

## Faculty Development Plan

(This version has been shared with my faculty mentor and chair and incorporates feedback received.)

### I. Self-assessment of strengths, skills, competencies, interests

#### Strengths, skills, competencies:

- hard working
- student-centered
- thoughtful/careful in research and relationships
- dedicated collaborator
- greater good mentality
- creative/idea generation
- framing narratives in research/proposals
- expressive: emotion, apology, appreciation
- self-reflective/self-awareness
- fostering safe learning environment
- empath
- humor

#### Interests:

- Mechanisms of genome evolution, diversification
- Biodiversity
- Computational biology
- Pedagogical best practices
- Humanities: literature, art

#### Opportunities, areas of desired development:

- Grant writing
  - Grant writing efficiency/effectiveness
    - Measured by rate of proposal submission and secured external funding
  - Concision in writing
- Teaching/Mentorship
  - Balancing accessibility/student support with rigor in teaching
  - Time management for efficient student interactions (in lab and teaching)
  - Aligning student researcher efforts to highest priority lab research products
- Research
  - Balancing progress Lab research products with efforts on external collaborative projects so both are successful.
  - Fostering collaborations with folks whose skills complement mine, so I don't have to develop all the skills in-house.
- Service
  - Efficiency/time management as a reviewer

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## II. Citizenship

### *Professional Goals, Plans, Accomplishments*

#### **Goal 1: Provide service to my department, college, and university through effective committee membership**

**Plan:** At each annual stewardship meeting with my department chair, I will review committee service assignments in conjunction with my chair reflect on how I am helping to address needs of my department, and whether additional responsibilities are needed. At each meeting I will weigh with my chair whether timing is right to take on committee leadership opportunities. Prior to my annual chair meeting each year, I will also discuss my service assignments with my faculty mentor as an additional sounding board that may inform the discussion with my chair.

#### **Accomplishments:**

- Biology Majors Committee Member
- Served as a Vertebrate Biologist Search Committee Member
- Reviewed Steve Piccolo's teaching (BIO 264 and BIO 165) as a peer evaluator
- Reviewed Steve Piccolo's Bio 165 class

*Reflection on accomplishments:* My participation in the Biology Majors Committee and Vert Biologist search committee member helped me gain institutional knowledge as to the majors we offer and the specific requirement of the Biology Major, the needs of the students we serve, and the hiring process at BYU. I have built stronger connections with our faculty (e.g., working with Liz Bailey, Sam Payne, Mark Belk) which helps me feel more integrated in the department. Serving as a teaching peer reviewer for Steve Piccolo is making me a better teacher as I gain perspective of seeing his process and strengths in the classroom.

#### **Goal 2: Provide service to field as a reviewer, editor and organizer**

**Plan:** I will accept regular review peer assignments (at least one for each submitted paper annually) for journals in my field. I will seek opportunities to serve as a grant review panel member for the National Science Foundation. I will work to build collaborative relationships within my field by organizing symposia at national meetings every other year.

#### **Accomplishments:**

- Peer reviewer for five articles in 2023 and 2024 to date.

## III. Teaching

### *Professional Goals, Plans, Accomplishments*

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### **Goal 1: Establish and practice a growth mindset-driven approach to teaching and incorporate research-based pedagogies**

**Plan:** I will practice reflective writing at least monthly for each teaching assignment, so I have a detailed record of areas for potential improvement for future semesters. The reflections will document areas of specific lectures and in-class activities that landed well or need revision. They will also address aspects of course organization and assessment that can be improved while observed challenges are still in mind. I will gather mid-course feedback from students using anonymous responses to questions I have developed in past semesters and include reflections on end-of-course student comments. Although I will reflect on all student feedback, I will consider most heavily any themes repeated by many respondents (i.e., if 25% of students are expressing an issue, it may need to be addressed). Before making changes I will ensure they don't compromise outcomes of course objectives or learning outcomes for students. I will seek feedback from the two peer teaching evaluators assigned to me by my department. Based on feedback to date, I want to improve in the specific areas of course organization for both BIO 250 and BIO 641. I will track metrics of student feedback on course organization in subsequent semesters. In addition, I want to update some of the learning outcomes in BIO 250 to include a larger fraction of higher learning domain outcomes (e.g., synthesize, predict, create). I will utilize regular teacher development resources offered by the university – specifically, private consultation with the Center for Teaching and Learning and by completing the STEMFI program for at least one course prior in preparation for CFS – this will ensure my growth is centered around research-based pedagogies.

