

FACULTY DEVELOPMENT PLAN

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Dept. Chemistry & Biochemistry
August 2021

I. SELF-ASSESSMENT

A. TEACHING

My Teaching self-assessment is based primarily on student feedback collected from the students in my Fall 2020 section of CHEM 481M. Due to social distancing requirements and a few withdrawals arising from COVID-related circumstances, this section only had 16 students. I solicited feedback on my teaching effectiveness partway through the semester, and I also received feedback at the semester's end through the BYU Student Ratings system. In addition to these sources, my self-assessment is based on my own impressions of my strengths and shortcomings, and on feedback from my department teaching mentor who attended a few of my lectures.

Strengths: Overall, the students perceived that I took a genuine interest in them as individuals and that I sincerely cared about the quality of education they received through my instruction. My teaching mentor who attended a few of my class instruction periods said that he admired the rapport that had been cultivated between me and the students, who displayed a good level of comfort in asking unsolicited questions and in responding to my questions about the subject matter. I am encouraged by these elements of feedback since I really did care about each individual student and I put a lot of effort into teaching the course. Although I have much room for improvement in some areas of Instructor Effectiveness, the students rated me favorably on the 'intangible' qualities of helping students in need of assistance, responding to students respectfully, and the BYU aims:

Category	Not at all effective / Detracted	Not very effective / No effect	Moderately effective / Moderately enhanced	Effective / Enhanced	Very effective / Strongly Enhanced	Compared to Dept. peers
Helping students in need of assistance	0%	8%	15%	39%	39%	Slightly low
Responding respectfully	0%	0%	8%	39%	54%	Slightly low
Strengthening spiritually	0%	15%	8%	8%	69%	Slightly above
Enlarging intellectually	0%	0%	8%	8%	85%	Slightly above
Building Character	0%	15%	23%	15%	46%	Slightly low
Leading to Lifelong Learning & Service	0%	23%	15%	23%	38%	Slightly low

Weaknesses: Based on student feedback (with which I largely agree), I need to focus on improving several aspects of Instructor Effectiveness including these areas: course organization, lecture style & student participation, homework quality, and examination techniques. Some of the students sometimes felt lost or inundated in a swirl of information, without having clear guideposts to orient or anchor their learning experience. My lectures sometimes felt like 50-minute sessions of one-directional streams of meandering information instead of well-organized instruction with opportunities for student involvement and participation. Some of the students felt that the homework assignments were overly time-consuming and did not necessarily prepare them for the style of questions they would encounter on the examinations. Finally, my examinations were so

comprehensive and time-consuming, with so much memorization, that many students felt overly exhausted and discouraged by all the cramming and stressful examination process. In at least one case, my “brutal” exams even bred (short-term) resentment toward not just the instructor but even the course and the subject matter themselves—clearly, an undesirable outcome.

Category	Not at all effective / Detracted	Not very effective / No effect	Moderately effective / Moderately enhanced	Effective / Enhanced	Very effective / Strongly Enhanced	Compared to Dept. peers
Explained concepts effectively	0%	31%	39%	23%	8%	Clear need of improvement
Well organized	0%	23%	54%	15%	8%	Clear need of improvement
Student involvement	0%	39%	39%	15%	8%	Clear need of improvement

Areas of improvement to incorporate into Teaching Development Plan

Course Organization: The students will greatly benefit from being provided with clear Learning Objectives for each chapter. Having these Learning Objectives in advance will improve their grasp of the text and lectures, and the homework that I assign and the exams that I deliver should correspond directly with those Learning Objectives. Providing more conceptual ties between chapters will also help the course seem more cohesive, instead of individual chapters seeming like miniature courses unto themselves.

Lecture style and student participation: This will be an important area for me to focus on since my Fall 2021 section will have ~75 students, which will tend to make my student interactions less personal than last year when I had only 16 students. I plan to do several things differently this semester. To promote familiarity, I will ask a different student at the beginning of each class to introduce themselves and offer an opening prayer. To promote student preparedness and in-class activity, I will use iClicker to administer in-class quizzes on the reading material. If the students are better prepared as far as studying the text before the lectures, this should allow my lecture material to branch out beyond the text and enliven the students’ learning experience with current applications of the subject matter in research & medicine. I will also try to have occasional group activities or discussions during a lecture to break up the pace.

