



CHE 312 – Physical Chemistry for the Life Sciences - Summer Session I 2022
Department of Chemistry
Syllabus for Online Delivery

Important Note: Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. It is your responsibility to check Blackboard for corrections or updates to the syllabus. Any changes will be clearly noted in course announcements or through Stony Brook email.

Part 1: Course Information

Course title: Physical Chemistry for the Life Sciences

Course catalog # and section: CHE 312 - 30

Credit hours: 3

General education designation(s) (SBC): STEM+

Instructor name: Fernando O. Raineri

Instructor's Stony Brook email, phone number, and office:

Email: fernando.raineri@stonybrook.edu

Office: Room 519 of the Department of Chemistry.

Office Phone: 631 – 632 – 7898

Office hours: Online Zoom Meetings on Tuesday 2:30 PM – 4:30 PM. The meeting is accessed through the Zoom link in the course's Blackboard site. Also, if you prefer, please direct any questions you might have about concepts or problem solving by email to my email account fernando.raineri@stonybrook.edu.

Where to direct your questions? general questions about the course should be directed to the specially created **General Questions Forum** in Blackboard's Discussion Board. In this way we can avoid relatedly answering the same question and everyone can benefit from the information. Questions of a more personal nature should be sent by email to my address fernando.raineri@stonybrook.edu. When necessary we can also schedule a person-to-person Zoom meeting to further discuss any concerns you are having with the class.

Please be aware that all course correspondence will be directed to your Stony Brook email address.

Course Description (from the SB Undergraduate Bulletin): A one-semester treatment of fundamental concepts of physical chemistry, intended primarily for students of the biological sciences desiring an introduction to physical chemistry. Topics include equations of state; classical thermodynamics and its application to chemical equilibrium in reaction systems, multiphase systems, and electrochemical cells; kinetic theory of gases; transport properties; chemical kinetics. May not be taken for credit by students who have completed CHE 301. Not for credit toward the chemistry major. (3 credits)

Prerequisite: CHE 132 or 152; MAT 132 or 142 or 127 or 171 or AMS 161.

Pre/Co Requisite: PHY 121 or 125 or 131/133 or 141.

Recommended Course Textbook and Materials:

Physical Chemistry: Principles and Applications in Biological Sciences

by Ignacio Tinoco, Jr., Kenneth Sauer, James C. Wang, Joseph D. Puglisi, Gerard Harbison, and David Rovnyak.

Publisher: Pearson; 5th edition (2014)

ISBN-10: 0-13-605606-7

ISBN-13: 978-0-13-605606-7

Please notice that problems for the homework and quizzes are taken from a variety of sources, so it is not necessary to have the last edition of the book. Consequently, previous editions of the book or even physical chemistry books by other authors can be equally helpful in the class.

Recommended Readings/Bibliography:

Throughout the course typeset notes and other bibliographic materials will be provided ahead of the synchronous Zoom meetings (problem-solving flipped-classroom lectures). We highly recommend that you familiarize yourself with the materials ahead of the meetings. Doing so will allow you to follow the discussions more easily. It will also help you to identify those parts where you have difficulties, and you can ask about them in the meetings, with the other students benefiting from the discussion.

Part 2: Course Delivery Mode and Structure

Course Delivery Mode and Structure:

CHE 312 Fall 2022 is an online course, with both synchronous and with asynchronous activities delivered or coordinated from Blackboard and timed according to the US eastern time zone:

Asynchronous: Reading Materials, Video Recordings on Lecture's Contents, Quizzes, and Problem-Solving detailed solutions.