#### **Accomplishments:**

- I maintained teaching reflection notes for each of the two courses I have taught to date (BIO 641, BIO 250).
- I am incorporating mid-course feedback and student feedback into my reflection notes each semester.
- I am communicating with peer evaluators about my teaching schedule and incorporating their feedback into my course reflections.
- I am currently working with a teaching coach from the CTL at BYU to continue my development.

### **Goal 2: Create inclusive learning environments, foster belonging & learning by faith**

**Plan:** I will work to know my students by name, welcome them to class, and maximize opportunities for them to be seen and heard as individuals. I will be deliberate in incorporating the gospel in personal, authentic ways. I will improve my efforts to identify students who are less engaged in small group discussions in class and use the time to join and discuss with the students who are more isolated. I will model reconciliation of faith and science and point students to Christ and the modern prophets.

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### **Accomplishments:**

- I am working to know student names in my large BIO 250 and BIO 130 sections. I use think-pair-share active learning activities so students can actively participate and be heard in each class.
- I incentivize students to create a community of learners by assigning them to study groups with whom they meet regularly and report their engagement for points.
- In 641 students sign up to share something uplifting at the beginning of each lecture. This helps us know them better and build community separate from course content.
- In BIO 130 students are invited to send in pictures of their pets and we do brief pet spotlights at the beginning of each lecture. Often students who don't add their voices during discussions of content are willing to add their voice to discuss their pet.
- During lecture prep, I reflect on ways to close distance with students through sharing parts of myself and spiritual journey of reconciling my faith with them. I work to connect students to Christ and modern prophets by reiterating resonating messages from recent devotional talks.

### **Goal 3: Prepare students for successful career transitions with effective mentoring**

**Plan:** I will work to support undergraduate experiential learning fostering student-led inquiry. I will maintain four to eight undergraduate student researchers in the lab through mentored research and paid positions. I will work to recruit graduate students and support existing biology graduate students in their development in teaching and research. I will provide regular research presentation and coauthor opportunities for students in the lab and support their transitions to new positions.

### **Accomplishments:**

- I have recruited ten undergraduate students to the lab in the last year. These students are contributing to several ongoing projects, and some are beginning to pursue self-directed projects. I also mentored six majors in their semester-long bioinformatics capstone research project.
- I made a strong effort to recruit graduate students last cycle and though I wasn't successful I have continued recruiting efforts in the current cycle. Two Master's students have indicated interest in joining the lab and I am hopeful to bring on one of the two. I am serving on the graduate committees of six graduate students.

## **IV. Research**

*Professional Goals, Plans, Accomplishments*

**Goal 1:** Develop and practice a growth mindset as a scholar and principal investigator.

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**Plan:** I will work to grow as a scholar and PI by leveraging university resources that support research activities and the mentorship of my colleagues. Each semester I will hold inventory meetings with lab members to gather and incorporate feedback on aspects of the lab environment that can improve. I will work with my new faculty mentor to incorporate successful practices they employed to launch a successful laboratory.

### **Accomplishments:**

- Faculty Learning Community Discussion – preparing for 3<sup>rd</sup> year Review Oct 25, 2023
- Met with current undergrads in lab to assess their progress and areas where we need to adjust. I identified cases where shift in topics would align more closely to student interests and a case where more imposed structure will help the student.
- I have attended two lunches with my faculty mentor and also a few informal meetings in the last year to discuss questions that arise.

**Goal 2:** Develop a productive collaborative research program with external funding.

**Plan:** I will work to secure external funding by submitting two to three proposals in each of my pre-CFS years, including one major proposal to an external funder per year with priority placed on the NSF CAREER award. I will seek feedback on grant writing from successful peers and by serving as a reviewer on grant panels.

