FORMAT 1

Submit original with signatures + 1 copy + electronic copy to Faculty Senate (Box 7500).

See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules governing curriculum & course changes.

TRIAL COURSE OR NEW COURSE PROPOSAL
(Attach copy of syllabus)

SUBMITTED BY:

Department	Chemistry and Biochemistry	**College/School**	CNSM
Prepared by	Sarah Hayes	**Phone**	907-474-7118
Email Contact	s.hayes@alaska.edu	**Faculty Contact**	Sarah Hayes

1. ACTION DESIRED (CHECK ONE): Trial Course [ ] New Course [X]

2. COURSE IDENTIFICATION: Dept: CHEM | Course #: 288 | No. of Credits: 2

Justify upper/lower division status & number of credits: This course is designed to introduce mid-level undergraduates to research. The course will consist of 2 hours lecture, and 3 hours lab per week.

3. PROPOSED COURSE TITLE: Introduction to Chemical Research

4. To be CROSS LISTED? *YES/NO*: no | If yes, Dept: | Course #:

NOTE: Cross-listing requires approval of both departments and deans involved. Add lines at end of form for additional required signatures.

5. To be STACKED?* *YES/NO*: no | If yes, Dept. | Course #:

How will the two course levels differ from each other? How will each be taught at the appropriate level?:

* Use only one Format 1 form for the stacked course (not one for each level of the course!) and attach syllabi. Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi (undergraduate and graduate versions) will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online – see URL at top of this page.

6. FREQUENCY OF OFFERING: spring

Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) — or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (Effective AY2015-16 if approved by 3/31/2015; otherwise AY2016-17): AY 2016-17

8. COURSE FORMAT:

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, **any core course compressed to less than six weeks must be approved by the Core Review Committee.**

COURSE FORMAT: (check all that apply)	[ ]	*1*	[ ]	*2*	[ ]	*3*	[ ]	*4*	[ ]	*5*	[X]	*6 weeks to full semester*
OTHER FORMAT (specify)												
Mode of delivery (specify lecture, field trips, labs, etc)	1 hr lecture, 3 hrs lab.											

9. CONTACT HOURS PER WEEK: 1 LECTURE hours/weeks | 3 LAB hours /week | [ ] PRACTICUM hours /week

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/guidelines-for-computing-/ for more information on number of credits.

OTHER HOURS (specify type):

RECEIVED
SEP 18 2015
Dean's Office
College of Natural Science & Mathematics

10. COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking (50 words or less if possible):

Example of a complete description:

FISH F487 W, O Fisheries Management
3 Credits Offered Spring
Theory and practice of fisheries management, with an emphasis on strategies utilized for the management of freshwater and marine fisheries. *Prerequisites: COMM F131X or COMM F141X; ENGL F111X; ENGL F211X or ENGL F213X; ENGL F414; FISH F425; or permission of instructor.* Cross-listed with NRM F487. (3+0)

JL for SH

CHEM F288 Introduction to Chemical Research
2 ~~3~~ Credits Offered Spring
Scientific research is creative and engaging when properly planned and executed. This course introduces students to the process of planning and executing a research project. We will begin with an idea, review primary literature, brainstorm project ideas, pose a testable hypothesis, plan experiments, and execute a small research project.
Pre-requisites: CHEM 212 or CHEM 321 or instructor permission (1+3)

11. COURSE CLASSIFICATIONS: Undergraduate courses only. Consult with CLA Curriculum Council to apply S or H classification appropriately; otherwise leave fields blank.

H = Humanities		S = Social Sciences	

Will this course be used to fulfill a requirement for the baccalaureate core? **If YES, attach form.**	YES:		NO:	

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, **Format 6**		W = Writing Intensive, **Format 7**		X = Baccalaureate Core	

11.A Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.

YES		NO	X

12. COURSE REPEATABILITY:

Is this course repeatable for credit?	YES		NO	X

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).	
How many times may the course be repeated for credit?	TIMES
If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?	CREDITS
If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?	CREDITS

13. GRADING SYSTEM: Specify only one. Note: Changing the grading system for a course later on constitutes a Major Course Change – Format 2 form.

LETTER:	X	PASS/FAIL:	

RESTRICTIONS ON ENROLLMENT (if any)

14. PREREQUISITES	CHEM 212 or CHEM 321 or instructor approval

These will be *required* before the student is allowed to enroll in the course.

