

CRSN 15A - Summer 2019

STEM Essentials

Professor: Dr. Stella Hein

Email: stellahein@ucsc.edu

Office hours: By zoom, by appointment. See Canvas guides.

Objectives

The goal of this course is to introduce tips and techniques that will supplement and expand your existing repertoire of science/math problem-solving skills and scientific research and writing. The material covered here will complement your other science and math classes, helping to maximize your performance in those courses and, more importantly, aid in your development as a confident learner and future expert in your subject.

You will learn the science behind how the brain learns and how you can design your study habits to take advantage of that. You will also develop and practice effective strategies for solving science and math problems. All of this will be embedded within a focus on metacognition, a fancy word that essentially describes how you actively monitor the progress of learning. It involves steps like planning your study approach, monitoring the effectiveness during the process, reflecting on and evaluating the success of the strategies that were used, and adopting a “growth mindset” to provide a positive outlook on learning, to put both failure and success in context.

Becoming an expert in your chosen subject area takes experience and practice, which won't end at the conclusion of this course or even when you graduate from UCSC. This course will boost your learning skills, helping you get the most out of your UCSC education and laying the groundwork for success as a life-long learner.

Expectations

We aim to keep the workload as light as possible, while still providing sufficient depth to maximize your skill development. There will be a short reading for most weeks; you should do the assigned reading before viewing the online lecture and consider how the content relates to your experience or could be applied in your other courses. Each class will consist of a pre-quiz on the assigned reading, a lecture that you will view online, a graded online discussion forum and a homework assignment to be submitted online. The lectures often begin with an overview of the reading. The rest of each lecture will be devoted to introducing you to techniques to develop and practice your learning skills. All we ask is that you be engaged in the material and put in a sincere effort in quizzes and discussion forums and thoughtfully and carefully complete all homework assignments. The time spent on all class activities should average ~ 12 hours per week (for a 10-week quarter it would be 6 hours but this is condensed into 5 weeks) but may be less in some weeks depending on the topic.

Grading

Grades will be primarily based on participation in discussion forums and writing assignments. Weekly discussion participation will account for 25% of your grade, homework assignment completion 50%, pre-quizzes on weekly readings 10% and the completion of a small research paper 15%. All late assignments will be deducted 2 points per day late. Some assignments will not be accepted late (all research paper assignments and others with note about lateness).

SCHEDULE

Week	Activities
<p><i>Week 1</i></p>	<p>INTRODUCTION; REFLECTION ON STRENGTHS AND CHALLENGES</p> <p>Pre-reading: https://www.edutopia.org/neuroscience-brain-based-learning-neuroplasticity</p> <p>TIME MANAGEMENT</p>
<p><i>Week 2</i></p>	<p><u>Pre-reading:</u> Evidence-based study methods http://journals.sagepub.com/doi/pdf/10.1177/1745691616645770</p> <p>EVIDENCE-BASED STUDY TECHNIQUES</p> <p>GROWTH MINDSET</p>
<p><i>Week 3</i></p>	<p><u>Pre-reading:</u> Embracing mistakes: (https://www.edutopia.org/blog/teaching-students-to-embrace-mistakes-hunter-maats-katie-obrien)</p> <p>PROBLEM SOLVING</p> <p><u>Pre-reading:</u> Instructor will email class articles to read and review</p> <p>SOURCE EVALUATION AND EVIDENCE BASED ARGUMENTS</p>
<p><i>Week 4</i></p>	<p><u>Pre-reading:</u> Feedback as a learning experience (http://greatergood.berkeley.edu/article/item/how_to_help_kids_overcome_fear_of_failure)</p> <p>PRACTICAL DATA ORGANIZATION, EXCEL, AND FIGURES</p> <p>REVIEWING AND CRITIQUING ARGUMENTS</p>
<p><i>Week 5</i></p>	<p><u>Pre-reading:</u> Test taking tips (https://pennstatelearning.psu.edu/test-taking-tips)</p> <p>TEST TAKING STRATEGIES</p> <p><u>Pre-viewing:</u> Discipline and keeping to goals (https://www.youtube.com/watch?v=PPQhj6ktYSo)</p> <p>LONG TERM GOAL SETTING AND SUSTAINABLE STRATEGIES FOR ACHIEVEMENT</p>

Important 2019 Deadlines:

Session 1:

Drop: Monday, July 1

Request for "W": Friday, July 12

Session 2:

Drop: Monday, August 5

Request for "W": Friday, August 16

8-Week:

Drop: Monday, July 8

Request for "W": Friday, July 26

10-Week:

Drop: Monday, July 8

Request for "W": Friday, July 26

Neither Summer Session nor instructors drop students for non-attendance or non-payment. Students must drop themselves. Dropping results in full tuition reversal/refund. Withdraw posts a W for the grade and full tuition is charged (no refund).

For all dates and deadlines, including 'change of grade option' (P/NP) and grades due, here is the summer academic calendar: <https://summer.ucsc.edu/studentlife/index.html>

For questions about dropping, requesting a W grade for a course, or withdrawing from the summer quarter, email summer@ucsc.edu.

DRC Accommodations:

The Disability Resources Center reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. If you have questions or concerns about exam accommodations or any other disability-related matter, please contact the DRC office, located in Hahn 125 or at 831-459-2089 or drc@ucsc.edu.

Academic Dishonesty

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree.

All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC.

In the event a student is found in violation of the UCSC Academic Integrity policy, he or she may face both academic sanctions imposed by the instructor of record and disciplinary sanctions imposed either by the provost of his or her college or the Academic Tribunal convened to hear the case. Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student's transcript.

For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Integrity page](#) at the Division of Undergraduate Education.

Title IX:

The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct.

[Information about the Title IX Office](#), the [online reporting link](#), applicable campus [resources](#), reporting responsibilities, the [UC Policy on Sexual Violence and Sexual Harassment](#) and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment can be found at titleix.ucsc.edu.

The Title IX/Sexual Harassment Office is located at 105 Kerr Hall. In addition to the [online reporting option](#), you can contact the Title IX Office by calling 831-459-2462.