presentation. Honors option students will also be asked to interview classmates to gather data for their research project.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Weeks 1 – 3. Meet for at least 30 mins. Introduction to honors option requirements. Initial discussion of the basics of game theory. A book on game theory will be assigned (*Introducing Game Theory, A Graphic Guide*.) Choose research topic from three options.

By Week 4. Students submit contracts and professor approves them.

Weeks 4 – 5. Meet for at least 30 mins. Discuss how game theory can be applied to analyze how critical thinking broke down amongst the members of the Jonestown cult. After our meeting, students will share insights in class also (in online classes, they will post on a Canvas Discussion).

Weeks 8 – 9. Meet for at least 30 mins. Finish reading *Introducing Game Theory* before the meeting. Discuss the book. Plan research project: locate journal articles (at least one per student) from EBSCO, brainstorm interview questions.

Week 13. Meet for at least 30 mins. Meet to discuss progress on research projects. Students should have read their journal articles and have finished interviewing classmates.

Week 15. Students will present their research projects to the class.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

IN-CLASS EXERCISES

Honors option students will be asked to provide a game theory perspective that adds complexity and an extra layer of critical thinking to some class exercises. For example, we watch a documentary on the Jonestown cult to learn logical fallacies and rhetorical devices. After watching the documentary, students form groups and put together what they perceive to be the top five fallacies that the cult members fell for in order of importance (e.g., appeal to authority, appeal to fear, sunk cost fallacy, false cause, false dilemma). Honors students will be required to do the following additional exercise:

Discussion Prompt: Strategic Obedience—A Game Theory Lens on Cult Behavior

Cults often operate as closed systems with high-stakes incentives, limited information, and intense social pressure. Using game theory, analyze how members of The Peoples Temple might have made decisions under conditions of fear, loyalty, and constrained agency.

What strategic dynamics help explain why individuals conform, comply, or defect in cult environments?

Consider modeling:

- **The Defector's Dilemma:** What were the risks and payoffs of leaving the group?
- **Repeated Games:** How did loyalty tests and public punishments shape long-term behavior?
- **Signaling and Reputation:** How did members demonstrate devotion to gain status or avoid suspicion?
- **Bounded Rationality:** How did limited information or emotional manipulation affect strategic reasoning?

You might explore how Jim Jones structured incentives to discourage defection and reward obedience, or how groupthink and isolation altered the perceived payoff matrix for individual members.

READINGS

Honors students will read, "Introducing Game Theory: A Graphic Guide" by economists Ivan and Tuvana Pastine and illustrated by Tom Humberstone. They will also locate and study research articles for their research project.

5. Describe writing assignments and discuss how the course will foster critical thinking.

Honors students will work on a research project on one of the following areas: *A Game Theory Lens on College Success Strategies*, *A Game Theory Approach to Using AI to Help Students Write Research Papers*, or *A Game Theory Analysis of How AI Affects Critical Thinking Skills*. Through these projects, students will strengthen critical thinking skills by applying a game theory lens to complex real-world issues, evaluating competing perspectives, and analyzing the assumptions underlying different strategies and decisions. Students will also engage in scholarly research, assessing the credibility and relevance of sources while synthesizing evidence from multiple viewpoints. In addition, interviews with students, faculty, or other stakeholders will provide opportunities to gather and evaluate primary-source evidence, compare lived experiences with theoretical models, and draw reasoned conclusions based on both research and observation.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

Students will use MLA documentation style and engage with both primary and secondary sources. Research activities will include scholarly inquiry, interviews, case-study analysis, and the development of evidence-based arguments. Students will practice formulating research questions, evaluating source credibility, synthesizing information, and presenting conclusions supported by evidence.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

Although this honors option may be offered in an asynchronous course, regular and substantive interaction will occur throughout the semester. The instructor will meet individually or in small groups with honors students at least four times during the semester, either in person or via Zoom, to discuss project development, research findings, and progress toward project goals. Students will also have access to the instructor through scheduled office hours held both in person and on Zoom, by telephone during office hours, through email, and through the Pronto messaging platform. In addition, the instructor will provide individualized written feedback on class exercises, project proposals, research activities, and draft submissions. These interactions will allow for ongoing guidance, discussion of research methods and findings, refinement of ideas, and support for student success. Regular communication and feedback will ensure meaningful instructor-student engagement throughout the research process.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

Honors option students will gain an interdisciplinary understanding of game theory, a framework for analyzing strategic decision-making in situations where outcomes depend on the actions of others. This additional lens will deepen their study of critical thinking by encouraging them to examine not only the logic of arguments but also the incentives, constraints, and social dynamics that shape human behavior. Through applied activities, students will learn to analyze real-world phenomena such as cults, social influence, cooperation, and decision-making from a more sophisticated perspective. They will also develop transferable analytical skills that are valued across a wide range of disciplines, including economics, psychology, political science, business, law, and literary studies.