15. SPECIAL RESTRICTIONS, CONDITIONS	

16. PROPOSED COURSE FEES	$100
Has a memo been submitted through your dean to the Provost for fee approval? Yes/No	Yes

17. PREVIOUS HISTORY

Has the course been offered as special topics or trial course previously? **Yes/No**	Yes
If yes, give semester, year, course #, etc.:	It has been offered as a trial course spring 15 and 16 as CHEM 294

18. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

This course requires 2 credits of workload for the instructing faculty (shared with proposed 686). It will also require the use of a teaching laboratory in the Chemistry Department for 3 hours per week and a projector-equipped classroom for 1 hr per week in the semester delivered. This course also episodically makes use of the Chemistry computer lab during lab periods.

19. LIBRARY COLLECTIONS

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No	X	Yes		
				Current library collection is adequate for the course. This course will rely heavily on electronic subscriptions to primary literature.

20. IMPACTS ON PROGRAMS/DEPTS

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

The Department of Chemistry and Biochemistry is the only affected program. This course has been successful in preparing mid-career students for the required CHEM 488 (Chemical Research).

21. POSITIVE AND NEGATIVE IMPACTS

*Please specify **positive and negative** impacts on other courses, programs and departments resulting from the proposed action.*

Positive: This course provides the opportunity for mid-level students to participate in chemical research earlier in their academic career. The focus of the course is on building the skills (literature review and experiment design) that students need to move from an idea to a successful experiment. After this course, students will likely be much better prepared for the experiment-focused CHEM 488 Research. Students will also provide mentoring opportunities for the professional development of students enrolled in CHEM 694 (proposed paperwork to offer this as a new course CHEM 686 has also been submitted).

Negative: this course requires 2 faculty workload units and use of the chemistry facilities, as listed above.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

Trial offerings of CHEM 686 and CHEM 288 have supported multiple undergraduates in successfully obtaining funding for continuing the research projects conceived and developed in this course. Students in both CHEM 288 and CHEM 686 report high levels of satisfaction with this course, that it was extremely useful to their professional preparation, and that they would recommend this course to their peers.

Students also report feeling more prepared for CHEM 488 (Chemical Research) after taking this course, and several of the mentoring relationships nucleated in the course and the associated projects have continued beyond the course and these students are currently enrolled in CHEM 488.

APPROVALS: Add additional signature lines as needed.

Signature, Chair, Program/Department of: CHEMISTRY + BIOCHEMISTRY	Date	9-18-15
Signature, Chair, College/School Curriculum Council for: CNSM	Date	9-28-15
Signature, Dean, College/School of: CNSM	Date	9/28/15

Offerings above the level of approved programs must be approved in advance by the Provost.

Signature of Provost (if above level of approved programs)	Date	

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

Signature, Chair Faculty Senate Review Committee: ___Curriculum Review ___GAAC ___Core Review ___SADAC	Date	

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)

Signature, Chair, Program/Department of:	Date	
Signature, Chair, College/School Curriculum Council for:	Date	
Signature, Dean, College/School of:	Date	

ATTACH COMPLETE SYLLABUS (as part of this application). This list is online at:
http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/
The Faculty Senate curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course (or changes to it) may be denied.

SYLLABUS CHECKLIST FOR ALL UAF COURSES

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

1. Course information:

❑Title, ❑ number, ❑credits, ❑prerequisites, ❑ location, ❑ meeting time
(make sure that contact hours are in line with credits).

2. Instructor (and if applicable, Teaching Assistant) information:

❑ Name, ❑ office location, ❑ office hours, ❑ telephone, ❑ email address.

3. Course readings/materials:

❑ Course textbook title, ❑ author, ❑ edition/publisher.
❑ Supplementary readings (indicate whether ❑ required or ❑ recommended) and
❑ any supplies required.

4. Course description:

❑ Content of the course and how it fits into the broader curriculum;
❑ Expected proficiencies required to undertake the course, if applicable.
❑ Inclusion of catalog description is *strongly* recommended, and
❑ Description in syllabus must be consistent with catalog course description.

5. ❑ Course Goals (general), and (see #6)

6. ❑ Student Learning Outcomes (more specific)

7. Instructional methods:

❑ Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

8. Course calendar:

❑ A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

9. Course policies:

❑ Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

10. Evaluation:

❑ Specify how students will be evaluated, ❑ what factors will be included, ❑ their relative value, and ❑ how they will be tabulated into grades (on a curve, absolute scores, etc.) ❑ Publicize UAF regulations with regard to the grades of "C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link to PDF summary of grading policy for "C":
http://www.uaf.edu/files/uafgov/Info-to-Publicize-C_Grading-Policy-UPDATED-May-2013.pdf

11. Support Services:

❑ Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

12. Disabilities Services: Note that the phone# and location have been **updated.** http://www.uaf.edu/disability/ The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

❑ State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655)to provide reasonable accommodation to students with disabilities.

