Certificate in University Science Teaching (CUST)

https://hsc.unm.edu/medicine/education/reo/graduate/cust/

Director: Dr. Yadéeh Sawyer (yesawyer@salud.unm.edu; 505-277-9151)

Aim: Provide a formal training in science communication, education, teaching, and mentoring to the biomedical PhD students. This certification is geared towards students interested in careers with communication, mentoring, and leadership direction (e.g. academic careers; managerial positions). This training process prepares students for their future positions as leaders.

Goals: The Certificate Program in University Science Teaching (CUST) is a formal transcripted program and one of a handful of programs in the country that offers biomedical scientists formal training in education and teaching. Through CUST, participants acquire core competencies by developing a critical background in pedagogical theory, gaining practical teaching and effective communication experience, applying innovative educational approaches, and implementing various assessment methods. Creative, critical thinking, and communication skills are developed, which are highly transferable to research and other arenas.

Upon completion of this program, participants will be better equipped to engage in collaborative, interdisciplinary, and translational research and education projects. Gained skills will also result in increased competitiveness for positions as postdocs and alternative career pathways.

What to Expect:
- This is a 2-3 year program that typically starts in a students' 2nd year (after passing the qualifying exam) and runs through year 3 or 4. Students' 5th year should be dedicated to completing their dissertation.
- Fifteen (15) credit hours are divided among coursework, workshops, hands-on teaching apprenticeships, and an independent scholarly educational project.
    - Many of the required credits are within the scope of the existing BSGP PhD core curriculum requirements (min 3 credits).
    - The program provides flexibility in types of teaching and scholarly projects.
    - Elective credit hours provide the flexibility to tailor the program to meet individual goals and needs.
    - Documentation of teaching activities, along with a statement of teaching philosophy and self-reflective journal are collated in a Teaching Portfolio.
    - CUST graduates have demonstrably enhanced competitiveness to pursue a wide range of careers that require effective communication, teaching, mentoring and assessing others.
- Students will receive an email confirming the completion of their application once received. Admissions decisions generally take two weeks after receipt and are made on a rolling basis throughout the year.

Eligibility requirements:
- The certificate program and individual courses are open to UNM graduate students, with an emphasis towards PhD students in the Biomedical Sciences, who are interested in earning a transcipted certificate. *Other BSGP students are welcome to participate in CUST programming for the experience even if they are not interested in the formal certification process.*
- Learners in the Academic Science Education & Research Training (ASERT) program will enroll in CUST, or courses within it, as Non-Degree Graduate students as part of their postdoctoral position.
- Since completion of CUST requires time and credit hours during the PhD curriculum, enrollment requires agreement and support from the research mentor/faculty advisor.
- *BSGP students:* Passed Qualifying Exams

Additional Information:
- This program is an optional voluntary certificate.
- Program content may include, but is not limited to:
  - Formulation of teaching philosophy statements
    - What is learning?
    - Student assessment
    - Teaching from a scholarly perspective, as well as a target population angle
  - Course design
    - Plan lectures
    - Create syllabi
    - Contextual learning beyond course material
    - Accessible and effective teaching pedagogy
      - How to adapt to the needs of the local population
  - Reflective teaching and communication practices
    - Know the audience
    - How to engage different learning styles
    - Establish learning goals
    - Innovation
    - How to learn and reflect on assessments
    - Study and teaching strategies
  - Student-faculty collaboration
  - Facilitates a community of peer educators and mentors
  - Unify the dichotomy between teaching and research

CUST Curriculum:
Typical Curriculum (Course Descriptions – can be under the Resources section of the website):

