Appendix 1. Spring 2020 Student Survey

1) Your student ID number: _____________________

2) Do you plan to re-enroll at Sac State in Fall 2020 if (Check all that apply):
   A. Courses are offered face-to-face?
   B. Courses are offered in a hybrid format (e.g., lecture online, but lab face-to-face)?
   C. All courses are online?

3) Please explain your answer to the question above.
   _______________________________________________________________________

4) The COVID-19 pandemic has
   A. Made me more dedicated to/enthusiastic about obtaining a STEM degree.
   B. Made me less dedicated to/enthusiastic about obtaining a STEM degree.
   C. Had no impact on my dedication/enthusiasm about obtaining a STEM degree.

5) It was easier to manage my time with online courses that had scheduled live class sessions than watching recorded videos/class sessions.
   A. Strongly agree
   B. Somewhat agree
   C. Neither agree nor disagree
   D. Somewhat disagree
   E. Strongly disagree
   F. Not applicable (I had no online courses with live sessions)

6) At what point did you feel comfortable with the technology needed for your online courses?
   A. As soon as my courses went online
   B. After several weeks of being online
   C. By the end of the semester
   D. I never felt comfortable with the technology needed for my courses

7) How many online courses had you taken before this semester?
   A. None
   B. 1-2
   C. 3+
8) The following reduced my ability to participate/perform in my online courses:

|                                | Strongly agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Strongly disagree |
|--------------------------------|----------------|----------------|---------------------------|------------------|------------------|
| Limited access to technology  |                |                |                           |                  |                  |
| (computer, phone, tablet, etc.)|                |                |                           |                  |                  |
| Distractions due to my physical environment/location when I was online |                |                |                           |                  |                  |
| Distractions from my personal technology (phone, computer, etc.) |                |                |                           |                  |                  |
| Health-related issues         |                |                |                           |                  |                  |
| (mine or family/roommate)     |                |                |                           |                  |                  |
| Work-related issues           |                |                |                           |                  |                  |
| (mine or family/roommate)     |                |                |                           |                  |                  |
| Other (please specify):       |                |                |                           |                  |                  |

9) The technology I used most often to access my online courses was (Check all that apply):

A. Mobile/cellular phone
B. Tablet
C. Laptop/PC
D. Other (please specify): ________________________________________________
The following questions refer to the course you are taking the survey in.

10) What class are you taking this survey in? ________________

11) Does the course have a lecture, lab, or activity? (Check all that apply)
   A. Lecture
   B. Lab
   C. Activity

12) I enrolled in this course because (Check all that apply):
   A. It is a core requirement for my major/minor.
   B. It is an elective for my major/minor.
   C. It meets a general education requirement.
   D. It is for my personal interest.
13) Amount of time I spent per week on the following course activities:

| Activity                                                                 | Does not apply | less than an hour | 1 to 2 hours | 2 to 4 hours | More than 4 hours |
|--------------------------------------------------------------------------|----------------|-------------------|--------------|--------------|-------------------|
| Attending live online classes at a scheduled time with instructor and other students present | ○              | ○                 | ○            | ○            | ○                 |
| Watching recorded videos                                                | ○              | ○                 | ○            | ○            | ○                 |
| Assigned reading                                                         | ○              | ○                 | ○            | ○            | ○                 |
| Completing graded assignments (problem sets, writing, taking exams or quizzes) | ○              | ○                 | ○            | ○            | ○                 |
| Projects or large writing assignments                                   | ○              | ○                 | ○            | ○            | ○                 |
| Working with other students (in or outside class time)                   | ○              | ○                 | ○            | ○            | ○                 |
| Studying outside of class                                                | ○              | ○                 | ○            | ○            | ○                 |
14) What portion of the live online class time in the course was spent on