Homework: Instead of assigning all the chapter problems, I will select a subset of problems that will directly help achieve the Learning Objectives. In addition, I will assign other homework from outside the book to help them gain familiarity with the subject matter, such as 1) obtaining and aligning protein sequences to understand functional and evolutionary relationships, 2) exploring protein structures in the Protein Data Bank to understand molecular interactions and enzymatic reactions, 3) reading primary research articles to understand technical applications of the biochemical principles we discuss.

Examinations: Instead of testing comprehensively, my testing strategy will be to design shorter exams that *sample* what the students have learned as a means of obtaining a reasonable representation of how well they have grasped the larger knowledge set that the course is intended to provide. I will not provide Exam Guides that detail exactly what content will be on the exams since this would serve to limit the students’ total preparation and frustrate the overall Learning Objectives. Instead, students will rely on the Learning Objectives that I provide—further informed by the assigned text, the lecture materials, the assigned Homework, and the reading quizzes—as a basis for knowing what concepts and facts may be tested on the exam. While some memorization of chemical structures, names, pathways and mechanisms will still be required, my exams will focus more on testing whether the student has obtained the needed conceptual understanding of biochemical principles necessary for understanding physiology, medicine, research, evolution, and current events in the natural world. Instead of having 100% free-response exams, I will write exams that are 50% multiple choice and 50% free-response, possibly allowing more material to be tested in less time, albeit less exactly.

I. (Self-assessment, continued)

B. SCHOLARSHIP

Strengths: I have a good deal of respect within my field regarding my expertise and accomplishments in the areas of Alzheimer’s disease pathogenesis and brain immune cell function. Thanks to my public track record of research performed at Genentech before I came to BYU, I have been now approached by three pharmaceutical companies to provide consulting services related to my research expertise. Although I have not yet obtained outside funding, those who have evaluated the one grant application I wrote and the portion of another grant application that I wrote gave me highly complimentary remarks, saying that I wrote compellingly and persuasively. I believe I have good personal relationships with the graduate students and undergraduates who have joined my BYU research lab, and I believe that I am providing them with good instruction and mentorship to enable their personal growth as research scientists. By the end of the year, I should have a review article (two undergraduate co-authors) and a book chapter (two graduate and one undergraduate co-authors) nearing publication.

Weaknesses: Although I have cachet in my field, I am starting my research program essentially from scratch since I cannot bring any of my program with me from Genentech, and some of the knowledge I acquired there is off-limits. I need to spend more time focusing on finishing my lab set-up, helping my personnel get their (my) research projects off the ground, and writing more grant applications. Running an academic research program that is organized and efficient, with good awareness of budgetary constraints, is a new and difficult challenge for me. I feel a need to do much better in the areas of scholarly organization and execution. Because my Scholarship-related deadlines are less concrete than my Teaching deadlines, I tend to let my Scholarship activities—especially the annoying “paperwork” such as IACUC applications, for example—slip by the wayside while I spend most of my time preparing lectures, homework assignments, and exams.

Areas of improvement to include in Scholarship Development Plan

Organization & time commitment: I will reserve a 2-hour block of time on my calendar each Tuesday and Thursday morning to focus on completing tasks that do not have hard deadlines, such as finalizing equipment purchases, writing SOPs, writing IACUC and IBC applications, and staying current on my field’s literature. I will consolidate my weekly meetings with undergraduate researchers by organizing them into teams led by graduate students or senior undergraduates. I will also meet separately with graduate students to ensure they receive the attention and support they need.

Writing grants & establishing collaborations: I will submit at least two NIH R01 or R21 applications (one in collaboration with another researcher in the department), submit one grant application to a private foundation, and seek to secure a research contract with a pharmaceutical company. In addition, I will lead and mentor my graduate students’ efforts to procure external fellowships or other funding.

C. CITIZENSHIP

Strengths: In terms of internal citizenship, I have served adequately on the Graduate Recruiting Committee by attending monthly meetings, scheduling and delivering a recruiting talk to BYU-H, participating in graduate recruiting weekend activities, and participating in summer intern activities. I am prepared to work on the FAST Grant review committee whenever called upon. I have contributed to our department seminar series by inviting & hosting one speaker in Winter 2021, and I will host two additional speakers during Fall 2021 whom I invited. I strive to attend all department

faculty meetings and activities whenever possible. I am working to establish meaningful research collaborations with Drs. Price, Kelly, and Andersen. In terms of external citizenship, I have provided peer review services for several journals' research and/or review articles; grant review services for multiple Alzheimer's-related funding organizations; and consulting services and speaking engagements for two pharmaceutical companies.