BGSP Program Year	Required (11 credits total)	# Credits	Electives (4 credits total)
Year 1	BIOM 525 - CMBD Journal Club	2	• BIOM 505 - Peer-Observation Training (2 cr)
	BIOM 530 - CMBD Seminar	2 total (1/semester)	• BIOM 541 – Teacher Training Workshops (1 cr) • BIOM 542 - Teaching Assistant Practicum (2 cr)
Year 2	BIOM 540 - University Teacher Training	2	• BIOM 543 - Independent Educational Immersion for Teaching Scholars (3 cr)
	BIOM 542 – Teaching Assistant Practicum	2	• EDPY 572 – Classroom Assessment (3 cr)
Year 3	BIOM 543 - Independent Educational Immersion for Teaching Scholars	3	• EDPY 510 – Principals of Classroom Learning (3 cr) • EDPY 520 – Motivation Theory and Practice (3 cr)
Year 4	*none*	*n/a*	• EDPY 630 – College Teaching Seminar (3 cr) • LEAD 529/OILS 541 – The Adult Learner (3 cr) • OILS 583 – Graduate Teaching (1 cr) • Courses within the Certificate in Technical and Professional Communication
Prior to graduation	Teaching Portfolio	*n/a*	
Continuous	*Optional –* Monthly Cohort Meetings	*n/a*	

* Required Courses. Total Credits = 11.

- *Year 1 – For the following 2 courses to count towards your CUST requirements, you will be asked to provide a written reflection on what you learned about presenting and teaching from observing the speakers in the BIOM 525 and BIOM 530 courses, as well as other speakers/instructors from your academic journey. This can include, but is not limited to, what worked well, what you learned not to do, and how you envision using this experience in your career moving forward, specifically when you teach for your BIOM 542 requirement.*
    - o **BIOM 525* - CMBD Journal Club** (2 Credits; Course/Workshops) – This course is usually completed in the first year, prior to joining CUST as part of the [BSGP core].
        - ▪ *Description:* This course offers new graduate students experience in oral presentation skills, experience in reading and discussing scientific literature and exposure to research seminars. The format is typically student led discussions.
    - o **BIOM 530* - CMBD Seminar** (2 Credits – 2 semesters at 1 credit each; Course/Workshop) - This course is usually completed in the first year, prior to joining CUST as part of the [BSGP core].
        - ▪ *Description:* This course is a cross-cutting, interdepartmental seminar series offered for graduate credit. Weekly seminars are presented by preeminent scientists on a wide variety of broadly relevant research topics.

- *Year 2 – generally the first CUST semesters:*
    - o **BIOM 540* - University Teacher Training** (2 Credits; Course/Workshops)
        - ▪ *Description:* An introduction to the principles of how people learn and methods of teaching and assessment. Special workshops provide hands-on experience with effective lecture preparation and tutorial group facilitation for problem-based learning.
        - ▪ This 6 week course is offered Spring semesters ONLY. For enrollment, students must request registration overrides directly to the course instructors.
        - ▪ This course is open to non-CUST students who are interested in developing these skills and are interested in teaching/education.
        - ▪ The preferred approach is for BIOM 540 to precede BIOM 542 (TAing for credit). Exceptions are awarded for BSGP students in Fall and Spring of year 2 on a case-by-case basis. If enrollment in BIOM 542 comes before BIOM 540, students are required to submit a justification to the [SOMREO office] on how they feel prepared to TA and/or description of access to educational mentors to help them during their role as a TA.

    - o **BIOM 542*+ - Teaching Assistant Practicum** (2 Credits; Teaching Practicum). This course may be repeated a second time as an elective, but the TA role cannot be for duplicate courses.
        - ▪ *Description:* Teaching experiences is critical for most faculty positions. BSGP students enrolled in this course earn course credit for serving as teaching assistants with an emphasis on course development. Administrative duties are NOT included in this option and can be assigned for a stiped. Speak the [CUST director] and [SOMREO] if you want both assignment types (credit & pay).
        - ▪ Students must inform the [CUST director] and [SOMREO] the semester BEFORE they intend to enroll. And, arrangements for teaching assistantships are made on an individual basis and coordinated (including override permissions) through the [SOMREO office]. Please note, TA positions have a waitlist.
            - • Any student TAing for credit rather than, or in addition to, pay must include [CUST director] and [SOMREO] and reach out to the faculty course director(s) of

their choosing and develop a teaching plan. The teaching plan should meet the needs of the faculty course director and focus on teaching skill development for the TA.