### **Accomplishments:**

- Submitted an NSF proposal in collaboration with Steve Piccolo (not funded)
- Submitted collaborative College of Life Sciences IDR which was funded and is helping expand collaboration with two labs (Standing and Weber labs) in the college.
- Attended 4-day Grant Writing Bootcamp
- Attended Grant Funding Basics Seminar – BYU Research Dev. Office, Sept 20, 2023
- Presented invited talk at ESA National Harbor

**Goal 3:** Publish three to five papers per year prior to CFS.

**Plan:** I will prioritize writing and manuscript preparation in my research group and work to establish new collaborations as opportunities arise. I want to become an increasingly efficient writer by scheduling time to write each day, even if small blocks of time and track success on a daily calendar.

### **Accomplishments:**

- In 2023 I published two manuscripts
  - BYU undergrad coauthor Ashlyn Powell
  - UNO undergrad coauthor Dez Marshall

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- In 2024 I submitted five manuscripts, two were published (see next point for others)
  - one with a (former) BYU undergrad first author whom I mentored with Paul Frandsen.
- In 2025 one manuscript is published to date, one is in revisions, one is in review with goals to submit two more.
  - UNO undergrad coauthor Dez Marshall
- Submitted four papers to date in 2024, two of which are published, two are in review.
- Over the last two months I began implementing shorter, frequent writing blocks which has improved the pace of writing progress on several fronts. I keep track of my progress here with a sticker chart (i.e., just like a small child).

## V. Relationship between individual goals and university/department aspirations and needs

I feel fortunate to be at BYU and part of its unique mission. Below are several ways that my individual goals are aligned to the aspirations and needs of university and my department.

- Teaching/Goal 2 above aligns to the “spiritually strengthening” aim of a BYU education. In addition, that goal aligns to BYUs aspiration of fostering belonging among students.
- Teaching Goals 1–3 and Research Goal 2 are aligned to creating an intellectually enlarging and character building as I focus on effective, student-centered teaching and research and continue to work towards improving my capacity (Teaching/Research Goal 1 to lift students in the classroom and lab.
- Teaching and Research Goals 1, Teaching Goal 3 are also aligned to my department’s aspirations to build a large mentoring footprint that serves our students. My research goals (1–3) are aligned to productivity aspirations of our department in which we want to maintain research excellence in publishing and grant writing which supports our undergraduate and graduate students with career growth opportunities (Teaching Goal 3).
- Teaching Goal 1 aligns to our departmental aspirations to use strong pedagogical practices in the classroom.

## VI. Resources

To accomplish the above goals, I will need to rely on opportunities offered by the university that facilitate ongoing training and with teaching and research (workshops, etc.). In particular I will focus on workshops that support grant writing (e.g., Grant Writing Bootcamp) and STEMFI for teaching. I need to rely on supportive colleagues and mentors within my department that can help me grow into my goals – I have made

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progress here, but I want to initiate more formal and informal connections with members in my department in coming semesters (measured by number of new collaborations established or informal meetings like lunch).

I need enough effective research space and molecular/computational equipment to support the students I will mentor. I continue to ramp up lab work with students and will monitor how effectively we are using the space we have and whether needs are met – I will reflect on space requirements in my annual chair meeting. As part of equipment needs, I will schedule a meeting with the center for research computing to assess how adding a dedicated node might or might not make sense for my research group.

I need to take advantage of external and internal funding mechanisms to provide maximize the opportunities of my students as they work to accomplish their goals in my lab – my short-term goals include submissions to the NSF and BYU Charles Redd Center for Western Studies.

**Goal 1: Implement lecture-by-lecture student learning outcomes in BIO 250**

**Report on accomplishments:**

After auditing BIO 250 prior to my first time teaching, I decided to implement lecture-by-lecture student learning objectives (SLOs) as I built around the existing content taught in past sections. Each lecture I began by showing students the learning outcomes for that day and directed students back to those learning outcomes as they studied. I ensured the SLOs aligned to exams and tried to span different levels of Bloom's Taxonomy in writing outcomes. I am pleased to have these SLOs implemented and look forward to improving upon them moving forward.

**Reflections on next steps:**

The learning objectives I implemented were largely retrofit to align to the existing exams that have been offered in past sections (but are always tweaked a bit). Because the exams were largely assessing lower-level knowledge domains of Bloom's taxonomy, the bulk of SLOs were in that range. Moving forward I want to update both exams and SLOs to have a higher percentage of SLOs and assessment questions that push students toward higher-level mastery (i.e., synthesize, create, predict).