Weaknesses: I have let some of my professional society memberships lapse, along with some of the personal relationships that are engendered by these memberships. I have not set up my laboratory's research webpage.

Areas to continue or improve in Citizenship Development Plan

Internally, I will continue to serve on the GRC, including the delivery of a recruiting seminar to Idaho State University in October. I will continue to attend all faculty meetings and department activities whenever possible. I will set up my lab webpage so that our visibility is improved. I will continue striving to develop collaborative research relationships with Drs. Price, Kelly, and Andersen. In addition to hosting two seminar speakers this fall, I will seek to obtain another commitment for our Winter 2022 series. Externally, I plan to serve on an editorial team for a special issue of Frontiers in Neurodegeneration related to my research field. I will seek to procure one academic and one pharmaceutical speaking engagement for early 2022. I will continue to provide peer review services for journal manuscripts and grant applications as requested (within reason for my personal schedule). I will renew my professional society memberships and reach out to renew professional relationships with targeted individuals at other academic institutions.

II. TEACHER DEVELOPMENT PLAN

To be implemented in CHEM 481, Fall 2021 semester (see Syllabus on pp. 9-13):

- 1. Provide Unit Learning Objectives:** I will provide explicit Learning Objectives for each chapter to help the students incorporate the subject matter from both the text and the lectures into a defined and purposeful intellectual framework. I will do a better job of providing segues and relationships between chapters so that the course content feels more cohesive and progressive. I will also post my lecture slides on Learning Suite before each lecture so that students can preview the material, take notes, and review the material as needed.
- 2. Improve Lecture Style & Student Involvement:** I will build more opportunities for student involvement into my classroom instruction periods. These will include 1) a daily opening prayer and personal introduction from a randomly selected student; 2) in-class quizzes on the assigned reading material using iClicker; 3) more effort on my part to ask questions and generate thoughtful responses instead of just lecturing; and 4) occasional group activities. In addition, I will strive to make the lecture material more appealing by providing interesting applications of the subject matter in medicine or research or personal experience, beyond what is described in the text, at least once in each chapter.
- 3. Improve the Utility of Homework Assignments:** I will strategically select homework problems that directly pertain to the defined Learning Objectives for each chapter. I will also incorporate the utilization of outside tools such as NCBI Protein and Uniprot databases, Clustal Omega protein alignments, and the Protein Data Bank to help broaden the students' hands-on experiences in working with protein sequences and visualizing protein structures and intermolecular interactions. Finally, I will utilize the primary research literature to help the students become more familiar with the practical applications and current discoveries related to the biochemical principles and topics we are discussing.
- 4. Improve the Student Examination Experience:** I will write tests that are less grueling to help improve the students' sentimental feelings toward me, the course, and the subject matter. I would like to avoid having students feel defeated or embittered after taking an exam. Instead of writing 100% free-response exams, I will write a 50-50 mixture of multiple-choice questions and free-response questions. I will test less comprehensively, opting instead to rely on a sampling of the assigned material to be an adequate representation of how well a student learned the desired material. The material I choose to assess will consist of less rote memorization and more conceptual understanding, although memorizing certain elements of fundamental importance will still be required.
- 5. Enhance the Classroom's Spiritual Atmosphere:** Although I received very favorable ratings in this area last year, I believe more can be done. We will begin each day with an opening prayer and personal introduction from a student. I will share my feelings about how our subject matter informs our biological and evolutionary relationships with the natural world, and how these views are enhanced by understanding our spiritual relationships in the family of God. In addition, I will share personal meaningful experiences related to the subject matter, and I will seek to provide an atmosphere comfortable enough for students to do likewise. Finally, I will share personal, spiritual or inspirational experiences related to how I chose my career path and the various means by which my research aspirations have been realized throughout my career.
- 6. Learn from Others:** Ask CTL for help in the form of midterm lecture attendance and SCOT feedback. Attend at least two lectures of CHEM 481 each by Drs. Willardson and Price, and one CHEM 105 lecture by Dr. Wood. Observe their teaching methods look for new ways to improve my own.