- The preferred approach is for BIOM 540 to precede BIOM 542 (TAing for credit). Exceptions are awarded for BSGP students in Fall and Spring of year 2 on a case-by-case basis. If enrollment in BIOM 542 comes before BIOM 540, students are required to submit a justification to the SOMREO office on how they feel prepared to TA and/or description of access to educational mentors to help them during their role as a TA.
  - *For non-CUST students who do not intend on taking BIOM 540, we HIGHLY encourage some form of training prior to accepting a TA position (either for credit or for pay). For example, the UNM's Main Campus Graduate Teaching Academy no-transcript certificate in college teaching.*
- Before enrolling in 2 credit hours, please confirm with your research mentor and refer to your RA contract to ensure you are able to meet all of your other associated course requirements. You or your mentor will be responsible for any tuition charges above what your RA contract covers.
- Scheduling includes the day/time of the course students are assigned to TA, in addition to office hours and other TA requirements.
- For this course to count towards the students CUST requirements:
  - Obtain a written assessment (via THIS form) from the Instructor of Record (IOR) which the student will later include in their Teaching Portfolio. The SOMREO office or the CUST Director will provide guidance to the IOR as needed. The IOR will also provide the SOMREO office AND the CUST director with the students final semester grade. The CUST Director will enter the grade in LoboWeb.
  - The student must track their thoughts/lessons learned for this experience for their Teaching Portfolio (required for CUST students, optional for non-CUST students).
  - Assessment is based on regular meetings with the BIOM 542 instructors, evaluation by the faculty course director working directly with the teaching assistant, student evaluations, and a final report written by the TA that encompasses a description of accomplishments and self-evaluation.
- *Additional information on TA for credit vs pay can be found on the final pages of this document.*

- *Year 3:*
  - **BIOM 543**[*][+] **- Independent Educational Immersion for Teaching Scholars** (3 Credits; Individual Project). This course may be repeated a second times as an elective.
    - *Examples are listed on the CUST Website.*
    - *Description:* Emphasizes skill development as an independent instructor/educator. Requires the development or implementation of an independent teaching or educational project. Scholars are evaluated on teaching materials, oral and written communication skills, and project design and tool development. Projects are tailored to students' individual interests and may focus on activities in their research disciplines but must have a, education-related "product" as a result of the project.
    - Prerequisite: BIOM 540 & BIOM 542
    - Arrangements for service as course instructor are made on an individual basis and final assessment is determined by supervisor and CUST director. Students must inform the CUST director and SOMREO the semester before they intend to enroll.
      - Prior to receiving an enrollment override from the CUST director, the student will meet with the CUST director to discuss their project and product expectations.