Synchronous: Lectures on problem-solving, and Office Hours. *Please notice that the synchronous Lectures and Workshops will be recorded so that students taking the course in radically different time zones can benefit from what was discussed in the meetings. (The recordings will be under the ECHO360 link in Blackboard)*

More specifically, the course consists of the following components:

A. Recorded lectures, supplementary class notes, and assigned readings.

1. Recorded lectures (viewable with a browser). All recordings will be accessible through the ECHO360 link in the Documents folder in Blackboard.
2. Class notes (in pdf format) that explain in detail the materials discussed in the recorded lectures. In some occasions the typeset notes cover additional materials that, because of time limitations, could not be included in the recordings. Also posted are the detailed solutions of all the problems discussed in the online flipped-classroom lecture. The materials may be found in the specific folder for the lecture in the section Documents/Lectures of Blackboard.
3. Also posted under Documents/Lectures/ are the reading assignments (book sections and other information) for each of the lectures.

B. Synchronous Zoom Lecture Meetings. Attendance not Mandatory.

Mon, Wed: 2:00 PM – 3:30 PM. Online Zoom meetings where lecture topics and the associated problem-solving practice and strategies are discussed “on the fly”. These meetings are recorded and afterwards made available under the ECHO360 link in the Documents folder. All the notes written in the recording are also posted under Documents/Lectures/Lecture #.

C. Weekly Quizzes.

Multiple choice online quiz in Blackboard launched every Tuesday and Thursday at 3:00 PM (eastern time). The due dates for the quizzes are, respectively, on Wednesday and Friday of the same week at 11:59 PM (eastern time). The Quizzes are delivered with the Test facility of Blackboard, and they become visible at 3:00 PM every Tuesday and Thursday in the appropriate quiz folder Assignments/Quizzes/Quiz #. Two attempts per

question are allowed. Detailed solutions for the problems in the quiz will be posted the day after each quiz's deadline.

Technical Requirements:

General: you should have a standard computer system (desktop or laptop) with sufficient memory (minimum 8 GB RAM) and capable internet connection to comfortably operate with Blackboard: upload and download pdf (and occasionally other generic file type) files. You should be aware that in case of technical difficulties you can make contact the University technical help division:

- Phone: 631-632-9800 (client support, Wi-Fi, software and hardware)
- Submit a help request ticket: <https://it.stonybrook.edu/services/itsm>

Your computer system and/or peripherals should also include camera and microphone, so that you can participate in synchronous Zoom meetings (lectures and workshops). If the specs of your computer system are not sufficient you can consult the site

<https://www.stonybrook.edu/commcms/studentaffairs/studentssupport/>

for the possibility of accessing a laptop by loan.

Helpful for Exams: For exams involving problem-solving, you will be mostly using “handwriting with pen and paper”. When done you will have to submit your work. To do this we recommend that you use your phone with a scanner-app (\$5-\$10 price range) capable of producing pdf output and of combining several pages into a single pdf file. ***This is not mandatory, as you still will be able to submit your work in the form of photographs taken with your phone***, but it would streamline and speed-up enormously the grading work on our side.

Part 3: Course Learning Objectives

Learning Objectives:

Upon the completion of the course:

1.- You will be able to discriminate between the concepts of (a) thermodynamic state, (b) variables of state and variables of path, and (c) thermodynamic routes, in order to identify the most convenient thermodynamic paths for implementing a variety of problem-solving strategies in situations concerning the three Laws of Thermodynamics.

2.- You will be able to differentiate between the various thermodynamic potentials (internal energy, enthalpy, entropy, Helmholtz free energy and Gibbs free energy) and, based on the given set of independent variables that frame the problem, select for the analysis the potential function that is most natural.

3.- You will be able to distinguish the different facets of a system in thermodynamic equilibrium, namely the thermal, mechanical, and material equilibrium conditions. Complementary, you will also be able to identify the driving forces (differences in temperature, differences in pressure, and differences in chemical potentials) responsible for the irreversible evolution of a system in nonequilibrium towards the final equilibrium state.

4.- You will be able to manipulate the chemical potential functions to analyze a multitude of chemical, biological, and industrial problems that involve material equilibrium: phase transitions and phase diagrams, equilibrium between phases in single and multicomponent systems, chemical equilibrium, and galvanic cells.