**Goal 2: Create inclusive learning environments, foster belonging & learning by faith**

**Report on accomplishments:**

I worked hard to know the names of all 105 BIO 250 students last semester. I believe I learned 60–70% of their names by the end of the semester. I used a variety of strategies to help students be seen/heard as individuals in the course. I regularly used think-pair-share active learning activities. I incentivized students to create a community of learners by assigning them to study groups with whom they meet regularly and report their engagement for points. Feedback from course evaluations suggested my efforts to connect individuals to the course was positive and many students reported benefitting from group work, even if they were initially skeptical.

I spent – a lot – of time outside of class working with students Fall 2024, perhaps too much given my other responsibilities. I spent multiple hours working with each of nine students (four of whom had accommodations) before at least one of the three exams (some for all three). In addition, I spent several combined hours working with 13 additional students in shorter meetings resulting in outside-of-class connections with over ¼ of the total enrollment. Over half the total time spent were with students I made deliberate efforts to support due to their having accommodations or having identified them as struggling (or both).



Several students in the class (including several listed above) showed major jumps in performance between Exams 1 and 2, or Exams 2 and the final. Many students noted in student evaluation comments that the class was difficult – too difficult for a 2-credit course. That sentiment is reflected in their reporting high number of hours spent outside of class (well above the university, department, college averages per credit hour). Thus, the students appear to view the course as rigorous.

I also emphasized connections to the gospel throughout the course. Sometimes these connections came up spontaneously. Other times I included slides with quotes/scripture that deliberately prompted connections. Student feedback on this point was also strong in student feedback.

### **Reflections on next steps:**

Critical feedback from student evaluations mostly centered on course organization, some of the content feeling rushed, occasional lack of clarity of expectations (especially with the writing assignment) all of which seems fair and consistent with my own reflection of the aspects of delivery I most wanted to improve. Overall, student feedback across the board was quite positive and I am pleased that many of the students reported feeling they were in a safe, spiritually uplifting learning environment, major intellectual growth, and that I was accessible, passionate and knowledgeable about the content, and genuinely interested in their success.

In the future I want to increase the number of times students need to connect with their groups from six to ten. I want to improve the spiritually strengthening focus of the course by creating more opportunity for students to discuss with each other ideas/impressions during the course that connect to the gospel.

### **Goal 3: Improve as a teacher by practicing a growth mindset-driven approach to improving teaching through collecting and responding to self-and student-feedback.**

#### **Report on accomplishments:**

I kept a live document of self-reflections throughout the semester to document successes and failures during the delivery of the course I will use to make adjustments in future offerings of the course. In BIO 250 I gathered mid-course feedback through an anonymous poll. A consistent theme among students is they wanted more opportunities to practice content prior to exams. I generated practice quizzes that modeled exam questions and

allowed practice opportunities. Some students were also quite stressed about the 95% threshold for an A given their performance on Exam 1. Past sections of BIO 250 didn't have a safety net policy that let students recover from a bad exam performance. Research suggests such policies are helpful in reducing attrition and biasing success against students with less academic experience. I implemented an exam replacement policy that allowed students to improve the score of an earlier exam by up to 5 points if they scored higher on the final. Many students benefitted from this policy and demonstrated notable improvement. Student feedback on this policy was positive (perhaps, not surprisingly).

**Reflections on next steps:**

- I will continue self-reflections and iterative refinement of the course. I will share my reflections with my faculty mentor and peer teaching mentors and seek their feedback. Next semester I plan to provide students with more practice opportunities prior to Exam 1 so they feel less early stress in the learning process. I will likely shift the A threshold to 93% in future semesters, keep the exam replacement, but work to include more assessment questions that are high-level on Bloom's Taxonomy to differentiate the students' mastery of the content.

## BIO 250 Evolutionary Medicine Course Syllabus

Fall 2025, 2 credits

Lecture: T/TH 2:00–2:50 pm (221 MARB)

### Introduction:

Welcome to B250! I look forward to meeting and learning with each of you this semester. I hope this course will be spiritually strengthening, intellectually enlarging, character building, and help foster your commitment to lifelong learning and service ([Aims of a BYU Education](#)).