- Scholars are evaluated on teaching materials, oral and written communication skills, and project design and tool development. All elements should address the scope of the project and who each element contributes to teaching excellence. This should include, but is not limited to learning goals, assessment, and evaluation.
- Scholarly projects can be, but are not limited to, directly related to the course the student TA'd for in BIOM 542 or other existing BIOM courses, case development, developing curriculum for a potential new course, developing or modifying an assessment tool, developing a program, or addressing other scholarly topics/issues/challenges, which can potentially be implemented within the BSGP.
  - Students should work with faculty who UNDERSTAND TEACHING PEDGOGY or work with CUST director to ensure they develop a project which, implemented or not, can work in a course or program of their choosing.
  - Students should incorporate knowledge from their previous courses/trainings (e.g. BIOM 540, BIOM 541 [where applicable], and BIOM 542)
  - Course based scholarly projects may include/address, but are not limited to:
    - Students
    - Syllabus – *should include a statement on Diversity, Equity, and Inclusion*
    - Assignments & discussion
    - Assessments and grading tools
    - Sample lectures
    - Evaluations
- This course is an opportunity for students to find a way to be "unique" in their training to set them apart from other "standard" graduate students.
- *Examples of past projects:*
  - Advanced Topics: Genome Technology and Bioinformatics (BIOL 519 & CHEM 587) by Emily Alden
  - Course Development and Implementation of (BIOM 505) Special Topics: Advanced Microscopy Methods by William Kanagy
  - Course Development and Implementation of (BIOM 505) Special Topics: Qualifying Exam Prep class by Jesse Young
  - Teaching of a Freshman Learning Communities course
  - Design and implement of a peer-mentoring network for BSGP students by Megan Thursby and Leo Garcia-Montaño (non-CUST student).
  - Design and implementation of a mentoring program for undergraduate research
  - Development of a learning and self-assessment tool to enhance student understanding of a complex topic
- *Examples of potential projects:*
  - Tutoring Pool – develop a pool that includes resources for tutoring, conduct surveys (to both students and TAs) to assess if tutors are needed, and if so, for which BSGP core courses.
  - For the course the student TA'd for, look at the assessment for the course, or revise a section of the syllabus.
  - Design a recruitment program for the BSGP to recruit regionally and nationally
  - Analyze course evaluations for BIOM courses and propose areas for improvement

- **Teaching Portfolio**[*]: Documentation of all activities described above plus a statement of teaching and education philosophy.
  We encouraged CUST students to begin building their teaching portfolio and tracking progress and engagement from the start. They can always go back in and edit the document as their experiences guide.

- *Examples are listed on the [CUST Website](#).*
- List of when certificate required courses were completed (Sem & Yr) and grade earned
- List of other relevant teaching workshops or courses (if any), include a brief reflection of each session.
- Course and instructor of the Teaching practicum (BIOM 542) with evaluation included
- Teaching and education philosophy
    - Students start this within their BIOM 540 course and should develop it as necessary
    - Should include philosophies of inclusion and diversity (as seen in BIOM 540)
- Statement of career goals within Education and Teaching
- Independent Educational Immersion for Teaching Scholars (BIOM 543).
- Address your desired career options within education and teaching, including any requirements to entry necessary.

If you need help on your Teaching Portfolio, making an appointment with Stephanie Spong (sdspon@unm.edu) from CTL is a great resource. She has also shared an example of an [Adobe Web-based Portfolio](#). She used it both as a visual aid, but also as a way to show how Adobe Express might be useful to you if you want to create a digital (web-based dynamic) portfolio.

A few other things to help you out:
- *For data visualization help (e.g. for presentation of evaluation or assessment data), check out the https://libguides.unm.edu/presentations/data, you can also set up an appointment with Holly Surbaugh (hsurbaugh@unm.edu).*
- *For your CUST Teaching Portfolio structure, the content is listed above, but as far as the format, there are no set requirements. It is best if you find a position similar to what you want to apply for as your future job and create it from those requirements.*
- *If you want help with using the Table of Content and Header/Subheader, etc features in Word, set up a meeting with the CUST director.*

⁺ Elective Courses. Total Credits = 4.
- *Elective Courses⁺ – taken at varying points within the CUST program.*
    - **BIOM 505⁺ - Peer-Observation Training** (2 Credit)
        - *Description:* This course provides a format to teach current information in a variety of rapidly advancing areas of biomedical research which are not now provided by existing courses. Subject area varies depending on the need for education in a particular area and the faculty member involved. This course requires completion of 2 [Continuous Professional Learning's](#) (CPL) workshops focused on teaching methodology, participation in the Peer Observation in Support of Effective Teaching ([POSET) program](#), and both a presentation with associated learning objectives and performing an observation on another peer's teaching/presentation.
            - Upon completion of the course, students must submit a list and brief reflection of the direct benefit for each workshop attended.
        - Restriction: Permission of instructor (contact the [CUST director)](#). Offered upon demand.
        - Typically the POSET observations are done during the monthly CUST meetings. Please coordinate with the CUST director to ensure you are scheduled for this session. The student instructor teaches a mini lesson and the other attendees provide constructive feedback using the [Observer Guidelines and fillable forms, found on the POSET website](#).
            - Upon completion of the course, students must submit a reflection on this process and what they learned that can be applied to their future as educators.
        - It is encouraged to find a peer to also enroll in the course.