| Activity                                                                 | 0% (Never) | 1-25% (Infrequently) | 26-50% (sometimes) | 51-75% (often) | More than 75% (most of the time) | Not applicable (there was no live online class time) |
|-------------------------------------------------------------------------|------------|----------------------|--------------------|---------------|----------------------------------|----------------------------------------------------|
| Instructor checking in with how students are doing                      |            |                      |                    |               |                                  |                                                    |
| Announcements, clarifications of course goals, procedures, assignments, etc. |            |                      |                    |               |                                  |                                                    |
| Non-interactive lecture (mainly instructor talking)                      |            |                      |                    |               |                                  |                                                    |
| Interactive lecture (including polls and questions)                      |            |                      |                    |               |                                  |                                                    |
| Small group work or discussion in breakout rooms                         |            |                      |                    |               |                                  |                                                    |
| Individual work                                                          |            |                      |                    |               |                                  |                                                    |
| Other                                                                    |            |                      |                    |               |                                  |                                                    |
15) Percent of live online class time I felt engaged in the discussion (about the course material or other topics):
   A. 0%
   B. 1-25%
   C. 26-50%
   D. 51-75%
   E. More than 75%

16) What instructional strategies or course activities engaged or encouraged your learning?

________________________________________________________________

17) What instructional strategies or course activities disengaged or discouraged your learning?

________________________________________________________________

18) How did the move to online learning affect your engagement with the course material?
   A. I was more engaged in the online environment.
   B. I was less engaged in the online environment.
   C. I was equally engaged in the online and in-person environments.

19) My comfort level in asking questions in this online course compared to when this course was in-person (prior to COVID-19) was:
   A. Much Better.
   B. Somewhat better.
   C. About the same.
   D. Somewhat worse.
   E. Much worse.
20) Rate each of the following practices based on how much anxiety they caused you to feel during your online class this semester. Use the following scale:  1 = This caused me no anxiety, 3 = I felt moderate anxiety when this occurred in the class,  5 = I felt very anxious when this occurred in class  N/A = I was not asked to do this

|                                      | 1 | 2 | 3 | 4 | 5 | N/A |
|--------------------------------------|---|---|---|---|---|-----|
| I was asked to answer a poll         |   |   |   |   |   |     |
| I was asked to reply to a question in the chat |   |   |   |   |   |     |
| I was asked to unmute myself to ask questions |   |   |   |   |   |     |
| I was asked to unmute myself to answer a question |   |   |   |   |   |     |
| I was asked to work with other students in a breakout room |   |   |   |   |   |     |
| I was asked to have my video on during lecture |   |   |   |   |   |     |
| I was asked to use a discussion board |   |   |   |   |   |     |
21) How did the move online affect your anxiety about your coursework?
   A. I was more anxious in the online environment.
   B. I was less anxious in the online environment.
   C. I was equally anxious in the online and in-person environments.

22) I feel like the instructor had a good sense of my level of understanding of the course material.
   A. Strongly agree
   B. Somewhat agree
   C. Neither agree nor disagree
   D. Somewhat disagree
   E. Strongly disagree

23) I felt that the feedback I received in this course from the instructor after transitioning online (including on assignments, during class, in virtual office hours, from exams or quizzes, etc.) helped me to succeed.
   A. Strongly agree
   B. Somewhat agree
   C. Neither agree nor disagree
   D. Somewhat disagree
   E. Strongly disagree

24) I interacted with my instructor outside live online class time through (Check all that apply):
   A. I did not interact with my instructor
   B. Attending their virtual office hours
   C. Zoom meeting with them outside office hours
   D. Communicating regularly via discussion board, facebook, slack, etc.
   E. Email
   F. Other (please specify) ____________________________________________

25) Ease of interactions with the instructor in this online course compared to when this course was in-person (prior to COVID-19) was:
   A. Much Better
   B. Somewhat better
   C. About the same
   D. Somewhat worse
   E. Much worse

26) Ease of interactions with other students in this online course compared to when this course was in-person (prior to COVID-19) was:
   A. Much Better
   B. Somewhat better
   C. About the same
   D. Somewhat worse
   E. Much worse
27) My overall educational experience in this online course compared to when this course was in-person (prior to COVID-19) was:
   A. Much better
   B. Somewhat better
   C. About the same
   D. Somewhat worse
   E. Much worse

