I. SUMMARY OF ASSESSMENT (suggested length of 1-2 pages)

A. Program Learning Outcomes (PLO)

List all your PLO in this box. Indicate for each PLO its alignment with one or more institutional learning outcomes (ILO). For example: “PLO 1. Apply advanced computer science theory to computation problems (ILO 2 & 6).”

1. Identify key concepts, principles, and applications of psychology’s content domains.
2. Apply scientific reasoning to interpret psychological phenomena and to design and conduct basic psychological research (ILO 1: Critical Thinking).
3. Evaluate the ethics of psychological science and practice.
4. Demonstrate effective communication skills (ILO 2: Written Communication).
5. Describe career options within psychology.
B. Program Learning Outcome(S) Assessed

List the PLO(s) assessed. Provide a brief background on your program’s history of assessing the PLO(s) (e.g., annually, first time, part of other assessments, etc.)

During the 2016-2017 school year, we assessed PLO 4 using the CSUEB ILO Written Communication Rubric with our advanced research classes (PSYC 491/493). During the 2017-2018 school year, we created an online multiple-choice test to evaluate PLOs 1 and 2. During the 2018-2019 school year, we further developed the online multiple-choice test to assess a broader range of content areas under PLO 1 and added questions to assess PLO 3. During the 2019-2020, we used an empirical article analysis assignment to evaluate PLO 2. This year (2020-2021), we used the online multiple-choice test to assess PLO 3 and also surveyed faculty on how they cover ethics in their classes.

C. Summary of Assessment Process

Summarize your assessment process briefly using the following sub-headings.

Instrument(s): (include if new or old instrument, how developed, description of content)

During the 2017-2018 school year, we created a 15-question online multiple-choice test by selecting questions from practice GRE Psychology Subject tests. We focused the questions on three topic areas: research methods, social psychology, and personality psychology. During the 2018-2019 school year, we reduced the number of questions per content area to four (from five) and added content areas to capture the entire curriculum. Thus, we ended up with 28 questions assessing seven topics, five related to PLO 1 (content domains: social psychology, personality psychology, cognitive psychology, physiological psychology, and conditioning and learning), one related to PLO 2 (research methods), and one related to PLO 3 (ethics). We also added demographic questions. This year (2020-2021) we used the 28-question assessment developed in 2018-2019, to evaluate PLO 3 (ethics) and the other content areas. See Appendix A for the student assessment.

Additionally, the assessment committee (Drs. Horne, Layous, and Little) created a survey to assess how faculty cover ethics in their courses. We asked about the topics covered (e.g., consent, debriefing) and how they were covered (e.g., lecture, course assignment). See Appendix B for the faculty assessment.

Sampling Procedure:

Our student sample ($N = 154$) came from various PSYC 200 and PSYC 491/493 classes to compare students at the beginning and end of the curriculum. One hundred ninety-six participants originally clicked on the link, but we only evaluated people who completed the entire survey so their raw number of correct answers are comparable.

Our faculty sample ($N = 17$) came from all current instructors.

Sample Characteristics:
The student sample largely identified as female (73.4%; 19.5% male; 3.2% nonbinary, 3.2% prefer not to state, 0.6% Other) and as transfer students (64.3%). Races/ethnicities were as follows: 40.3% Hispanic/Latino, 21.4% White, 14.9% Asian, 9.1% More than one, 4.5% Black/African American, 4.5% Prefer not to state, 2.6% Other, 1.9% Hawaiian/Pacific Islander, 0.6% American Indian/Alaskan Native. Ages ranged from 18 to 79 years ($M = 25.39$, $SD = 8.71$). In addition, 24.7% of the sample was currently enrolled in PSYC 200 and 74.7% in PSYC 491/493. One person was enrolled in neither course and was excluded from future analyses.

We did not collect any demographic information from the faculty respondents.

**Data Collection:** *(include when, who, and how collected)*

For the student sample, the assessment committee emailed PSYC 200 and PSYC 491/493 instructors a link to the assessment and asked for their voluntary participation. If willing, instructors shared a link to the survey with their students. Some offered time in class and extra credit for completion.

For the faculty sample, the assessment committee emailed all current instructors a link to the assessment and asked for their voluntary participation.

**Data Analysis:**

For the student assessment, we summed the number of correct responses (out of 28) and compared the total score of our advanced students (PSYC 491/493) to the total score of our beginner students (those in PSYC 200). Our advanced students scored significantly higher ($M = 14.95$, $SE = 0.42$) than our beginner students ($M = 11.63$, $SE = 0.76$), $t(151) = 3.90$, $p < .001$, $d = 0.63$. Importantly, on the subcategory of ethics (assessing PLO 3; 4 questions), our advanced students also scored significantly higher ($M = 3.01$, $SE = 0.09$) than our beginner students ($M = 2.58$, $SE = 0.14$), $t(151) = 2.42$, $p = .02$, $d = .35$. In addition, on psychology content areas and research methods, advanced students also scored significantly higher than beginner students. Among our advanced students, total scores of White and Asian students (combined) were not significantly different from total scores of underrepresented minority students (Hispanic/Latino, Black/African American, More than one, Hawaiian/Pacific Islander, American Indian/Alaskan Native combined), $t(104) = -0.78$, $p = .44$.