### Instructor:

Email:

Office: LSB 4144 (4<sup>th</sup> floor, east side of Life Sciences Building)

Office Hours: Tuesdays and Thursdays 3:00–4:00 pm, or by appointment

### TAs:

### Course Purpose

Evolutionary Medicine is at the intersection of the disciplines of evolutionary biology and medicine. While medicine is most focused on diagnosis, treatment, and prevention of conditions that disrupt human health, evolutionary biology deals with much more fundamental questions of “why”. Why does health tend to decline with age? Why do viruses persist, and why are some more virulent than others? Why are humans susceptible to addiction? Why menopause? Why back pain? Fundamental principles of evolutionary biology applied to human health can provide novel insights into the “why” questions of medicine, which can in turn lead to improved diagnosis and treatment.

Most medical school curricula present students with an unordered smattering of information and skills. The information and skills provided are highly relevant to medicine but have no theoretical or foundational framework upon which to hang. BIO 250 is intended to help you resolve this problem. We built the course around the fact that evolution is conceptually *the single most important* biological discipline as measured by its ability to tie together all other fields of biology, and it shines a particularly critical light on the human condition in health and disease. Without the unifying framework of evolution, the biological sciences and indeed, all of medicine, would exist as a set of isolated, specialized, unlinked fields. Theodosius Dobzhansky was right when he said that “nothing in biology makes sense except in the light of evolution.” The National Academy of Sciences similarly states that evolution is “the most important concept in modern biology, a concept essential to understanding key aspects of living things”. Thus, an

intended outcome of this course is to provide you with a conceptual framework that gives order and structure to all your studies in the life sciences.

### Student Learning Outcomes

1. Students will be able to provide detailed explanations of the processes of evolution by mutation, migration, genetic drift, non-random mating, and natural selection using examples from human medicine.
2. Students will be able to explain adaptation, providing examples from medicine.
3. Students will be able to describe the hominin fossil record and discuss evidence that clarifies the evolutionary history of anatomically modern humans.
4. Students will critically evaluate and synthesizes the scientific literature surrounding topics of human health and propose how an evolutionary framework can inform the next steps of discovery.
5. Students will have a better understanding of their physical body and how it relates to their spiritual identities as children of God.

### Teaching Philosophy

My approach to teaching this course has two main goals: (1) create a safe learning environment; (2) maximize discussion and active learning opportunities that help us explore and internalize the content. I will work to create a learning environment where students can be confident in their belonging but vulnerable in their knowledge -- asking questions, while also being challenged. I ask that students contribute to an inclusive learning environment themselves in the classroom and study groups by being respectful peers, practicing thoughtful listening, receiving and giving constructive feedback, displaying courage in vulnerability, and increasing love and appreciation for each other and course content. I promise to do the same. I hope that Christlike community and belonging among students can increase as we learn together.

Evolutionary Medicine is an emerging, but already vast discipline. It is impossible in a single semester to cover this field in its entirety. Hence, the topics covered in class must be limited. We'll do our best to cover a selection of important and interesting topics. More than memorizing facts, I hope that you acquire and improve skills in critical thinking and problem solving -- better able to think about human health like a scientist.

### Grading

Final grades will be determined based on points earned from:

- three exams
- a review paper written on topic of your choice
- five literature summaries

## Course Development Goals Report BIO 250, and BIO 250 Syllabus

- participation in six study group sessions
- a couple other very minor assignments
- See Learning Suite/Grades for a detailed breakdown.

Grading on a curve discourages students from helping each other learn, which works against the positive learning environment I hope to foster. Instead, the top three student's total scores will be averaged and that averaged total set as 100%. Percentage scores for everyone else will then be calculated using that baseline, and letter grades will be assigned according to the grading scale:

Grade	Percent
A	95%
A-	90%
B+	87%
B	83%
B-	80%
C+	77%
C	73%
C-	70%
D+	67%
D	63%
D-	60%
E	0%

### Exams (~66% of final grade)

- There will be three exams – two midterms and a final
  - All exams are given in the Testing Center
- Exam questions will be asked in multiple formats, including multiple choice, fill in the blank, short answer, longer answer.
- TAs will hold review sessions before the exam to help you prepare, and after exams to sort out misconceptions.
- Recent exams will be available to review until the Thursday following the respective the exam.