CHEM 288: Introduction to Chemical Research

Course Name:	CHEM 288: Introduction to Chemical Research, 2 credits
Prerequisites:	CHEM 212 or CHEM 321 or instructor permission
Lecture:	Monday 11:45- 12:45, REIC 138
Lab:	Monday 2:15-5:15, REIC 245
Final exams:	TBD
Instructor:	Dr. Sarah Hayes
Office:	Reichardt 188
Phone:	907-474-7118
Email:	s.hayes @alaska.edu
Office Hours:	TBD, By appointment, or drop by when my door is open
Blackboard Link:	http://classes.uaf.edu
Course website:	http://chemresearch.community.uaf.edu
Required materials:	On Being A Scientist: A Guide to Responsible Conduct in Research, 3rd ed. The National Academies Press: Washington DC. ISBN: 978-0-309-11970-2 **** text book on reserve in Rasmussen Library for 2 hr in-library****

Catalogue Course Description: Scientific research is creative and engaging when properly planned and executed. This course introduces students to the process of planning and executing a research project. We will begin with an idea, review primary literature, brainstorm project ideas, pose a testable hypothesis, plan experiments, and execute a small research project.
Pre-requisites: CHEM 212 or CHEM 321

Expanded Course Description: In this course, mid-level chemistry majors are paired with graduate student mentors (enrolled in CHEM 686: Chemical Research Mentoring) based on research interests and be introduced to the process of planning a research project. Students in this course will begin with an idea, then review primary literature to survey ongoing research in that field, brainstorm project ideas, pose a testable hypothesis, then plan an experiment and execute a small research project. The emphasis of this course is to increase research readiness for students entering CHEM 488 by focusing on the research planning skills, although students will also have supervised hands-on lab experience. Join us to experience first hand how creative and engaging scientific research can be!

Instructional Methods: Undergraduate students will be paired with graduate student mentors enrolled in CHEM 686 Research Mentoring to develop and execute a research project. The emphasis of this course is on planning a research project through mentoring interactions with graduate students and faculty. Lectures will provide information on topics relevant to project planning while the actual planning and execution will occur during lab time.

Course Goals: Students will learn and practice the process of developing an idea into a testable hypothesis and planning a research project to address their hypothesis. At the conclusion of this course, students will present their research plan and the results of preliminary investigations at the Department

Poster Session as well as have a research proposal to potentially submit for funding to continue their project.

Student Learning Outcomes: Students will be prepared to plan and execute their future research projects. Upon successful completion of this course, students will:

- Complete all required safety trainings to work in labs in the UAF chemistry department.
- Propose an area of research, perform a literature review, and pose a testable hypothesis.
- Develop a realistic, statistically valid research plan.
- Execute preliminary experiments to provide preliminary data or proof of concept.
- Identify appropriate funding sources and write a proposal.

Example Student Projects: Student project topics will vary based on the expertise of graduate students enrolled in CHEM 686 and vary each semester.

- Investigation of toxic metals present in mine tailings as a function of particle size, which affects transportability, solubility, and bioaccessibility. This would involve drying soils, size separation using sieves and settling rate in water. Each size fraction could then be analyzed for elemental composition using bulk X-ray Fluorescence by preparing a pressed pellet.
- Investigation of chemical moieties present in size fractionated aerosol particulate samples by acid digestion and subsequent analysis by Inductively Coupled Plasma- Mass Spectrometry. Determining the size fractions metals are associated with is a critical component of determining the distance traveled by particulate matter.

Course Evaluation:

There are **500 total points available** in this class. Grades are assigned as follows: 500-450 A, 450-400 B, 400-350 C, etc.

Assignment		**Points**
Proposal format, proposal topic		30
Lab rotation summaries		20
Project Ideas		50
Literature Review		75
Project Plan and revisions		75
Research proposal		100
Final presentation		50
Final research proposal		50
Mentor and instructor evaluations		50
Total		**500**

Safety training- Students will perform all safety trainings required by the Department of Chemistry. This will be done through an in-person training January 26 2:15-5:15 pm in REIC 245.