5.- You will be able to recognize and differentiate the role of the components of a galvanic cell, and also how those components interact together to make a galvanic cell a device capable of performing useful work.

6.- You will be able to recognize, differentiate, and implement the methods of chemical kinetics: how to use rate-law equations in both differential and integrated form, what is the role of the rate constants in these equations, and what are the consequences of their dependence with the temperature.

7.- You will be able to recognize the constituent parts of multiple-step reaction mechanisms and to apply the concepts and tools required for their analysis: elementary reactions, reaction intermediates, catalysts, rate-determining step, the prior-equilibrium approximation, and the steady-state approximation.

8.- You will be able to interpret the main aspects of the Michaelis-Menten mechanism of enzyme catalysis, and also to identify the similarities and differences for some of its extensions. You will also be able to discriminate the various forms inhibition in biological catalysis.

9.- You will be able to identify the mechanisms of mass transport processes in materials: diffusion and electrical conductivity, and their respective driving forces.

How to Succeed in this Course:

- i) A very important aspect of successfully taking an online course is managing well your schedule and keeping up with the development of the course and its deadlines. Please access the Blackboard site at least once a day to check for announcements and deadlines (as specified in the syllabus). Equally important is to keep track of the occasional announcements or instructions sent by email to your Stony Brook account.
- ii) Another important feature of the course is the extensive use of mathematics at the level of Calculus of one variable as well as the multivariable Calculus. While it is understandable that at the onset of the course you may feel “out of practice”, we strongly recommend you that you spend time reviewing the math materials without delay; otherwise, you may find yourself left behind only after the first week of the summer session.
- iii) Finally, it is crucial that when dealing with solving problems you try to solve the problems by yourself, focusing on the reasons why all steps are taken, as opposed to memorizing the procedures for each problem. Problems may be formulated in practically an infinite number of ways, making it impossible to memorize the solutions to all possibilities. You need to be able analyze the information and questions in a problem and find by yourself the way towards the solution.

Please notice that Class 3, because of Memorial Day on Monday May 30, is moved to Friday May 27 (Correction Day).

Part 4: Course Schedule

Week	Topic	Student Learning Outcomes	Materials	Activities Assignments	Due Dates Points
Class 1 05/23	First Law of Thermodynamics. System and Surroundings. Heat, Work, Internal Energy, Enthalpy, Heat Capacities. Variables of State and Variables of Path.	Students will discuss and apply the thermodynamic functions associated with the First Law of Thermodynamics. Students will contrast the behaviors of variables of state and variables of path.	Reading assignments and recorded materials.	Participation in Online Zoom meeting: discussion of problem-solving strategies.	Quiz 1 due on Wednesday 05/25 at 11:59 PM.
Class 2 05/25	First Law of Thermodynamics. Equations of State. Solids, Liquids, and Gases. Dependence of Internal Energy and Enthalpy on P, V, and T. Phase Changes. Thermochemistry.	Students will identify the behavior of the thermodynamic functions in applications in both physical and Chemical transformations (phase transitions and chemical reactions).	Reading assignments and recorded materials.	Participation in Online Zoom meeting: discussion of problem-solving strategies.	Quiz 2 due on Friday 05/27 at 11:59 PM.

<p>Class 3 05/27 (Correction Day)</p>	<p>Second Law of Thermodynamics. The Gibbs Fundamental Equation. Temperature and Pressure Dependence of the Entropy. Third Law of Thermodynamics. Applications to Phase Transitions and Thermochemistry.</p>	<p>Students will discuss the use of the Second Law of Thermodynamics to decide of the spontaneity of processes and the nature of thermodynamic equilibrium. Students will analyze the microscopic and the macroscopic interpretations of the thermodynamic function entropy. Students will use qualitative arguments to predict the sign of the entropy change in a variety of thermodynamic process.</p>	<p>Reading assignments and recorded materials.</p>	<p>Participation in Online Zoom meeting: discussion of problem-solving strategies.</p>	<p>Quiz 3 due on Wednesday 06/01 at 11:59 PM.</p>
<p>Class 4 06/01 Materials and Recordings Posted. <i>Midterm 1.</i></p>	<p>Helmholtz and Gibbs Free Energy. Spontaneity Criteria. Thermodynamic Equations of State. Applications to Thermochemistry.</p>	<p>Students will analyze the criteria of spontaneity for processes under the control of different environmental variables: formulations in terms of the Helmholtz and Gibbs free energy functions.</p>	<p>Reading assignments and recorded materials.</p>	<p><i>Midterm 1.</i></p>	<p>Quiz 4 due on Friday 06/03 at 11:59 PM</p>