### Re-grading

As an instructor/TA team we will work hard to ensure grading efforts are in sync, consistent, and fair. Questions may still occasionally arise for students. Office hours and review sessions are good opportunities to clarify questions and discuss potential

misunderstandings about content on your end. If you have identified a grading error on our end, you may request a re-grade using by taking the following steps:

- On a separate sheet of paper, write a note identifying the problem and why your answer is correct, providing documentation (such as specific page numbers in your text). Rather than just explain why you made the mistake, be sure to demonstrate that your answer is correct.
- Suggest how the grade should be changed. For example, “Increase my score by 2 points” or “+2 points.” If you do not suggest what should happen, no change will be made.
- For the sake of precision, if you request a re-grade, the entire exam/assignment, not just the disputed question will be graded.
- For exam re-grades, return your exam to me by 5:00 pm on the Monday after the exam is available to review.

## Participation

There will be many opportunities in-class and in study groups for you to engage with course content alongside your peers. As you prepare for class and contribute, your active participation will produce some of your best learning moments. Actively participating requires some vulnerability, which can be uncomfortable at times. That discomfort can be reduced through our own commitment to practicing – do your best to strap in and add your thoughts and questions to class/groups discussion. That discomfort can also be reduced by supportive peers and instructors. I hope we can all practice adding our voice, and also validating/exploring viewpoints of others as they practice adding their voice. Communicating effectively within science, society, relationships, etc., takes a lifetime of practice. I am excited that we get to practice together. 😊

## Study Groups

This semester you will be assigned to a study group. You will receive credit for meeting with your group outside of class for at least 90 minutes every other week. We use this approach because research suggests that studying in groups of 3–5 students accelerates learning. As you meet in groups consider using the following model. Each student takes a turn as teacher, student, and fact checker. The teacher stands at the white board and reviews important concepts, teaching them to the other students. The fact checker sits with the text, class notes and PowerPoint slide material, and corrects mistakes, prompts, and fills in the gaps. Students practice active listening and ask questions. Again, research suggests this is a highly effective way to learn science – give it a try.

## Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

## Preventing & Responding to Sexual Misconduct

*The health and well-being of students is of paramount importance at Brigham Young University. If you or someone you know has experienced sexual harassment (including sexual violence), there are many resources available for assistance.*

In accordance with Title IX of the Education Amendments of 1972, BYU prohibits unlawful sex discrimination, including sexual harassment, against any participant in its education programs or activities. The university also prohibits sexual harassment by its personnel and students. Sexual harassment occurs when

- a person is subjected to unwelcome sexual speech or conduct so severe, pervasive, and offensive that it effectively denies their ability to access any BYU education program or activity;
- any aid, benefit, or service of BYU is conditioned on a person's participation in unwelcome sexual conduct; or
- a person suffers sexual assault, dating violence, domestic violence, or stalking on the basis of sex.

University policy requires all faculty members to promptly report incidents of sexual harassment that come to their attention in any way, including through face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of sexual harassment should be reported to the Title IX Coordinator at [t9coordinator@byu.edu](mailto:t9coordinator@byu.edu) or (801) 422-8692 or 1085 WSC. Reports may also be submitted online at <https://titleix.byu.edu/report> or 1-888-238-1062 (24-hours a day).

BYU offers confidential resources for those affected by sexual harassment, including the university's Sexual Assault Survivor Advocate, as well as a number of non-confidential resources and services that may be helpful. Additional information about Title IX, the university's Sexual Harassment Policy, reporting requirements, and resources can be found at <http://titleix.byu.edu> or by contacting the university's Title IX Coordinator.

## Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. A disability is a physical or mental impairment that substantially limits one or more major life activities. Whether an impairment is substantially limiting depends on its nature and severity, its duration or expected duration, and its permanent or expected permanent or long-term impact. Examples include vision or hearing impairments, physical disabilities, chronic illnesses, emotional disorders (e.g., depression, anxiety), learning disorders, and attention disorders (e.g., ADHD). If you have a disability which impairs your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 801-422-2767 to request a reasonable accommodation. The UAC can also assess students for learning, attention, and emotional concerns. If you feel you have been unlawfully discriminated against on the basis of disability, please contact the Equal Opportunity Office at 801-422-5895, [eo\\_manager@byu.edu](mailto:eo_manager@byu.edu), or visit <https://hrs.byu.edu/equal-opportunity> for help.