Lab rotation summaries- Undergraduate students will participate in shadowing opportunities with graduate students. The students will then write a summary of their experiences.

Students will progressively work toward developing a research proposal. Assignments will include:

Research topic: 1-2 paragraph summary of the direction students are interested in pursuing.

Project idea: 1-2 page summary of literature related to the research topic proposed (incorporating faculty and mentor feedback), clearly state a student-generated testable hypothesis, and briefly outline proposed experiments. These will require students to articulate their plans and serve to nucleate student-mentor-faculty discussions aimed toward helping student to refine their ideas.

Literature review: 2-3 page summary of pertinent literature with appropriately formatted citations. This should be written to both report breadth of research in the area as well as the findings of a few of the most relevant studies. The last paragraph will clearly identify the need for the project idea previously proposed and refined through feedback from faculty and CHEM 686 mentors.

Project plan: The student will propose a specific plan for preliminary experiments as well as larger-scale potential follow-on experiments with a clear link to the testable hypothesis proposed. Required components: purpose, step-by-step instructions for performing preliminary lab experiments, safety plan, plan for statistical analysis of data, expected outcomes and how the results will be related back to the hypothesis, and potential large-scale follow-on experiments.

Research Proposal: Students will generate and revise an original research proposal with preliminary data that can be submitted for funding to continue the research project. The format and length of the proposal depends on where the proposal will be submitted.

Final presentation: Students will present a 10-minute presentation of their research proposal and the preliminary results during the final exam period.

Mentor and instructor evaluation: Students will have periodic feedback on their progress in their research progress with their mentor and instructor.

Course Policies: Continued attendance to class indicates each student agrees to the policies set forth in this syllabus.

Collaboration, Classroom Behavior and Late work- Collaboration and working in small groups is a key component of classroom and lab time. Your mentor is there to support your learning, not do the work for you. Students are expected to conduct themselves in a professional manner at all times. Disrespect of the classroom learning environment, instructors or mentors, and fellow students will not be tolerated!

Late work is accepted at a 20% per day reduction of the points possible. This is in an effort to keep the entire class moving though the projects efficiently.

Instructor-Initiated Withdrawals- Any time up to and including Friday, March 13, the instructor has the right to withdraw a student that "...has not participated substantially in the course." In CHEM 288 nonparticipation includes: poor attendance or lack of participation in lecture or lab (has missed more than 3 class sessions), or fails to turn in any assignment within a week of the due date.

Honor code and Academic integrity- Students are expected to conduct themselves in accordance with the UAF Honor code. The Chemistry Department policy states: *Any student caught cheating will be assigned a course grade of F. The students' academic advisor will be notified of this failing grade and the student will not be allowed to drop the course.*

Disability Services- I will work with the Office of Disabilities Services (208 Whitaker Bldg, 474-5655) to provide reasonable accommodation to students with disabilities. It is the student's responsibility to make an appointment with me to discuss appropriate accommodations within the first two weeks of the first class meeting. A letter from disabilities services must be provided for discussion at that time.

Veteran Support Services- Walter Crary (wecrary@alaska.edu)is the Veterans Service Officer at the Veterans Resource Center (111 Eielson Building, 474-2475). Fairbanks Vet Center 456-4238. VA Community Based Outpatient Clinic at Ft. Wainwright is 361-6370.

CHEM 288: Introduction to Chemical Research

Tentative Schedule

Date	Week	Task(s)	
		Lecture	**Lab**
Jan 26	1	Introduction and course details	288- Safety training (Spencer Library) 686- Mentoring training (Runcorn Room)
Feb 2	2	Introduction to planning research and safety in the research lab **686: Lab rotations plan**	Mentor research introductions **686: Research introductions**
Feb 9	3	Project funding **288: Mentor preferences**	Lab rotations 1
Feb 16	4	Keeping records **288: ID funding and get template** **686: bring notebooks as example**	Lab rotations 2
Feb 23	5	Surveying primary literature **288: research topic** **288: lab rotation summaries**	Literature search 1 **686: lab rotations self reflection**
Mar 2	6	Stating a testable hypothesis	Literature search 2
Mar 9	7	Experimental design **288: project idea**	Brainstorming projects **686: brainstorming notes (after lab)**
Mar 16-20	Spring Break		
Mar 23	8	IRB, IACUC and Compliance issues **288: literature review**	Planning experiments
Mar 30	9	Writing a procedure **686: bring a procedure example**	Planning experiments **686: lit review feedback**
Apr 6	10	What is science? **288: Project Plans- SOP and safety**	Review project plans
Apr 13	11	Statistical analysis of data **288: revised Lit review & project plans**	Experiments
Apr 20	12	Scientific ethics, research ownership, authorship	Experiments
Apr 27	13	Science and society **288: research proposal draft**	Peer review and proposal revision **288/686: peer review of proposal drafts**
May 4		Careers in Science **288: Final proposal at 11:45 pm**	Practice presentations with mentors **288/686: course evaluations**
*May		Final Exam: CHEM 288 student presentations Final Exam: mentor exit interviews	