Class 5 06/06	<p>Chemical Potential.</p> <p>Chemical Potential for Ideal and Real Gases.</p> <p>Chemical Potentials in Ideal Gas Mixtures.</p> <p>Chemical Equilibrium for Reactions in the Gas Phase.</p>	<p>Students will discuss the chemical potential for pure ideal and real gases.</p> <p>Students will discuss the chemical potential of a species in an ideal gas mixture.</p> <p>Students will become acquainted with the quantitative formulation of chemical equilibrium for reactions in the gas phase.</p>	Reading assignments and recorded materials.	Participation in Online Zoom meetings: discussion of problem-solving strategies.	Quiz 5 Due on Wednesday 06/08 at 11:59 PM.
Class 6 06/08	<p>Chemical Potentials in Condensed Phases.</p> <p>Activities and Activity Coefficients. Standard States and Scales of Concentration.</p> <p>Solute- or Henry-type Activity Coefficients.</p> <p>Ionic Solutions</p> <p>Chemical Equilibrium for Reactions in Condensed Phase.</p>	<p>Students will discuss solutions and their constituents: solvent and solutes.</p> <p>Students will become identify how the solute-solvent and the solute-solute intermolecular interactions contribute to the standard chemical potential and the activity coefficient of a solute in solution.</p> <p>Electrolyte Solutions.</p>	Reading assignments and recorded materials.	Participation in Online Zoom meetings: discussion of problem-solving strategies.	Quiz 6 due on Friday 06/10 at 11:59 PM.

Class 7 06/13	<p>Galvanic Cells. Components and Types of Electrodes.</p> <p>Electromotive Force</p> <p>Standard Reduction Potentials.</p> <p>The Nernst Equation and its Applications</p> <p>Phase Equilibria for Pure Substances.</p> <p>Phase Diagram.</p> <p>Coexistence Lines and their Expressions.</p>	<p>Students will discuss the role of the components of a galvanic cell.</p> <p>Students will discuss the daily applications of galvanic and other types of voltaic cells.</p> <p>Students will apply the Nernst Equation In a variety of applications.</p> <p>Students will analyze the equilibrium conditions to find the expressions of the coexistence lines in the phase diagram of a pure substance.</p> <p>Students will discuss the quantitative aspects of the phase diagram, including the location of the triple point.</p>	Reading assignments and recorded materials.	Participation in Online Zoom meetings: discussion of problem-solving strategies.	Quiz 7 Due on Wednesday 06/15 at 11:59 PM.
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<p>Class 08 06/15</p> <p>Materials and Recordings Posted.</p> <p><i>Midterm 2.</i></p>	<p>Liquid-Vapor Equilibrium for Ideal Solutions</p> <p>Chemical Potentials in Ideal Solutions.</p> <p>Deviations from Ideal Solution Behavior.</p> <p>Ideal Dilute Solutions.</p> <p>Colligative Properties.</p>	<p>Students will discuss the applications of the equilibrium conditions and the use of chemical potentials to the study of multicomponent systems.</p> <p>Students will discuss the physicochemical properties of very dilute solutions.</p> <p>Raoult's Law for the solvent and Henry's Law for the solutes.</p>	<p>Reading assignments and recorded materials.</p>	<p><i>Midterm 2.</i></p>	<p>Quiz 8 due on Friday 06/17 at 11:59 PM.</p>
<p>Class 9 06/20</p>	<p>Introduction to Chemical Kinetics.</p> <p>Definition of the Rate of a Reaction.</p> <p>Simple Rate Laws.</p> <p>Differential and Integrated Rate Laws.</p> <p>Rate Constants and their Dependence with Temperature.</p>	<p>Students will discuss the applications of the basic formalism of chemical kinetics.</p> <p>Students will distinguish between the rate of a reaction and the concept of rate constant.</p> <p>Students will discuss the temperature dependence of the rate constants, the use of Arrhenius law and the basic ideas of Transition State Theory.</p>	<p>Reading assignments and recorded materials.</p>	<p>Participation in Online Zoom meetings: discussion of problem-solving strategies.</p>	<p>Quiz 9 due on Wednesday 06/22 at 11:59 PM.</p>