Faculty indicated that they taught PSYC 100 (10.5%; $n = 2$), PSYC 200 (5.3%; $n = 1$), PSYC 300 (63.2%; $n = 12$), PSYC 491/493 (68.4%; $n = 13$), and other upper-division psychology courses (63.2% $n = 12$). Because PSYC 300 and 491/493 had the most instructors, we will summarize findings from those courses. Instructors indicated covering the following topics: Institutional Review Board (IRB; PSYC 300: 75.0%; PSYC 491/493: 61.5%), consent (PSYC 300: 75.0%; PSYC 491/493: 76.9%), Nuremberg Code (PSYC 300: 16.7%; PSYC 491/493: 7.7%), Belmont Report (PSYC 300: 50.0%; PSYC 491/493: 15.4%), ethics case studies (PSYC 300: 66.7%; PSYC 491/493: 7.7%), deception (PSYC 300: 66.7%; PSYC 491/493: 46.2%), debriefing (PSYC 300: 75.0%; PSYC 491/493: 76.9%), plagiarism (PSYC 300:
75.0%; PSYC 491/493: 46.2%), fraud (PSYC 300: 75.0%; PSYC 491/493: 7.7%), Institutional Animal Care and Use Committee (IACUC; PSYC 300: 16.7%; PSYC 491/493: 15.4%), and Other (PSYC 300: 8.3%; PSYC 491/493: 15.4%; write-in response of data fabrication).

Instructors used the following methods to cover ethics: lecture (PSYC 300: 83.3%; PSYC 491/493: n = 6), quiz/test questions (PSYC 300: 41.7%; PSYC 491/493: 15.4%), a course assignment (PSYC 300: 33.3%; PSYC 491/493: 7.7%), practical application (PSYC 300: 66.7%; PSYC 491/493: 61.5%), Human Subjects Research Training Course through the online CITI Program (PSYC 300: 33.3%; PSYC 491/493: 23.1%), other (PSYC 300: 8.3%; PSYC 491/493: 7.7%; write-in response: discussion).

We also asked instructors to write about how they incorporate ethics into their courses to provide context to the above responses. In PSYC 300, instructors often devoted a course section to the topic of ethics, lecturing on the history and importance of ethics. Some instructors also assign CITI training and talk about ethics while preparing students to collect data from human participants in the course. In PSYC 491/493, the focus seemed to shift to more application rather than lecture, with many instructors mentioning that this material would have been covered in PSYC 300. Instructors mentioned assigning CITI training and training on ethics via the applied task of designing a study and collecting data from human participants.

D. Summary of Assessment Results

Summarize your assessment results briefly using the following sub-headings.

Main Findings:

Our advanced students outperformed our beginner students on the whole assessment, as well as the subgroup of questions dedicated to ethics (PLO 3). In addition, we gained valuable insight from faculty on how they cover ethics in their courses.

Recommendations for Program Improvement: (changes in course content, course sequence, student advising)

Although our results indicated that students know more at the end of the psychology program than they do at the beginning, overall scores on the assessment were still low (advanced students got a little over 50% of questions correct), indicating that we should put effort into increasing retention. That said, on the ethics questions, our advanced students got 75% of questions correct.

Next Step(s) for Closing the Loop: (recommendations to address findings, how & when)

We will discuss results from the 2020-2021 assessment during a faculty meeting fall semester.

We discussed the results of the previous year’s (2019-2020) assessment of PLO 2 (the article analyses assignment to assess critical thinking) at a departmental faculty meeting on October 4, 2020. We discussed the need for more experience analyzing and critiquing articles through assignments and group discussions. We discussed compiling a set of activities and assignments
that help students think critically about research that instructors can choose from (like a PSYC 300 toolbox). We talked about the possibility of adding a critical thinking course to our major that would cover scientific literacy and discuss issues like open science and replication. From assessment discussions at the college level, we also learned the possibility of using backward design—start with the institutional learning outcome rubric in critical thinking and design assignments that would promote competence in those areas. At the college meeting, faculty also discussed giving students clear expectations—letting them know they can question authority (e.g., research articles) and giving clear feedback on assignments and letting them re-do it for practice. We will continue to have these conversations as a department to share best practices on how to foster critical thinking in our courses.

Other Reflections:

Last time we gave this online multiple-choice assessment (2018-2019), our advanced students scored 14.08 and this time they scored 14.95, so we had a slight uptick. Our department has had numerous conversations on how to foster critical thinking and promote retention in our courses, particularly during the switch to online education during the pandemic. In addition, we have a Diversity, Equity, and Inclusion committee in the department that facilitates discussions on how to ensure our teaching practices are inclusive. The assessment committee has found learning from our peers to be helpful and motivating and hopes these efforts continue to improve the student experience in our department.

E. Assessment Plans for Next Year

Summarize your assessment plans for the next year, including the PLO(s) you plan to assess, any revisions to the program assessment plan presented in your last five-year plan self-study, and any other relevant information.

During spring semester of 2022, we plan to evaluate PLO 4 (written communication). We will evaluate final research papers from PSYC 491/493 students with the CSUEB ILO Written Communication Rubric.