Honors TAP Option by Contract Instructor Proposal

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Faculty Name: Dr. Alexandra Schroer

Course Title and Number: Chemistry 210, Organic Chemistry

Check which of the following honors objectives will be met by the proposed course? Select all that apply.

- ☒ Option will provide content about the history or background of the field being studied.
- ☒ Option will show an awareness of some of the field's major theories or current trends.
- ☒ Option will require students to perform a case study, field experience, or other research projects.
- ☒ Option utilizes research methods including proper documentation for the discipline.
- ☒ Option will help students to demonstrate critical thinking and/or meta-cognitive abilities.
- ☒ Option will focus on performance activities.

1. Please provide an overview of the proposed option. Be sure to show how it differs from what other students do in your course.

The proposed honors option will provide the student with an in-depth investigation of **spectroscopic methods used to identify the structures of unknown organic compounds**, with an emphasis on nuclear magnetic resonance (NMR) and infrared (IR) spectroscopy. The student will learn how NMR spectroscopy is used to obtain structural information about organic molecules and how IR spectroscopy can provide complementary evidence regarding the functional groups present in an unknown compound. The student will analyze unknown organic compounds using multiple forms of spectroscopic evidence and use the combined results to propose and justify molecular structures. This project will go beyond the normal requirements of Organic Chemistry 210 by requiring the student to independently work with experimental data, analyze unknown compounds, conduct outside scientific research, and prepare a formal scientific report describing the methods, results, and

reasoning used to identify the compounds. Rather than only learning how to interpret spectra in the context of regular coursework, the honors student will apply spectroscopy as an investigative tool to solve unknown structures and evaluate whether multiple sources of experimental evidence support the same conclusion. This expands on the previous Organic Chemistry honors project, in which NMR and IR were used together to identify unknown compounds.

2. Describe how the option will strive for a high degree of student participation and involvement.

The honors option will require active student participation throughout the semester. The student will meet regularly with the instructor to discuss progress, experimental results, problems encountered during analysis, and the next steps of the project. The student will learn how to operate or interpret data produced by NMR spectroscopy and will gain experience working with organic compounds and spectroscopic data.

Rather than being given the identity of an unknown compound, the student will be responsible for evaluating the available evidence and developing a scientifically supported identification. The student will compare NMR and IR results, eliminate structures that are inconsistent with experimental evidence, and explain why the remaining structure provides the best fit. This approach places the student in an active role like the inquiry-based model used in the previous Chemistry honors proposal, where students were expected to analyze data, construct their own understanding, and discuss their findings with the instructor.

3. List specific meeting dates, deadlines and tasks [e.g., week#].

Weeks 1–2: Meet with the instructor to discuss the honors project, expectations, laboratory safety, research question, and background of NMR and IR spectroscopy.

Weeks 3–4: Complete background research on NMR and IR spectroscopy and begin reviewing scientific literature related to spectroscopic identification of organic compounds.

Weeks 5–7: Learn appropriate procedures for collecting and/or interpreting NMR and IR data. Begin analysis of the first unknown compound.

Weeks 8–10: Analyze additional unknown compounds and compare multiple types of spectroscopic evidence. Meet with the instructor to discuss interpretations and troubleshoot inconsistencies.

Weeks 11–12: Complete experimental work and finalize the proposed structures of the unknown compounds. Organize spectra, observations, and supporting evidence.

Weeks 13–14: Analyze the complete results and begin preparing the scientific report. Compare experimental findings with information obtained from scientific literature.

Weeks 15–16: Submit the final scientific report and discuss the overall findings with the instructor. This schedule expands upon the earlier Organic Chemistry honors model, which involved weekly instructor meetings, laboratory work, NMR training, continued monitoring of experimental findings, and submission of a final report during the last week of the semester.

4. What activities, assignments, or readings will provide greater depth and breadth of subject matter?

The student will complete supplemental readings on the theory and application of NMR and IR spectroscopy, including appropriate scientific journal articles and other instructor-approved scientific

sources. These readings will provide greater depth regarding how spectroscopy is used in organic chemistry to determine molecular structures.

Laboratory and analytical activities will include interpreting ^1H NMR and ^{13}C NMR spectra, examining chemical shifts and molecular symmetry, and using IR spectra to identify or confirm functional groups. When available and appropriate to the instrumentation and course, additional NMR techniques such as DEPT, COSY, or heteronuclear correlation methods may also be examined. The earlier Organic Chemistry honors project demonstrated how these different spectra can provide complementary structural information, with IR serving as an additional method for verifying proposed functional groups.