28) What changes in this online course would be most beneficial to your learning?
________________________________________________________________

29) After transitioning online, did your instructor (Check all that apply):
   A. Discuss how COVID-19 can impact student performance or learning?
   B. Tell you that it is okay to feel “off” or “non-normal?”
   C. Suggest minimizing time spent on news consumption?
   D. Give advice on minimizing stress (recommending exercise, breathing techniques, etc.)?
   E. Ask you what specifically has been causing you stress?
   F. Administer a survey asking about your current learning concerns?
   G. Communicate with you or your class frequently?
   H. Remind you that they are there for you (to listen, to ask for advice, etc.)?
   I. Create optional discussions or meetings where you can talk about your daily life, problems, etc.?
   J. Ask you to check in on other students in your course?
   K. Ask you to share your favorite part of what you have learned in the class so far?
   L. Use techniques not related to course material to relieve anxiety (sharing memes, using humor, etc.)?
   M. Ask you to reflect on the new “normal?”
   N. Ask you to document your journey as we transitioned to online classes?
   O. Ask you to reflect on what you are grateful for?
   P. Provide some type of structure for how the semester would go (establish deadlines, made clear instructions for assignments)?
   Q. Remain flexible when it came to assignments or deadlines?
   R. Give you the opportunity to come up with alternative forms of assessment?
   S. Reflect hope?
   T. Try to reinforce what was previously covered in class?
   U. Modify what they were going to cover in order to encompass something that you or a class mate wanted to learn?
   V. Speak about the future or refer to a time when students will return to classes (whether this semester or in future semesters)?
 Appendix 2. Fall 2020 Student Survey

*Questions 1-12 refer to all classes in general, and 13-20 will refer only to the course in which you are taking the survey.*

1) Your student ID number: __________________________
2) Will you re-enroll at Sac State in Spring 2021?
   A. Yes
   B. No
   C. Not sure
3) If you do not plan to re-enroll, what is your reason for that decision?
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

4) The COVID-19 pandemic has
   A. increased my dedication/enthusiasm for obtaining a STEM (science, technology, engineering, math) degree.
   B. decreased my dedication/enthusiasm for obtaining a STEM degree.
   C. had no impact on my dedication/enthusiasm for obtaining a STEM degree.

5) It is easier to stay engaged in online courses that have scheduled live class sessions (synchronous) than those without a live component.
   A. Strongly agree
   B. Somewhat agree
   C. Neither agree nor disagree
   D. Somewhat disagree
   E. Strongly disagree
   F. I don't know.

6) It is easier to learn in online courses that have scheduled live class sessions (synchronous) than those without a live component.
   A. Strongly agree
   B. Somewhat agree
   C. Neither agree nor disagree
   D. Somewhat disagree
   E. Strongly disagree
   F. I don't know.
7) The following made it difficult to participate/perform in my online courses.

|                                    | Strongly agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Strongly disagree |
|------------------------------------|----------------|----------------|----------------------------|-------------------|-------------------|
| Limited access to technology       |                |                |                            |                   |                   |
| (computer, phone, tablet, hotspot, |                |                |                            |                   |                   |
| etc.)                              |                |                |                            |                   |                   |
| Technology/internet malfunctions   |                |                |                            |                   |                   |
| Distractions due to my physical    |                |                |                            |                   |                   |
| environment/location when I was    |                |                |                            |                   |                   |
| online                             |                |                |                            |                   |                   |
| Distractions from my personal      |                |                |                            |                   |                   |
| technology (phone, computer, etc.) |                |                |                            |                   |                   |
| Health-related issues              |                |                |                            |                   |                   |
| (mine or family/friend)            |                |                |                            |                   |                   |
| Work-related issues                |                |                |                            |                   |                   |
| (mine or family/friend)            |                |                |                            |                   |                   |
| Other (please be specific):        |                |                |                            |                   |                   |

8) Which of the following technologies are you using for your courses: (check all that apply)
   A. Mobile/cellular phone
   B. Tablet
   C. Laptop/PC
   D. Chromebook
   E. Other (please specify): ________________________________________________

9) In general, the amount of work assigned in my online courses
   A. has increased compared to my previous in-person courses.
   B. has decreased compared to my previous in-person courses.
   C. is about the same as my previous in-person courses.
   D. Not applicable
10) Please explain your answer to #9.