Class 10 06/22	<p>Reaction Mechanisms and their Analysis.</p> <p>Elementary Steps.</p> <p>Complex Mechanisms.</p> <p>Determination of the Rate Law from the Mechanism.</p> <p>The Concept of Rate Determining Step.</p> <p>The Steady-State Approximation and other Approximate Methods of Analysis.</p>	<p>Students will discuss the conditions that a well-formulated reaction mechanism must satisfy.</p> <p>Students will analyze the concept of rate determining step and its role in finding the rate law for a given reaction mechanism.</p> <p>Students will discuss the steady state approximation and become confident using it to derive the rate law for more elaborate reaction mechanisms.</p>	Reading assignments and recorded materials.	Participation in Online Zoom meetings: discussion of problem-solving strategies.	Quiz 10 due on Friday 06/24 at 11:59 PM.
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Class 11 06/27	<p>Catalysis.</p> <p>Enzyme Kinetics.</p> <p>The Michaelis-Menten Mechanism of Enzyme Catalysis.</p> <p>Extensions of the MM Mechanisms and their Rate Laws.</p> <p>Inhibition in Enzyme Catalysis.</p>	<p>Students will discuss the role of catalysts on the rate of a chemical reaction.</p> <p>Students will discuss the MM mechanism of enzyme kinetics.</p> <p>Students will distinguish between the different types of inhibition: competitive, uncompetitive and non-competitive.</p>	Reading assignments and recorded materials	Participation in Online Zoom meeting: discussion of problem-solving strategies.	Quiz 11 Due on Wednesday 06/29 at 11:59 PM.
Class 12 06/29 Final Exam	Materials for the Third Part of the Course.	Students will be tested of the materials of the last part of the course.	---	Final Exam	---

Part 5: Assessment, Attendance, and Grading**Assessment***Formative-type Assessment.***A. Weekly Quizzes.**

Multiple choice online quizzes in Blackboard launched every Tuesday and Thursday at 3:00 PM (eastern time). The due dates for the quizzes are, respectively, on Wednesday and Friday of the same week at 11:59 PM (eastern time). The Quizzes are delivered with the Test facility of Blackboard, and they become visible at 3:00 PM every Tuesday and Thursday in the appropriate quiz folder Assignments/Quizzes/Quiz #. Two attempts per question are allowed. Detailed solutions for the problems in the quiz will be posted the day following the deadline for each quiz.

Summative-type Assessment

The course includes two midterms and one Final Exam. These exams are done during Zoom meetings in which the students have their cameras turned on and aimed at themselves and their microphones muted. The test problems will be delivered by email to the students five minutes before the exam's starting time. The students will solve the problems writing with pen or pencil over paper (or writing on a tablet application with a stylus). We recommend organizing your work in the form of one problem per page. When the exam is done please photograph or scan with your phone the pages with your solutions and (if possible) arrange them into a single pdf file. When you are done assembling your work, please email it to fernando.raineri@stonybrook.edu. You have an extra fifteen minutes after the conclusion of the exam to submit your work. During the assembly and submission process you have to continue to be logged in in the exam Zoom meeting. Only after submission you can log out from the meeting.