III. SCHOLARSHIP DEVELOPMENT PLAN

To be completed by February 2022:

Grant-writing, extramural funding, and collaborative research

(Goals 1-4 overlap with Citizenship Development Goal #11)

1. Help Dr. Andersen write an NIH R01 grant proposal for studying the role of TNK1 in neurodegenerative diseases (due in November)
2. Seek to establish a collaboration with Janssen Pharmaceuticals to study the role of TREM2 in Alzheimer's disease
3. If current R01 proposal on Alzheimer's-related microglial proteomics with Drs. Price, Kelly, Payne (Biology), and Pickett (MMbio) is not funded (TBD this month), revise the proposal and resubmit to another NIH-NIA or other funding mechanism
4. Explore the possibility of a new R01 proposal with Dr. Price on Alzheimer's-related microglial lipidomics and metabolomics (due in October)
5. Submit a grant application to the BrightFocus Foundation for Alzheimer's research (due in November)
6. Help graduate students prepare grant proposals for external funding (see goal 11b below)
7. Schedule an appointment w/ university ResDev office to set up a Pivot-RP account to help identify external funding sources

Publications

8. Finalize book chapter for Royal Society of Chemistry publication (2 graduate and 1 undergraduate co-authors)
9. Complete review article for Trends in Pharmaceutical Sciences (2 undergraduate co-authors)
10. Initiate manuscript assembly on role of pro-inflammatory cytokines in AD models (Genentech data)

Lab setup and organization

11. Physical space and equipment
 - a. Finalize plans for any remaining equipment purchases and place the orders
 - b. Move into E150 for tissue culture work as soon it is remodeled
12. Personnel—organization and addition
 - a. Hire a post-doc
 - b. Graduate students: Each grad student should have one pathway-focused project and one assay/reagent development project. Each grad student should lead a team with two undergraduates under their direction. Each grad student should apply for external funding.
 - i. ■ Johanson
 - Pathway: Microglial PTK2B/CASS4 in Alzheimer's disease
 - Assay development: iPS cell culture, differentiation, and Alzheimer's modeling
 - Support: Assign 2 undergrad asst. Provide guidance for funding application.
 - ii. Wenhan Cheng
 - Pathway: Microglial ITIM & ITAM receptors in Alzheimer's disease
 - Assay development: TREM2 reporter cell assay & lentiviral production
 - Support: Assign 1 more undergrad asst. Provide guidance for funding application.
 - iii. Kevin Bretzing
 - Pathway: Microglial MS4A family proteins in Alzheimer's disease
 - Assay development: Phagocytosis, lysosomal degradation, & genomic modification
 - Support: Assign 1 more undergrad asst. Provide guidance for funding application.
 - iv. Obtain 1 new grad student from Fall 2021 rotations
 - Pathway: APOE/TREM2
 - Assay development: Brain tissue dissociation and cell sorting for multi-omics

- Support: No undergrads or external funding needed during first semester
- c. Undergraduate students
 - Organize all undergrad researchers into teams led by a grad student, a post-doc, or a senior undergrad
 - Formalize a process for bringing new undergrads into the lab and training them
 - Meet weekly with undergrads in teams instead of individually
- 13. Paperwork/documentation
 - a. Institutional approvals—write animal use, virus, and recombinant DNA protocols
 - b. Write SOPs for common lab procedures
 - c. DEA application for controlled substances (animal anesthetics)
 - d. Establish record-keeping for lab reagents & their locations (plasmid libraries, cell lines, etc.)

IV. CITIZENSHIP DEVELOPMENT PLAN

To be completed by February 2022:

1. Help build a valuable **department seminar series** for our students in the Biochemistry area
 - a. Host two speakers for the Fall series
 - i. Joy Zuchero, Denali Therapeutics. Topic: Engineering brain-penetrant antibodies.
 - ii. Robert Lochhead, U. Wisconsin-Madison. Topic: Lyme disease immunopeptidomics.
 - b. Invite at least one speaker for the Winter series
 - i. Target: Jesse Hanson, Genentech, Inc. Topic: Alzheimer's drug research.
 - ii. Target: Carlo Condello, UCSF. Topic: Protein aggregates in neurodegeneration.
2. Serve on an **editorial team** for a special issue of *Frontiers in Neuroscience* on the role of glial cells in neurodegenerative diseases
3. Provide ad hoc **grant review services** for Alzheimer Nederland (1 proposal)
4. Arrange dates for external **speaking engagements** in early 2022 at UW-Madison and at Biogen. With Biogen, also follow up on possible consulting agreement.
5. Renew membership in **professional organizations**
 - a. iSTAART (Int'l Soc. to Advance Alzheimer's Res. and Treatment), in the Immunity & Neurodegeneration professional interest area (PIA). Reach out to PIA leaders.
 - b. SfN (Society for Neuroscience)
6. Continue department service on the **Graduate Student Recruiting Committee**
 - a. Monthly committee meetings & preparation for site visits in Q1 2022
 - b. Contact Idaho St. University, arrange to deliver recruiting/research seminar if they are willing
7. Continue college service on the **FAST Grants Review Committee**
8. Solicit advice from colleagues on whether accepting a position on the editorial board of *Biomedicines* would be a worthwhile use of my time, and reply to the invitation
9. Participate in Faculty meetings & Dept. activities (Grad Student Social, Homecoming Dinner, etc.)
10. **Webpages/publicity**
 - a. Provide information for department webpage
 - b. Provide requested info for department Facebook page
11. **Establish collaborative research relationships** with BYU colleagues within and outside the department, and outside the university (*This goal overlaps with Scholarship Development goals 1-4*)
 - a. Help Josh Anderson write an NIH R01 grant proposal for studying the role of TNK1 in neurodegenerative disease
 - b. Seek to establish a collaboration with Janssen Pharmaceuticals to study the role of TREM2 in Alzheimer's disease
 - c. If current R01 proposal with Drs. Price, Kelly, Payne (Biology), and Pickett (MMbio) for Alzheimer's-related proteomics is not funded, revise and resubmit
 - d. Explore the possibility of a new R01 proposal with Dr. Price on Alzheimer's-related lipidomics and/or metabolomics

CHEM 481 – Biochemistry

Fall 2021

Section 002: W140 BNSN on M/W/F from 12:00 pm - 12:50 pm

Instructor Information

Name: [REDACTED]
Office Location: BNSN C212
Office Phone: 801-422-7241
Office Hours: Tue 12:00pm-2:00pm
Email: [REDACTED]@chem.byu.edu

TA Information

Name: [REDACTED]
Office Location: <https://byu.zoom.us/j/92840406888?pwd=TFhJOXp5SURHVmlvTkM0alQ0cHN0dz09>
Office Phone: Password: 892730
Office Hours: Tue 2:00pm-4:00pm
Email: [REDACTED]@yahoo.com

Name: [REDACTED]
Office Location: <https://harvard.zoom.us/j/94212575197>
Office Hours: Thu 8:00am-10:00am
Email: [REDACTED]@gmail.com

Name: [REDACTED]
Office Location: (assigned as grader only)
Email: [REDACTED]@sara1988@gmail.com

Course Information

Description

This course provides an in-depth introduction to the molecular mechanisms that underlie living systems, especially human physiology. The intent of the course is to provide students with a strong understanding of how molecular structure gives rise to function, how molecular interactions govern biological processes, and how biological processes are interdependent and meticulously regulated. By applying analytical and problem-solving skills, students will develop a deep understanding of the basic biochemical principles that govern cellular organization, protein function, signal transduction, and energetic metabolism. The course will provide students with valuable preparation for the Biochemistry sections of pre-professional exams and for success in biochemistry-related courses, studies, and endeavors at the graduate/professional level. Finally, students will come to more fully appreciate the miracle we call life, including their natural relationships with all living things.

Prerequisites

Students should have completed CHEM 105 and 106 (general chemistry) or equivalent, as well as CHEM 351 and 352 (organic chemistry) before taking this course. Students should have completed PDBIO 120, BIO 130, or an equivalent introductory biology class.