- You must provide the CUST director with documentation of the CPL training, participation in POSET.

- **BIOM 541$^+$ - Teacher Training Workshops** (typically 1 credit) – This course may be repeated, but content must be different.
  - *Description:* This workshop/independent study course emphasizes skill development in education theory and curriculum development or student assessment and feedback through didactic lectures and hands-on experience.
  - The expectation is that for every credit hour the student enrolls in, they commit approximately 3 hours a week for the 16 weeks of the semester (totaling 48 hours per credit per semester), as is expected for any course. This time is spent with a minimum of 15 direct engagement workshop hours per credit hour, and the remaining 33 hours per credit hour are spend preparing, reflecting, and cataloging the student's experience.
  - Students must submit a document at the close of the semester that tracks which workshops or trainings they attended, what did they did to prepare for them, and a thoughtful reflection for both EACH of the workshops or trainings. The final component to the report is a reflection on the overall experience, areas of personal growth, areas for future growth, and how the student will apply each of these learning experiences to their future as an educator. Provide specific examples rather than broad statements.
  - *Guidance on available workshops and trainings:* There are many across campus, as the CUST program is relatively flexible with what counts, as long as the student can justify the benefit within the scope of CUST. But, the LEO: The Learning Environment Office and the Office of Professional Well-being have a speaker series each semester that addresses educational concepts. The Center For Teaching and Learning has quite a selection of sessions, so does the Continuous Professional Learning's (CPL) Educational Development Activities. For the CPL workshops, registration is required for each session (all the info is on the site) and students will need to make sure to identify as student in the registration so they are not charged a fee. If students see other workshops outside of these two formal programs that you think you'd benefit from, we encourage that, too. A few suggestions include, but are not limited to the UNM's Mentoring Institute annual conferences and UNM advisor summit. And, the Peer-Mentoring Program within BSGP or BSGSS leadership roles can also count if the topics discussed or skills addressed are applicable. Reach out to the faculty sponsor, Dr. Laura Gonzalez-Bosc, for additional information on how to be involved with the Peer-Mentoring Program.

- **BIOM 542^{*+} - Teaching Assistant Practicum** (2 Credits). These are additional credits to those required, students may only earn credit for a total of two unique TA'd courses (see above).

- **BIOM 543^{*+} - Independent Educational Immersion for Teaching Scholars** (3 Credits; Individual Project). This course may count towards electives if taken a second time and a second unique project is developed. For example, two completely independent projects, or, the first enrollment is to develop a course and the second enrollment is to teach someone to teach the course, or, start a program and then train somebody to run the program.

Note: I know some of you have courses you'd be interested in lecturing for that our outside of those within BSGP. If there is a course on main campus you want to do a guest lecture for, let me know and I'll see what strings I can pull to make that happen.

The following are additional courses that fit the CUST aim and goals, but students are not limited to the below listed options. Options listed may not be offered each semester. If students find alternative

UNM courses they feel would be in line with CUST, they are encouraged to discuss the option with the CUST director. Keep in mind these are full graduate courses and will require work to reflect that. Undergraduate courses cannot count towards this graduate certificate.

> *Be aware that sometimes students are charged course fees or differential tuition for taking classes outside of BIOM. These fees and differential tuitions are not covered by RA contracts unless written specifically to cover those charges.*

- o **EDPY 572**[+] **– Classroom Assessment** (3 Credits; Taught through educational psychology program in the College of Education) - Provides educators with skills in assessment and knowledge of issues in measurement and assessment. Skills necessary to understand and communicate large-scale test information are also developed.