The exams dates are:

E1: Wed 1 June 2021 from 3:30 PM – 5:30 PM or from 9:00 PM – 11:00 PM.

E2: Wed 15 June 2021 from 3:30 PM – 5:30 PM or from 9:00 PM – 11:00 PM.

FE: Wed 29 June 2021 from 3:30 PM – 5:30 PM or from 9:00 PM – 11:00 PM.

Each midterm exam and the final exam consists of 5 problems for a total of 105 points (you get an A with 90 points or above. The exam is open book, you don't need to memorize anything. *The exam however is not in multiple choice format: **absolutely every answer that you enter MUST be accompanied with an explanation.*** For example, if a question is asking for the final temperature in a process and you calculate the answer to be 300 K, it is **NOT ENOUGH** to

answer the question with the number. An explanation on how and why you obtained the result must accompany the answer. Even if 300 K is correct, if there is no explanation, the answer is not counted. Also, numerical answers must be accompanied by the appropriate units.

Note: if you are taking the class at a radically different time zone that makes the exam times very inconvenient, please contact me as soon as possible at fernando.raineri@stonybrook.edu to arrange a workable time.

Attendance

In consideration to students that are taking the class from radically different time zones, we will not be tracking attendance to the synchronous events (lectures). Instead, we shall replace the idea of "attendance" with the idea of "participation", and participation in the class will be tracked through the stated assessment methods: online quizzes and online exams.

Grading

The final grade in the class is calculated as follows:

Assessment	E1	E2	FE	Quizzes
% Grade	27	27	27	19

The grade cutoffs are as follows

	A ≥ 90%	90% > A - ≥ 85%
85% > B+ ≥ 80%	80% > B ≥ 75%	75% > B - ≥ 70%
70% > C+ ≥ 65%	65% > C ≥ 55%	55% > C- ≥ 50%
50% > D+ ≥ 45%	45% > D ≥ 40%	F < 40%

Make-up exam will only be considered for those students who contact the Dean of students at

Office of the Dean of Students

Phone: (631) 632-7320

Email: student_supportteam@stonybrook.edu

Student Activities Center, Suite 222

Fax: (631) 632-6756

Stony Brook, NY 11794-2800

HOURS: Monday - Friday, 8:30 a.m. to 5 p.m.

Part 6: University and Course Policies**University Policies:****Student Accessibility Support Center Statement:**

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: <https://ehs.stonybrook.edu/programs/fire-safety/emergency-evacuation/evacuation-guide-people-physical-disabilities> and search Fire Safety and Evacuation and Disabilities.

Academic Integrity Statement:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Important Note: Any form of academic dishonesty, including cheating and plagiarism, will be reported to the Academic Judiciary.

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Course Policies:**Understand When You May Drop This Course:**

It is the student's responsibility to understand when they need to consider withdrawing from a course. Refer to the Stony Brook Academic Schedule for dates and deadlines for registration: http://www.stonybrook.edu/commcms/registrar/calendars/academic_calendars.

- [Undergraduate Course Load and Course Withdrawal Policy](#)
- [Graduate Course Changes Policy](#)

Incomplete Policy:

Under emergency/special circumstances, students may petition for an incomplete grade. Circumstances must be documented and significant enough to merit an incomplete. If you need to request an incomplete for this course, contact me for approval as far in advance as possible.

Course Materials and Copyright Statement:

Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.

Online Communication Guidelines and Learning Resources:

Maintain professional conduct both in the classroom and online. The classroom is a professional environment where academic debate and learning take place. I will make every effort to make this environment safe for you to share your opinions, ideas, and beliefs. In return, you are expected to respect the opinions, ideas, and beliefs of other students—both in the face-to-face classroom and online communication. Students have the right and privilege to learn in the class, free from harassment and disruption. The course follows the standards set in the Student Code of Conduct, and students are subject to disciplinary action for violation of that code. If your behavior does not follow the course etiquette standards stated below, the grade you receive for a posting may suffer. I reserve the right to remove any discussion messages that display inappropriate language or content.