________________________________________________________________
________________________________________________________________
________________________________________________________________

11) How anxious were you about learning online this semester compared to Spring 2020?
   A. I was more anxious this semester.
   B. I was less anxious this semester.
   C. I was equally anxious this semester.
   D. Not applicable
12) Rate each of the following practices based on how much anxiety they caused you to feel during your online class this semester. Use the following scale:

1 = I felt no anxiety; 2 = I felt mild anxiety; 3 = I felt moderate anxiety; 4 = I felt high anxiety; 5 = I felt very high anxiety; N/A = I was not asked to do this

| Practice                                                                 | 1 (no anxiety) | 2 | 3 | 4 | 5 (very high anxiety) | N/A |
|--------------------------------------------------------------------------|----------------|---|---|---|------------------------|-----|
| I was asked to answer a poll                                            | ○              | ○ | ○ | ○ | ○                      | ○   |
| I was asked to reply to a question in the chat                           | ○              | ○ | ○ | ○ | ○                      | ○   |
| I was asked to unmute myself to ask questions                            | ○              | ○ | ○ | ○ | ○                      | ○   |
| I was asked to work with other students in a breakout room               | ○              | ○ | ○ | ○ | ○                      | ○   |
| I was asked to have my video on during lecture                           | ○              | ○ | ○ | ○ | ○                      | ○   |
| I was asked to share my screen                                          | ○              | ○ | ○ | ○ | ○                      | ○   |
(Question 12 continued)

|                                                                 | 1 (no anxiety) | 2   | 3   | 4   | 5 (very high anxiety) | N/A |
|-----------------------------------------------------------------|----------------|-----|-----|-----|-----------------------|-----|
| I was asked to use the Canvas discussion board                  | ○              | ○   | ○   | ○   | ○                     | ○   |
| I was asked to share my ideas using external technology (ex.     | ○              | ○   | ○   | ○   | ○                     | ○   |
| jamboard, padlet, whiteboard)                                    |                |     |     |     |                       |     |
| I was asked to use an external communication platform (ex.       | ○              | ○   | ○   | ○   | ○                     | ○   |
| Slack, Discord, MS Teams)                                        |                |     |     |     |                       |     |
| I was asked to use lockdown browser for exams and quizzes        | ○              | ○   | ○   | ○   | ○                     | ○   |
| I was asked to submit assignments to Canvas or another online    | ○              | ○   | ○   | ○   | ○                     | ○   |
| system                                                           |                |     |     |     |                       |     |
The following questions refer specifically to the course you are taking the survey in.

13) In which course are you taking this survey? (Example: Bio 1 or Math 10)
________________________________________________________________________

14) This course engaged me (held my attention and interest):
   A. Almost Always
   B. Often
   C. Somewhat often
   D. Rarely
   E. Almost never

15) What did the instructor do to help your learning in this course?
________________________________________________________________________
________________________________________________________________________

16) What strategies did you use to help your learning in this course?
________________________________________________________________________
________________________________________________________________________

17) Relative to your other courses, how would you rate your anxiety in this course?
   A. I have more anxiety
   B. I have less anxiety
   C. I have equal anxiety
   D. Not applicable

18) Please explain your answer to #17.
________________________________________________________________________
________________________________________________________________________

19) I interacted with my instructor (check all that apply):
   A. during synchronous lectures or class time.
   B. by attending their virtual office hours or appointments.
   C. by communicating via discussion board, Facebook, slack, etc.
   D. through email.
   E. I did not interact with my instructor.
   F. Other: ________________________________
20) If you could recommend changes to your instructor that would help you stay motivated and learn online, what would you recommend?
________________________________________________________________
________________________________________________________________
________________________________________________________________