College of San Mateo
Official Course Outline

1. **COURSE ID:** IDST 102 **TITLE:** Sciences Honors Seminar I
   Units: 2.0 units **Hours/Semester:** 32.0-36.0 Lecture hours; and 64.0-72.0 Homework hours
   Method of Grading: Letter Grade Only
   Prerequisite: Completion of or concurrent enrollment in ENGL 100 or ENGL 105.

2. **COURSE DESIGNATION:**
   Degree Credit
   Transfer credit: CSU

3. **COURSE DESCRIPTIONS:**
   Catalog Description:
   Introductory interdisciplinary research seminar for students admitted into the Honors Project program. Students are instructed and guided in various scientific investigative approaches and their applications in the natural science, mathematical and engineering disciplines. Working through an interdisciplinary seminar theme, students expand upon and deepen the content of a linked transfer course from the Sciences Cluster (Sciences, Technology, Engineering and Math). Students apprehend fundamental interdisciplinary theory, and complete a distinct scholarly project that extends a content area of the chosen transfer course. Emphasis on peer collaboration, the fundamentals of scientific research and its application, and effective written and oral presentation.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
   Upon successful completion of this course, a student will meet the following outcomes:
   1. Demonstrate and apply an understanding of interdisciplinary studies and research skills.
   2. Complete the distinct stages of a research project, including review and critical analysis of prior work, hypothesis formulation, experimentation, evaluation of results, and the final presentation.
   3. Collaborate with students from different disciplines.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
   Upon successful completion of this course, a student will be able to:
   1. Demonstrate an ability to understand and apply interdisciplinary studies and research skills.
   2. Complete the distinct stages of a research project, including review and critical analysis of prior work, hypothesis formulation, experimentation, evaluation of results, and the final presentation.
   3. Collaborate with students from different disciplines.

6. **COURSE CONTENT:**
   Lecture Content:
   This course is a two-unit, interdisciplinary honors seminar encompassing the sciences, math and engineering, emphasizing exchange of ideas and constructive feedback. The interdisciplinary content of the course derives from two sources: 1) students are introduced to interdisciplinary theory and research methods; 2) each student completes a research project from different disciplines.

   The seminar is guided by a broad, inclusive, interdisciplinary theme or concept (i.e., “Bioinformatics,” “Metaphor and Measurement”). In the first part of the course, therefore, students study examples of interdisciplinary research and theory, reading at least one book-length scholarly work that elaborates the seminar theme and demonstrates interdisciplinary methods of critical inquiry. Students are shown how an interdisciplinary approach to a topic can bring rich critical insight. Students are instructed in how they might apply an interdisciplinary approach to their individual honors projects.

   Such formation in interdisciplinary study leads into the second part of the course (and the second way in which the course is “interdisciplinary”). Honors students enrolled in the course develop and complete an advanced scholarly project for an appropriate transfer course they are co-enrolled in. (If approved by the transfer course instructor, this project earns the student honors credit for that chosen transfer course.) Course work and assignments include developing a project proposal and an annotated bibliography, as well as workshops in outlining, draft revisions, and presentation of the final project. Students work collaboratively on their respective scholarly projects, which reflect a range of disciplines. For example, one student might be working on an analysis of the Europa space expedition in terms of the Copernican

revolution for an Astronomy course, while another student might be working on an investigation of the relationship between metabolism and diseases for a Biology course. Students learn to listen critically and give constructive feedback in a cross-disciplinary context. Therefore, by being exposed to different disciplinary work in an intensive, seminar setting, students learn to incorporate interdisciplinary components into their own work.

The interdisciplinary theme thus helps cohere the class, stimulate intellectual growth, and furnish a bridge between each student's research project and his or her respective transfer course. The interdisciplinary focus also elevates the research project beyond the original transfer course discipline: students are guided to bring at least one other discipline to bear on their topic, so as to enhance their critical methodology. In an intensive "laboratory" setting, the second half of the course prioritizes expanding and refining each student's honors project.

Our honors seminars, and our program overall, conceives honors coursework in terms of the interdisciplinary, student-centered model described above. In other words, the model encourages students to select their own transfer course and establish their own honors research project, with instructor input on an academically challenging undertaking beyond but related to the transfer coursework. As an inclusive, flexible but rigorous cohort and community, Honors Project students engage research in the context of scholarly interdisciplinary dialogue and collaboration, as well as independent development of pertinent topics that matter to each individual student

CSM's Honors Project recognizes that all students have exceptional academic abilities, and we strive to guide students to discover and maximize their inherent individual abilities and ambitions. The program is dedicated to creating a scholarly, encouraging, and supportive community that helps students learn how to successfully navigate the challenges of the 21st century.

Lab Content:

None

TBA Hours Content:

None

7. **REPRESENTATIVE METHODS OF INSTRUCTION:**

Typical methods of instruction may include:

A. Lecture
B. Activity
C. Directed Study
D. Discussion
E. Experiments
F. Field Trips
G. Guest Speakers

8. **REPRESENTATIVE ASSIGNMENTS**

Representative assignments in this course may include, but are not limited to the following:

Writing Assignments:

Interdisciplinary theory summaries and commentaries
Project proposal
Annotated bibliography
Project outline
Drafts of final project
Feedback/workshop exerices

Reading Assignments:

Interdisciplinary seminar theme readings
Project development readings
Outside research for project topic

Other Outside Assignments:

Library research assignments
Web research assignments
Scientific experiments
Field trips

9. **REPRESENTATIVE METHODS OF EVALUATION**

Representative methods of evaluation may include:
A. Class Participation
B. Class Work
C. Field Trips
D. Group Projects
E. Homework
F. Oral Presentation
G. Papers
H. Portfolios
I. Projects
J. Research Projects

10. **REPRESENTATIVE TEXT(S):**
Possible textbooks include:
A. Lesk, A.. *Introduction to Bioinformatics*, ed. Oxford University Press, 2019
B. Graff, G. & Birkenstein, C.. *They Say, I Say: The Moves that Matter*, ed. WW Norton, 2018
C. Newman, M.. *Networks*, 2nd ed. Oxford University Press, 2018
D. Lunsford, A,. *Everything's an Argument*, ed. Bedfort/St Martin's, 2018

Origination Date: August 2020
Curriculum Committee Approval Date: October 2020
Effective Term: Fall 2021
Course Originator: David Laderman