- o **EDPY 510**[+] **– Principals of Classroom Learning** (3 Credits; Taught through educational psychology program in the College of Education) - Research and theory in learning, particularly cognition, motivation and assessment, with emphasis on educational implications.

- o **EDPY 520**[+] **– Motivation Theory and Practice** (3 Credits; Taught through educational psychology program in the College of Education) - The course promotes understanding of current theories and research in motivation with an emphasis on applications in educational settings. Strategies for establishing motivation-rich environments will be developed.

- o **EDPY 630**[+] **– College Teaching Seminar** (3 Credits; Taught through educational psychology program in the College of Education) - This course provides an empirically-based theoretical and practical foundation for college-level teaching. Topics include: instructional strategies; teaching technologies; assessment; professional development; ethics; teaching as part of overall professional identity.

- o **LEAD 529**[+]**/OILS 541**[+] **– The Adult Learner** (3 Credits) – Examines the teaching and learning transaction with adults. Specific attention is on adult life stage development, relevant learning theories and approaches, and learning style issues of cross-cultural populations.

- o **OILS 583**[+] **– Graduate Teaching** (1 Credits) – Offered Fall and Spring semesters. Introduces new Teaching and Graduate Assistants to teaching at UNM; reviews various instructional methods, assessment strategies, and pedagogical theories pertinent to teaching in higher education. The course is part of the [Graduate Teaching Academy](#) offered by the Graduate Studies and the Center for Teaching and Learning and consists of 8 workshops held on Friday afternoons.
  - ▪ We highly encourage this course for CUST students who are not able to take BIOM 540 prior to the semester they want to TA.

- o Courses within the **Certificate in Technical and Professional Communication**
  (See below.) The courses within this certificate can also be used as electives towards the CUST requirements.

- *Optional: **Monthly Cohort Meetings** – Time (1-hour) & Location is arranged. These meetings are aimed at facilitating conversation and focus on professional development for teaching approaches. The sessions may include, but are not limited to mini-presentations on teaching-pedagogy (i.e. scaffolding - a teaching method that involves gradually shedding the instructor's assistance as students increase their understanding), or practice instruction from fellow CUST students. These meetings are not just for CUST students, but TA's also because the topics we discuss could be of interested in students in TA positions.*

- *Additional Requirements:*
  - **Yearly Check-In meetings with the CUST Director**
  - **Include CUST in your [Application for Candidacy (AOC)](#) after passing comps.** This is submitted to OGS.
    - *Helpful tips in this process:*
      - This form doesn't work on all internet browsers.
      - When completing the form, you'll indicate CUST as a secondary program under the "doctoral degree plus graduate certificate" option.
      - Additional help on adding CUST can be found at https://hsc.unm.edu/medicine/education/reo/graduate/bsgp/bsgp-resources.html

- *Additional Resources & Certificates*
  - **Certificate in Technical and Professional Communication**
    The courses within this certificate can also be used as electives towards the CUST requirements.

    https://english.unm.edu/grad/prospective-students/programs/gradcerttpc/index.html.

    The Graduate Certificate in Technical and Professional Communication (TPC) prepares certificate-holders to apply enhanced workplace and technical communication skills in their current employment context or in a future context. This 15-credit Certificate can be added in as a part of an existing UNM student's MA or Ph.D. program, effectively as a depth area in TPC (for ENGL graduate students). The Certificate can also be taken as a freestanding credential, ideal for working professionals in science, technology, non-profit administration, engineering, and the military. This Certificate can be completed face-to-face with occasional online courses, or fully online. The Certificate's foundation in social justice and ethics guides the communication outputs students will create, such as reports, feasibility studies, white papers, usability tests, data visualizations, procedures, and more. Applicants to the Certificate program should already hold a Bachelor's degree. The program requires 15 credit hours of coursework to culminate in a final portfolio (submitted to the Program Director) of the students' best work accompanied by a reflective memorandum that considers selected program outcomes. There is no foreign language requirement for the completion of the Certificate.