## Academic Honesty

The first injunction of the Honor Code is the call to "be honest." Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life's work, but also to build character. "President David O. McKay taught that character is the highest aim of education" (The Aims of a BYU Education, p.6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim. BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including but not limited to plagiarism, fabrication or falsification, cheating, and other academic misconduct.

## Plagiarism

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor. Inadvertent plagiarism, which may not be a violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education where all members of the university are expected to acknowledge the original intellectual work of others that is included in their own work. In some cases, plagiarism may also involve violations of copyright law. Intentional Plagiarism-Intentional plagiarism is the deliberate act of representing the words, ideas, or data of another as one's own without providing proper attribution to the author through quotation, reference, or footnote. Inadvertent Plagiarism-Inadvertent plagiarism involves the inappropriate, but non-deliberate, use of another's words, ideas, or data without proper attribution. Inadvertent plagiarism usually results from an ignorant failure to follow established rules for documenting sources or from simply not being sufficiently careful in research and



Course Development Goals Report BIO 250, and BIO 250 Syllabus writing. Although not a violation of the Honor Code, inadvertent plagiarism is a form of academic misconduct for which an instructor can impose appropriate academic sanctions. Students who are in doubt as to whether they are providing proper attribution have the responsibility to consult with their instructor and obtain guidance. Examples of plagiarism include: Direct Plagiarism-The verbatim copying of an original source without acknowledging the source. Paraphrased Plagiarism-The paraphrasing, without acknowledgement, of ideas from another that the reader might mistake for the author's own. Plagiarism Mosaic-The borrowing of words, ideas, or data from an original source and blending this original material with one's own without acknowledging the source. Insufficient Acknowledgement-The partial or incomplete attribution of words, ideas, or data from an original source. Plagiarism may occur with respect to unpublished as well as published material. Copying another student's work and submitting it as one's own individual work without proper attribution is a serious form of plagiarism.

## Mental Health

Mental health concerns and stressful life events can affect students' academic performance and quality of life. BYU Counseling and Psychological Services (CAPS, 1500 WSC, 801-422-3035, caps.byu.edu) provides individual, couples, and group counseling, as well as stress management services. These services are confidential and are provided by the university at no cost for full-time students. For general information please visit <https://caps.byu.edu>; for more immediate concerns please visit <http://help.byu.edu>.

## Inappropriate Use of Course Materials

All course materials (e.g., outlines, handouts, syllabi, exams, quizzes, PowerPoint presentations, lectures, audio and video recordings, etc.) are proprietary. Students are prohibited from posting or selling any such course materials without the express written permission of the professor teaching this course. To do so is a violation of the Brigham Young University Honor Code. It is also unethical to post your own work (study sheets, papers) from the course on file sharing websites as you are encouraging others to engage in plagiarism. These policies continue indefinitely (not limited to the duration of the semester or term you take this course).

## Belonging at BYU

As an institution, BYU is lucky to have each of you here, and all the experiences you bring with you. I hope our course can reflect the values expressed in BYU's statement on belonging. Given the limited enrollment, our collective experience in this course will be shaped largely by each person enrolled – your individual insights, questions, knowledge, backgrounds, personalities, ect. I hope each student feels they a needed part of our group and that they can share themselves freely, and feel their contributions are valued.

**Goal 1: Improve time management to help develop a productive collaborative research program with external funding.**

**Report on accomplishments:**

I wanted to improve research productivity with better time management this last year. One way I worked to improve time management was to better track time spent on research and writing associated with research and grant proposals. I did this by making and using a sticker chart calendar on which I placed colored stickers for each day in which I spent one or more hour engaged in research (orange stickers) and one or more hour engaged in writing proposals or manuscripts (blue stickers). This has been a visual reminder as to how I am spending my time. I found it motivating at several points in the last year to balance these items in my schedule. A second approach I tried was implementing Pomodoro time management techniques into my daily tasks. This involves setting a timer for 30–45 minutes and working without interruption for that time, then taking a 5–7-minute break. I have found many bursts of productive time by being deliberate in time management in this way.

**Reflections on next steps:**

I will continue using my chart and Pomodoro technique in managing my time. I want to be more deliberate in adding self-imposed deadlines to my calendar for writing activities that are inherently open-ended (i.e., manuscript submission, rolling deadline proposal submission) to ensure there enough structure to complete tasks that are not monitored by anyone but me in the short-term.