Online Etiquette:

- Offensive language or rudeness will not be tolerated. Discuss ideas, not the person.
- Avoid cluttering your messages with excessive emphasis (stars, arrows, exclamations).
- If you are responding to a message, include the relevant part of the original message in your reply, or refer to the original post to avoid confusion;
- Be specific and clear, especially when asking questions.
- Use standard punctuation and capitalization. Using all UPPERCASE characters gives the appearance of shouting and makes the message less legible;
- Remember that not all readers have English as their native language, so make allowances for possible misunderstandings and unintended discourtesies.

Online Classes Require Better Communication:

It is important to remember that we will not have the non-verbal cues that occur in a face-to-face classroom. I cannot see the confused, frustrated, or unhappy expressions on your face if

you encounter problems. You MUST communicate with me so that I can help. To make the experience go smoothly, remember that you're responsible for initiating more contact, and being direct, persistent, and vocal when you don't understand something.

My Role as the Instructor:

As the instructor, I will serve as a "guide" in our online classroom. While I will not respond to every post, I will read what is posted, and reply when necessary. Expect instructor posts in the following situations:

- To assist each of you when it comes to making connections between discussion, lectures, and textbook material.
- To fill in important things that may have been missed.
- To re-direct discussion when it gets "out of hand."
- To point out key points or to identify valuable posts.

Part 7: Student Resources

Academic and Major Advising (*undergraduate only*): Have questions about choosing the right course? Contact an advisor today. Phone and emails vary-please see website for additional contact information; website: <https://www.stonybrook.edu/for-students/academic-advising/>

Academic Success and Tutoring Center (*undergraduate only*):
<https://www.stonybrook.edu/tutoring/>

Amazon @ Stony Brook: Order your books before classes begin. Phone: 631-632-9828; email: Bookstore_Liaison@stonybrook.edu; website: <http://www.stonybrook.edu/bookstore/>

Bursar: For help with billing and payment. Phone: 631-632-9316; email: bursar@stonybrook.edu; website: <http://www.stonybrook.edu/bursar/>

Career Center: The Career Center's mission is to support the academic mission of Stony Brook University by educating students about the career decision-making process, helping them plan and attain their career goals, and assisting with their smooth transition to the workplace or further education. Phone: 631-632-6810; email: sbucareercenter@stonybrook.edu; website: <http://www.stonybrook.edu/career-center/>

Counseling and Psychological Services: CAPS staff are available by phone, day or night.
<http://studentaffairs.stonybrook.edu/caps/>

Ombuds Office: The Stony Brook University Ombuds Office provides an alternative channel for confidential, impartial, independent and informal dispute resolution services for the entire University community. We provide a safe place to voice your concerns and explore options for productive conflict management and resolution. The Ombuds Office is a source of confidential

advice and information about University policies and procedures and helps individuals and groups address university-related conflicts and concerns. <http://www.stonybrook.edu/ombuds/>

Registrar: Having a registration issue? Let them know. Phone: 631-632-6175; email: registrar_office@stonybrook.edu; <http://www.stonybrook.edu/registrar/>

SBU Libraries: access to and help in using databases, ebooks, and other sources for your research.

- Research Guides and Tutorials: <http://guides.library.stonybrook.edu/>
- Getting Help: <https://library.stonybrook.edu/research/ask-a-librarian/>

Student Accessibility Support Center: Students in need of special accommodations should contact SASC. Phone: 631-632-6748; email: sasc@stonybrook.edu; <https://www.stonybrook.edu/sasc/>

Support for Online Learning: <https://www.stonybrook.edu/online/>

Writing Center: Students are able to schedule face-to-face and online appointments. <https://www.stonybrook.edu/writingcenter/>