The student will therefore move beyond simply identifying peaks on a spectrum and instead integrate multiple forms of evidence to determine an unknown molecular structure

5. Describe writing assignments and discuss how the course will foster critical thinking.

The primary writing assignment will be a **formal scientific research report** documenting the student's investigation of unknown organic compounds. The report will include an introduction explaining the scientific background of spectroscopy, a description of the methods used, presentation and interpretation of experimental results, discussion of the proposed molecular structures, and a conclusion summarizing the evidence supporting each identification.

Critical thinking will be emphasized throughout the project because spectroscopic interpretation requires the student to develop possible molecular structures and evaluate them against experimental evidence. For example, an NMR spectrum may suggest several possible structures, but the student will need to determine whether the number of signals, chemical shifts, splitting patterns, integrations, carbon environments, and IR functional-group evidence are consistent with each possibility. Structures that contradict the evidence must be rejected and the student must justify the final identification.

This reflects the broader honors goal of requiring students to analyze evidence rather than simply receive information, which was also emphasized in the General Chemistry honors proposal through research, experimentation, interpretation, and scientific writing.

6. Explain research opportunities, documentation style, and/or how primary/secondary sources will be utilized.

The honors project will introduce the student to both **experimental research and scientific literature research**. Primary sources, particularly peer-reviewed journal articles, will be used to investigate the theory and modern applications of NMR and IR spectroscopy in organic chemistry. Appropriate secondary sources may be used to establish foundational concepts and provide additional background.

The student will be expected to evaluate scientific sources rather than simply summarize them. Readings will be considered in terms of their purpose, evidence, methodology, and relevance to the student's experimental work. This follows the research model of the previous Chemistry honors proposal, in which students analyzed supplemental articles, considered the evidence presented by authors, connected readings to course concepts, and regularly discussed their findings with the instructor.

Sources will be properly documented using a consistent scientific citation format approved by the instructor. The final report will clearly distinguish between information obtained from published literature and conclusions drawn from the student's own experimental observations.

7. Do you intend to provide this honor option for an asynchronous class? If so, please explain how effective contact will take place.

If Organic Chemistry 210 is not asynchronous:

No. This honors option is intended to involve regular direct interaction between the student and instructor. The student will meet with the instructor throughout the semester to discuss scientific literature, experimental procedures, spectroscopic results, interpretation of unknown compounds, and progress on the final report. Laboratory work and spectroscopy-related activities will provide additional opportunities for direct instructor guidance.

8. Overall, please describe how this honors option by contract project will benefit the honors student.

This honors option will benefit the student by providing experience with organic chemistry that extends beyond the standard course curriculum. The project will allow the student to apply concepts learned in Organic Chemistry 210 to a research-style problem in which the identity of an organic compound must be determined from experimental evidence. Through NMR and IR spectroscopy, the student will develop a stronger understanding of the relationship between **molecular structure and experimental data** while gaining experience analyzing and interpreting scientific results.

The project will also strengthen skills that are important for advanced coursework and scientific research, including literature review, laboratory techniques, data interpretation, scientific reasoning, problem-solving, and formal scientific writing. Most importantly, the student will learn to combine multiple forms of evidence to support or reject possible molecular structures rather than relying on a single result. The final project will therefore provide experience with the process of scientific investigation while allowing the student to explore spectroscopy at a greater depth than is normally possible within Organic Chemistry 210.



Committee Goals for the 2026-2027 Academic Year

- I. Increase active student membership in the AVC Honors Program by 10%.
- II. Secure an Honors TAP student space in the new student commons building.
- III. Increase course and option offerings in STEM and non-101 GE level courses.
- IV. Recruit new faculty to offer honors courses & honors options.
- V. Improve opportunities for students to complete Honors Options in needed and applicable areas.
- VI. Develop a marketing strategy/campaign for Honors TAP Promotion.
- VII. Develop an Honors TAP Handbook for Students and Faculty.
- VIII. Participate in the 2027 HTCC Research Conference.

All Maintenance Items

- Continue to focus on student recruitment through the maintenance of all student email access, recruiting in Honors classes, participation in outreach community events, and social media.
- Review, revise, and implement the new Honors Option Contract System including faculty training and an Honors TAP Option Proposal Repository.
- Maintenance of student TAP involvement via development of an honors student cohort through social events such as the Honors Program Mixers and Mid-Year Honors Student Check event.
- Maintain the Honors Ambassadors Program.
- Continue to hold the AVC Honors Convocation on a weeknight to encourage student and family participation in- person to celebrate Honors students, successful program completion, and Subject Area Award winners.