What Worked and What Didn't

Proposed CHEM 288/CHEM 294: Introduction to Chemical Research

Proposed CHEM 686/CHEM 694: Mentoring in Chemistry

Spring 2015

The goal of this course was to create a gateway for students to get involved with research earlier in their educational careers and better prepare them for the required course Chemical Research (CHEM 488) while maintaining a sustainable amount of effort on the part of the faculty. This lead to the development of two paired courses, CHEM 294: Introduction to Chemical Research and CHEM 694: Mentoring in Chemistry. This model effectively lowers the activation barrier for undergraduates to get involved in research earlier in their education, provides mentoring training an experience for graduate students, and requires a sustainable amount of effort from faculty in the department.

The first offering of these courses in Spring 2015 were highly successful, based on anonymous exit surveys held until grades were posted and personal communications, popular with students in both courses and all students either agreed or strongly agreed they "would recommend this course to their peers." Of the 8 students in the initial offering, 5 have submitted their proposals and ALL have been funded, some on multiple times. After completing CHEM 294, all students strongly agreed that they "feel better prepared for CHEM 488: Chemical Research."

The only requested changes or expression of dissatisfaction from students were in website organization and in the lack of an individualized schedule for turning in assignments. I plan to improve the website based on specific student comments before the next offering as well as offer better tutorial of website navigation on the first day of the course. The individualized progression of students through the course will, I believe, be less of a problem in future offerings. In the first offering, we had students taking the course who were applying to graduate school and students who had never set foot in a research lab. We were able to meet the needs of all students successfully, but I envision that, as this course becomes an established part of the curriculum, students will likely be mostly the second year students we are targeting.

Below find quotes from students taking CHEM 294 and CHEM 694 in Spring 2015. These quotes were selected on the basis of being the most concise or articulate. Students unanimously loved this course!

CHEM 294: Introduction to Chemical Research

The CHEM 294/694 as a whole was probably the most professional class I have ever taken. It was challenging however it remained enjoyable with a goal and a consistent workload. The class felt empowering and I learned a lot. I would definitely recommend it to my peers.

I actually felt like I was part of a team effort. I felt like I was contributing to the field as a whole, in a tiny way. I felt like I was getting exposure to how it is to be a chemist. This was all very exciting and informative.

I feel like CHEM 294 gave me an understanding of research.... I feel much more prepared for CHEM 488 now and will be more efficient in conducting my research because of this class.

This class is an introduction to a whole new world... Having our own project seemed liberating and encouraged me to learn and succeed.

Great class for students who want to do research.

It was a great confidence boost having someone to work with and refer to if I had any questions or needed help.

"Tapping" their [mentor's] experience for a smoother transition into research was priceless!

This class was my Segway into grad school and scientific research.

Intro to research not only allowed me to break the ice and network with amazing graduates, but personally develop the skills and confidence needed to tackle a research project that once seemed too intimidating. The academic mentor I met through CHEM 294 not only was an invaluable resource for my undergraduate research, but became a personal friend as well. Dr. Hayes was crucial for making that connection possible, and going above and beyond to help 10+ students/mentors develop and grow together.

CHEM 694: Mentoring in Chemistry

I appreciated the formal training in mentoring, especially being able to have one day a week to consult with peers and go through case studies. It was also a great opportunity for me to share my research and get experience in planning a lab and lecture.

I would definitely recommend this course to my peers. I think it was very worthwhile, although doing the course and TAing stretched me a bit thin last semester. I feel like I gained a lot from it, including practice in developing and delivering a lecture, which is a skill I hope to use more frequently in the future.

Great tools were provided to enhance my ability to succeed in mentoring relationships.

Surprisingly, I learned more about improving myself as a mentee.

I learned a number of things about the scientific process and mentoring skills.