Materials

Lehninger Principles of Biochemistry 8e ebook w/Achieve access <i>Required</i> by Nelson, D iClicker Student app on Smart Phone <i>Required</i>	106.65	106.65
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Learning Outcomes

Mastery of Key Concepts

Demonstrate mastery of key concepts in the Biochemistry subdiscipline and articulate the relationships between chemistry and biology. This outcome is elaborated in outcomes 2-5 below

Explain How Structure Determines Biological Function

Explain how the structure of biomolecules such as proteins, nucleic acids, lipids, and carbohydrates determines their biological function

Enzymes Catalyze Reactions

Describe how enzymes catalyze reactions in terms of thermodynamics, kinetics, and mechanistic strategies

Energy from Metabolic Reaction

Understand how energy is generated from metabolic reaction pathways

Understanding Reactivity in Metabolic Pathways

Push arrows to predict and understand reactivity in metabolic pathways

Communicate in Writing

Communicate scientific ideas clearly to other specialists in writing

Research

Identify and understand primary research articles relevant to a specific biochemical question of current interest

Interpret and Critique Experimental Data

Interpret and critique experimental data relating to biochemical models

Classroom Procedures

Each classroom period will include the following elements: 1) Opening prayer, 2) Reading quiz, 3) Announcements if necessary, and 4) Instruction and discussion related to the reading assignment. Some class periods may include group discussions, surveys, or other forms of active student participation.

COVID-19 Protocols for In-person Instruction

- All students must wear masks when attending in-person classes regardless of vaccination status. Because classrooms will operate at normal capacity students will be unable to maintain physical distance in a way that is consistent and enforceable. Therefore, even vaccinated students must wear masks.
- Instructors must wear masks upon entering the classroom, during any pre-class conversations with students, and upon completion of their lesson. They should replace the mask when visiting with students as they exit the classroom.
- Only those instructors who have been fully vaccinated may remove masks when they are teaching and while maintaining physical distance (6 feet) from students. Not all classrooms permit physical distancing between the teacher and the students; in those cases, even fully vaccinated instructors must always wear a mask.
- Teaching assistants must follow the same mask protocols as other students. If TAs are assigned to instruct the class directly, are fully vaccinated and maintain physical distance, they may remove the mask while in the act of teaching.
- Students who refuse to wear masks when asked to do so should be referred to the Dean of Students (deanofstudents@byu.edu).
- Faculty may urge their students to obtain vaccinations. They should not make vaccinations a condition for access to class, study sessions or office hours, neither should they offer extra credit to vaccinated students.

Teaching Philosophy

Classroom instruction will serve three general purposes: 1) Reinforce key elements of the reading material and provide additional detail; 2) Demonstrate examples of problem-solving; and 3) Enrich the educational experience by discussing laboratory, technological, or medical applications that extend from the reading material.

Learning Objectives will be provided for each chapter to help students understand the purposes of the reading assignments. **Reading quizzes** are intended to motivate students to become familiar with the reading material ahead of time so that difficult concepts, problem-solving skills, or interesting applications can be discussed in class. **Homework assignments** cannot comprehensively cover all the material, but they will help students learn needed problem-solving skills and develop analytical thinking skills.

Exams: Each exam will have a multiple choice section and a free-response / problem-solving section. In order to keep the exams to a reasonable length, it is not possible to comprehensively test everything that this course is intended to help students learn. Therefore, exams will assess students' mastery of the course material by **sampling** the knowledge, problem-solving skills, and analytical skills that have been acquired. Students should not ask, "What do I need to know for the exam?" or "Will x be on the exam?" Such queries will not be entertained since answering them would lead students to focus on only a portion of what they are intended to learn. (In some instances, molecular structures, names, and reactions that students are expected to memorize will be specified during lectures and/or in Learning Objectives.)

Grading Scale & Policy

The course is designed to challenge students learning capabilities. If necessary at the end of the semester, we will use a relative grade scale to ensure that the average grade in the course is at least a B.

Grades	Percent
A	93%
A-	90%
B+	87%
B	83%
B-	80%
C+	77%
C	73%
C-	70%
D+	67%
D	63%
D-	60%
E	0%

Participation Policy

Students are expected to attend class in person unless illness, quarantine, or unusual personal circumstances necessitate remote learning via Zoom. At the beginning of each class period, a student will be randomly chosen to provide an opening prayer, along with a brief self-introduction (name, hometown, major, and intended purpose of BYU education). Any students uncomfortable praying in front of the class should contact the instructor to have their names removed from the selection pool. In addition to the reading quizzes, students are expected to participate in any surveys or group discussions that may occur during some class periods. Students are welcome to ask questions throughout the instruction period if the question pertains directly to the material being discussed.