**Goal 2: Develop and practice a growth mindset as a scholar and principal investigator.**

**Report on accomplishments:**

- I worked over the last year to be more efficient in my student-interactions within the lab that center around lab research. I met with current undergrads in lab at the beginning of each semester to assess their progress and areas where we need to adjust. I identified cases where shift in topics would align more closely to student interests and a case where more imposed structure will help the student. I also shifted from one-on-one meetings for every student to project group meetings where teams of 2–3 students and I meet. I found this is allowing me to accept additional students into the lab without multiplying meeting requirements and building community among students working in the lab who are improving productivity/engagement by working in teams.

**Reflections on next steps:**

I am pleased by how student contributions to research are shaping up, but still see opportunities for growth. I still haven't figured out quite the best way to align student efforts to the projects I consider of greatest importance to my research

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program – some have effective student contributors while others remain only on my plate. In addition, I want to implement more mechanisms of structure and accountability so students and I can track their progress. The first approach I plan to try is to ask that students write a weekly report on accomplishments and questions that we can cover in weekly meetings.

**Goal 1: Work to improve Biology Majors Fall Social**

**Report on accomplishments:**

I worked with my fellow committee member to improve student engagement with our annual Biology Majors fall social. After a fairly good showing of students last year we wanted to improve the reach of the event. We focused on more proactive advertising through email and in the LSB. I designed and printed a reusable sign to draw attention to the event and draw student traffic. In the end we had slightly lower attendance compared to the prior year. We wondered if the choice to move the social from a Friday to the Wednesday contributed.

**Reflections on next steps:**

In reflecting after the social, we decided to more directly engage students in the planning of the event. For next year we hope to recruit a committee of students that will both help plan and execute the event and form a critical mass of engagement at the event (which includes lawn games outside the LSB) to draw students. We hope this committee creates more sense of community within the major which is currently limited based on student feedback.

**Goal 2: Improve efficiency as a peer reviewer in my field**

**Report on accomplishments:**

In the past I have taken many hours providing feedback for most manuscripts I have peer reviewed. In the last year I worked to put time limits on my efforts there to improve efficiency. I adopted a deliberate strategy in which I read through the assigned manuscript once to consider the study, but with minimal notes. The following day I then re-read the study and provide a report that focuses on the major items that stood out in both readings. This is helping me be more efficient and concise in my reviews, while still giving effective feedback.

**Reflections on next steps:**

I have goal to review at least one paper for each paper submitted in a given year. Meeting or exceeding this goal will be easier if I don't view the process of providing reviewer feedback as a highly time-intensive process. I want to continue to improve efficiency such that the whole review process doesn't exceed 3 hours per manuscript on average. I will begin timing each review to have a better quantitative understanding of time spent and how I can improve.

## Teaching Grant Request

I teach a graduate course called BIO 641, Molecular Evolution. The course explores topics relevant to molecular evolution and helps student gain practical experience with common analyses used with molecular data. In the lab component of the course aims to provide students with practical analytical experience.

The first time I taught the course, students were encouraged to analyze a data set and questions of their choice as long as it encompassed questions of molecular evolution. The next time I teach the class (scheduled for next Winter) I want to change up the lab section such that we analyze the same data set of newly generated, previously unexplored data. We will use the new data to master specific analyses and address biological questions. The lab component will be tied to the primary assessment in the course which is a course project. We will assign students to teams which lead the analysis and writing of specific components of the data analysis and write up. The end goal is that we produce a collaborative manuscript to which all students have made contributions in analysis and writing, each team having stewardship over specific sections. We will submit the manuscript for publication in the months following the course.

I propose to use the \$500 grant to cover sequencing costs of generating genomic data that will be explored as part of the class. The species for which I plan to generate the data (*Bembidion ampliatum*) is a high elevation ground beetle species for which we have complementary data sets (e.g., transcriptomic, population genetic) but for which the proposed genomic data will enable a broader suite of analyses that give students a breadth of analysis tools. The total cost of data generation will be closer to \$800, but I will cover the remaining amount with my research funds. The resulting data are likely to be useful for student-led investigation beyond next winter semester.

I teach a graduate course on molecular evolution (BIO 641