UNIVERSITY OF SAN FRANCISCO | College of Arts and Sciences

<BSCS/ COMPUTER SCIENCE /MAJOR>

ASSESSMENT REPORT
ACADEMIC YEAR 2022 – 2023

I.   LOGISTICS

1. Please indicate the name and email of the program contact person to whom feedback should be sent (usually Chair, Program Director, or Faculty Assessment Coordinator).

   EJ Jung, ejung2@usfca.edu, Faculty Assessment Coordinator of CS dept.

2. Please indicate if you are submitting report for (a) a Major, (b) a Minor, (c) an aggregate report for a Major & Minor (in which case, each should be explained in a separate paragraph as in this template), (d) a Graduate or (e) a Certificate Program

(a) CS Major

3. Please note that a Curricular Map should accompany every assessment report. Has there been any revisions to the Curricular Map?

   No changes were made.

II. MISSION STATEMENT & PROGRAM LEARNING OUTCOMES

1. Were any changes made to the program mission statement since the last assessment cycle in October 2021? Kindly state "Yes" or "No." Please provide the current mission statement below. If you are submitting <u>an aggregate report, please provide the current mission statements of both the major and the minor program</u>

   Mission Statement (Major/Graduate/Certificate):

   No changes were made.

Students who graduate with a Bachelor of Science (B.S.) degree in Computer Science will be prepared for both graduate school and for software development careers. The curriculum provides a solid base in computer science fundamentals that includes software design and development, problem solving and debugging, theoretical and mathematical foundations, computer systems, and system software.

2. Were any changes made to the program learning outcomes (PLOs) since the last assessment cycle in October 2020? Kindly state "Yes" or "No." Please provide the current PLOs below. If you are submitting an aggregate report, please provide the current PLOs for both the major and the minor programs.

PLOs (Major/Graduate/Certificate):

No changes were made.

- THEORY: Explain and analyze standard computer science algorithms and describe and analyze theoretical aspects of various programming languages.
- APPLICATION: Apply problem-solving skills to implement medium- and large-scale programs in a variety of programming languages.
- SYSTEMS: Describe the interactions between low-level hardware, operating systems, and applications.
- PROJECT: Demonstrate effective communication and organization as part of a team of software developers or researchers collaborating on a large computer program.

3. State the particular Program Learning Outcome(s) you assessed for the academic year 2020-2021.

PLO(s) being assessed (Major/Graduate/Certificate):

PROJECT: Demonstrate effective communication and organization as part of a team of software developers or researchers collaborating on a large computer program.

III. METHODOLOGY

Describe the methodology that you used to assess the PLO(s).

CS 490 Senior Project is our capstone course where students work in teams to investigate, specify, design, implement, test, document, and present to their classmates a significant software project. Sound software engineering practices are presented in lectures and used to evaluate each stage of the project. Written and verbal communication is emphasized through frequent documentation submissions, informal group discussions, code walk-throughs, and student presentations. This report is based on 2 sections of CS 490 in Spring 2023, total of 41 students. These two sections were taught by two adjunct faculty, and they shared the grading rubric.

We are using a direct method. The instructors identified the **final presentation** as a sample assignment that demonstrates communication and organization of the team. The final presentation is 30% of the final grade.

Grading Rubric of the Final Presentation (1~5 points per item)

- Content
  - o Does the presentation provide enough information about the project?
  - o Does the presentation give a clear explanation of the objective?
- Organization
  - o Did the group organize the material?
  - o Is the transition from member to member smooth and fluid?
  - o Is the material organized logically?
- Delivery
  - o Are the speakers talking about the slides rather than simply reading them?
  - o Do the speakers appear prepared and understand the material?
  - o Are topics articulated in a way that is well understood by the audience?
- Visuals
  - o Was the demo well prepared?
  - o Are there other supporting visuals like diagrams and wireframes?
- Impact
  - o Were there obvious questions or limitations that the group failed to address?
  - o Is the audience able to relate and understand the impact of the solution presented?
  - o Would you use the software or service presented?

IV. RESULTS & MAJOR FINDINGS

What are the major takeaways from your assessment exercise?

To assess mastery, we split the students into four groups:

1. Complete mastery of the outcome
2. Mastered the outcome in most parts
3. Mastered some parts of the outcome
4. Did not master the outcome at the level intended

Mastery Group / Project	1	2	3	4	Total
Final Presentation	41	0	0	0	41
Final letter grade	41	0	0	0	41

Everyone demonstrated mastery in effective communication and organization.

V. CLOSING THE LOOP

1. Based on your results, what changes/modifications are you planning in order to achieve the desired level of mastery in the assessed learning outcome? This section could also address more long-term planning that your department/program is considering and does not require that any changes need to be implemented in the next academic year itself.

It is encouraging to see that all students demonstrated mastery. Upon a further inquiry, one of the instructors explained that students' communication and organization reflects their involvement in the project. Student also do a mid-term presentation and receive feedback, and improve their communication and organization based on the feedback.

It is also encouraging that both sections show similar outcome. The instructors of these two sections worked closely together, for example sharing the grading rubric. Collaboration among the instructors helped the consistency across the sections.

2. What were the most important suggestions/feedback from the FDCD on your last assessment report (for academic year 2021-2022, submitted in October 2022)? How did you incorporate or address the suggestion(s) in this report?

The feedback approved and encouraged the department's idea to revisit the Systems PLO to assess the post-pandemic impact on the learning outcome. The department is actually revising the prerequisites and requirements of the System PLO so that the students will be better prepared for the Systems PLO. We plan to assess the Systems PLO once the new requirements are in place.

ADDITIONAL MATERIALS

(Any rubrics used for assessment, relevant tables, charts and figures should be included here)

Final Presentation Score	Final Score
100.00	A+
100.00	A+
97.50	A-
100.00	A
100.00	A
100.00	A
100.00	A+
100.00	A
100.00	A
100.00	A
100.00	A+
100.00	A
100.00	A+
100.00	A+
100.00	A-
100.00	A
93.75	A-
100.00	A-
100.00	A-
97.50	A-
100.00	A+
100.00	A+
95.00	A
100.00	A
100.00	A+
100.00	A
100.00	A+
100.00	A+
100.00	A
100.00	A+
100.00	A+
100.00	A
100.00	A-
95.00	A+
95.00	A+
100.00	A

97.50	A-
100.00	A
100.00	A+
100.00	A+
100.00	A-