Quizzes and surveys will be conducted through **iClicker Cloud**. Students should use the **iClicker Student app** on their smart phones.

iClicker Course Title: CHEM 481-002 (Fall 2021)

iClicker Direct link: <https://join.iclicker.com/UFYA3>

Attendance Policy

Students are expected to attend class instruction periods in person. To enable the attendance and participation of students with illness, mandated quarantines, or other circumstances that necessitate remote attendance, all lectures will also be shown live on Zoom.

Reading Quizzes and any surveys will be conducted through iClicker Cloud, with students using their Smart Phones and the iClicker Student app to answer questions. For group discussions, students attending on Zoom will be placed in one or more breakout rooms.

Study Habits

There is more material to be covered during the course than can possibly be summarized and/or discussed in class. **Nevertheless, students will be expected to read and know the material assigned from the book (see the calendar for reading assignments).** Class time will be spent describing basic principles, representative examples, detailed treatments of important concepts, technical applications, and extrapolation of biochemical changes to physiologic consequences. Students should not assume that because a subject was not covered in class that it will not appear on an exam or quiz. **Students will be tested on assigned materials!** Nevertheless, topics addressed in class will be much more highly represented on exams. *Attending class and taking notes will not compensate for not reading and knowing the text.* However, class attendance will help you learn. Students are expected to have read the assigned materials **prior** to their being covered in class to allow for maximal learning in class. Likewise, occasional questions on exams may arise from topics discussed in detail in class but not in the text. **Students are encouraged to form study groups to facilitate learning and to make the course more enjoyable.**

University Policies

Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of 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 Sexual Misconduct

Brigham Young University prohibits all forms of sexual harassment—including sexual assault, dating violence, domestic violence, and stalking on the basis of sex—by its personnel and students and in all its education programs or activities. University policy requires all faculty members to promptly report incidents of sexual harassment that come to their attention in any way and encourages reports by students who experience or become aware of sexual harassment. Incidents should be reported to the Title IX Coordinator at 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 a number of resources and services for those affected by sexual harassment, including the university's confidential Sexual Assault Survivor Advocate. Additional information about sexual harassment, the university's Sexual Harassment Policy, reporting requirements, and resources can be found in the University Catalog, by visiting <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, or visit <https://hrs.byu.edu/equal-opportunity> for help.

Covid 19 Statement

While COVID 19 conditions persist and until further notice, students and faculty are required to wear face coverings at all times during class; faculty are not at liberty to waive this expectation.

Students who feel sick, including exhibiting symptoms commonly associated with COVID 19 (fever; cough; shortness of breath/difficulty breathing; chills; muscle pain; sore throat; new loss of taste or smell; etc.) should not attend class and should work with their instructor to develop a study plan for the duration of the illness.

Diversity and Inclusion in the Classroom

"Because we feel the depth of God's love for His children, we care deeply about every child of God, regardless of age, personal circumstances, gender, sexual orientation, or other unique challenges" (President Russell M. Nelson, "The Love and Laws of God," September 2019). As a university community we strive to foster an educational environment that promotes the personal dignity of every student and accept individual responsibility to eliminate racism, sexism, and nationalism. Our course participation reflects our understanding that every individual is a child of Heavenly Parents. We create learning environments in which every individual is motivated to express their opinions and perspectives and ask questions to augment discussions and learning. We listen to, learn from, and strive to consider thoughtfully the opinions of others. We use language that is polite, considerate, and courteous—even when we strongly disagree.

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.

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>.

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 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.

Respectful Environment

"Sadly, from time to time, we do hear reports of those who are at best insensitive and at worst insulting in their comments to and about others... We hear derogatory and sometimes even defamatory comments about those with different political, athletic, or ethnic views or experiences. Such behavior is completely out of place at BYU, and I enlist the aid of all to monitor carefully and, if necessary, correct any such that might occur here, however inadvertent or unintentional. "I worry particularly about demeaning comments made about the career or major choices of women or men either directly or about members of the BYU community generally. We must remember that personal agency is a fundamental principle and that none of us has the right or option to criticize the lawful choices of another." President Cecil O. Samuelson, Annual University Conference, August 24, 2010 "Occasionally, we ... hear reports that our female faculty feel disrespected, especially by students, for choosing to work at BYU, even though each one has been approved by the BYU Board of Trustees. Brothers and sisters, these things ought not to be. Not here. Not at a university that shares a constitution with the School of the Prophets." Vice President John S. Tanner, Annual University Conference, August 24, 2010