    The 15 credit hours of coursework are distributed across core and distribution requirements as follows, in two tracks (Standard track and Grant and Proposal Writing track)

    Standard Track
    6 credit hours of core requirements:
    - Technical and Professional Communication (ENGL 502)
    - Ethics in Technical and Professional Communication (ENGL 535)

    9 credit hours of electives, chosen from the following (with other Rhetoric and Writing and other department courses accepted as substitutions with Program Director's approval)
    - User-Centered Design and Usability (ENGL 512)
    - Editing (ENGL 517)
    - Proposal and Grant Writing (ENGL 518)
    - Visual Rhetoric (ENGL 519)
    - Topics in Professional Communication (ENGL 520)

    Grant and Proposal Writing Track
    15 credit hours of core requirements:
    - Technical and Professional Communication (ENGL 502)
    - Proposal and Grant Writing (ENGL 518)
    - Ethics in Technical and Professional Communication (ENGL 535)
    - Research Methods (ENGL 540)
    - Graduate Internship (ENGL 598)

What are the roles of a BSGP TA in the SOMREO courses?

BSGP students have the option to TA for a stipend only, for credit only, or for both a stipend and for credit, within a given semester. CUST students are required to TA for credit at least once, for 2 credits. All BSGP students are welcome into the for-credit option. The for-credit option emphasizes content development to enhance future teaching, instruction, and mentoring roles, while the for pay is to compensate the student for administrative duties.

The following breakdown should be shared with both the course director/instructor and the potential TA BEFORE contracts are signed to ensure the best option for the students and course structure. Specific details of expectations within each TA assignment should also be discussed clearly at the start of the semester. It is the instructors responsibility to do regular (min. once a month) direct check-ins with the TA to ensure and maintain clear expectations and communications. This will also serve to balance TA autonomy with accountability.

For stipend – Administrative duties only

- Course preparation
    - Organization and preparation of materials or sessions only from the administrative side, not substantive content. Including invitation of speakers and logistics.
    - Participate in planning sessions from an administrative perspective.
    - Maintaining course materials in Canvas

- Course Instruction
    - Lead review sessions, but only from the programmatic angle. No content development should be requested, including development of practice problems or an instructional approach to the review sessions.

- Grading, Evaluation, & Attendance
    - Proctored exams
    - Help with grading of student written assignments.
    - Grade homework
    - Grade quizzes and exams
    - Conduct student surveys
    - Maintain student class attendance records.

- Other duties
    - Attend class
    - Office hours to help with student questions, with an emphasis on programmatic or administrative roles.

For credit (2 credits) – Course development duties
The specifics to what type of materials or course development are dependent on the specific assignment. Course directors/instructors should be prepared to provide substantive feedback to the TA for their growth as a future educator. They are required to complete a formal evaluation of the TA (via THIS form).

- Course preparation
  - Organization and preparation of materials or sessions from the substantive content specific side. This includes review and edits to exams or homeworks.
  - Participate in planning sessions from a content perspective.
  - Build, develop, or modify course materials for Canvas
  - Assist course instructors in creating the syllabus, lectures, or other course materials. This could also include high yield notes, ppt slides (didactic, flipped, etc.).

- Course Instruction
  - Lead class discussion topics
  - Create review sessions content
  - Develop and present lecture content
  - Serve as a final project/paper mentor

- Other duties
  - Provide student tutoring within reason.

Information for course directors

- All TAs will complete a feedback form/evaluation at the close of each semester. This will ensure equity across TA duties and adherence to allowed responsibilities.
- *For stipend assignments* are for 10 hours per week assignment as a 0.25 FTE assistantship.
- *For credit assignments* are for a 3-4 per credit hour per week (6-8 hours for the 2 credit course). This results in 96 – 128 hours for a 16 week semester.
  - *Guest lectures* – the primary instructor/course director MUST be present during TA guest lectures to ensure accurate and complete presentation of material. It is the responsibility of the primary instructor to "fill in the gaps" as needed.
  - *Review sessions* – TAs can lead these sessions without the presence of the primary instructor.
  - *Project Proposal* – Primary instructors should provide written documentation of expected duties associated with this appointment at the start of the semester. This document MUST be shared with the CUST director and SOMREO.

Background on these changes

We sent a request for feedback to all current and recent (the past 2 – 3 years) BSGP course directors and student TAs to gain a better understanding of how the TAs within the BSGP program are currently utilized, and ways the TAs could be incorporated. The goal of this assessment is to use these data to adjust the TA assignments within the BSGP program to maximize the benefit to all students, but also adjust for CUST student benefits for TAing for both credit and pay, without "double-dipping."

Targeted recipients received this email on March 30, 2023, with a reminder on April 20, 2023.

"The SOMREO is evaluating the approach to TA's within the classroom and we want to make sure that we are effectively supporting both the students and the faculty as best we can. In an effort to make sure we have a grasp on how things currently run within each course, we are asking for your feedback. Please complete this brief survey (https://forms.office.com/r/JC5WCkj05L) by May 10, 2023, to ensure your perspective is included as we grow, improve, and keep moving forward."

Results
Participants

- Sixteen (16) individual responses
  - Six (6) course directors/instructors (CD)
  - Ten (10) BSGP student/TA (TA)

Courses associated with the TA position

- BIOM 422 – Methods (TA)
- BIOM 501 (CD)
- BIOM 507 (TA)
- BIOM 508 (2 TAs)
- BIOM509 - Fundamentals of Neurobiology (CD & TA)
- BIOM 510 (2 CD)
- BIOM 514 - Immunobiology (CD & TA)
- BIOM 522 (TA)
- BIOM 525 - CMBD Journal Club (TA)
- BIOM 555 (CD)
- IMSD bootcamp (CD)
- Neuro Elective - Neurophysiology (2 TAs)
- MD/PhD Translational Science Journal Club (TA)

What were the primary duties of a TA in this course?

- Course preparation
  - Preparation of materials and events for students
  - Organize student orientation events
  - Participate in planning sessions
  - Maintaining course materials in Canvas
  - Coordinate with invited speakers regarding logistics of the visit
  - Assist professor in creating syllabus/lectures
- Course Instruction

- o Lead class discussion topics during the 2nd hour of the class.
  - o Create and conduct review sessions
  - o Led one session of a panel or single guest lecture
- Grading, Evaluation, & Attendance
  - o Proctored exams
  - o Help with grading of student written assignments.
  - o Grade homework
  - o Grade quizzes and exams
  - o Conduct student surveys
  - o Maintain student class attendance records.
- Other duties
  - o Attend class
  - o Office hours or student tutoring as needed

In what other roles could a TA potentially contribute to this/these course(s), but has not yet?
- Course materials
  - o Help with preparation of on-line materials.
  - o Develop course content for a class session or two, including high yield notes, ppt slides (didactic, flipped, etc.), then run session.
  - o A TA could potentially serve as a final project/paper mentor.
- Additional comments
  - o TAs are given autonomy. If we wanted to, we could do more.

Do the TAs typically have a role in course development or delivery? Explain.
- No
- Yes
  - o In the review or discussion sessions
  - o Through review and edit test questions or homework assignments
  - o Very minor. TA may help maintain course materials
  - o Yes. We do everything

Additional commentary
- For credit should be focused on developing and delivering a session or additional course content/material. If the TA is a CUST student, then any course development (incl. syllabi) and/or content delivery should count toward CUST (BIOM 542 – Teaching Assistant Practicum).
- Monetary compensation should be focused on TA assignments related to administrative work.
- Lack of oversight can create unequal efforts for equal stipend, even within a single course.
- Some courses can accommodate course development, others have too high of an administrative workload to allow for this.