College of Arts and Sciences (CAS) 2016 - 2017 Yearly Assessment Report

If you would like to preview this form before you begin submitting, please follow this link: https://myusf.usfca.edu/sites/default/files/2017_Yearly_Assessment_Report_preview.pdf

NOTES:

- *2016-2017 Yearly Assessment Reports* for all CAS Majors, Minors, Graduate Programs, and Non-Degree Seeking Programs are due by 10/28/17; early submissions are welcome.

- Reports, including Curriculum Map(s) should be submitted to the Program Assistant; he/she will upload documents to Gnosis.
  - Undergraduate programs (majors and minors) must include two curricular maps – one showing how courses map onto Program Learning Outcomes (PLOs) and one showing how PLOs map onto Institutional Learning Outcomes (ILOs).
  - Graduate programs must include one curricular map showing how courses map onto PLOs.
  - Non-degree seeking programs must include one curricular map showing how PLOs map onto ILOs.

- This form **cannot be saved** once it is in-progress. If you close out of the form before submission, responses will be **discarded**. Please ensure you are ready to fill out the full form once you begin, and/or keep a backup copy of your responses.

- If you encounter any issues while utilizing this form, please contact Corie Schwabenland Garcia, Academic Data and Assessment Analyst, at x4285 or ceschwabenland@usfca.edu

Identifying Information

Name of Program *

PSM in Biotechnology

Type of Program *

Graduate Program

College of Arts and Sciences Division *

Sciences

Name/Title/E-mail Address of Submitter *

jadever@usfca.edu

Name(s)/E-mail Address(es) of Additional Individual(s) Who Should Receive Feedback

Submissions via the following Google form are strongly encouraged. However, if your department/program wishes to upload its assessment report in lieu of completing this form, you can do so here. Would you like to upload a PDF version of your Yearly Assessment Report?

- ○ Yes
- ◉ No

Yearly Assessment Report PDF Upload

If you wish to submit a separate PDF report, please be sure to include all the components listed in this google form (screen shots of the google form are available at https://myusf.usfca.edu/sites/default/files/2017_Yearly_Assessment_Report_preview.pdf)

Please upload your program's curriculum maps here (all file types allowed) *

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Mission Statement

Please type and/or copy-and-paste directly into the space below:

*

Our Mission is to provide motivated students with the knowledge and skills needed to successfully enter a career in the biotechnology industry.

Program Learning Outcomes (PLOs)

Please type and/or copy-and-paste directly into the space below:

*

1. Interpret concepts from multiple disciplines (biology, bioinformatics, business) within biotechnology.
2. Perform best practices and biotechnology-related laboratory techniques.
3. Articulate the need for ethics in science and technology based business/research/industry.
4. Critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry.
5. Network with industry members in molecular biology and biotechnology based business/research/industry.

Curriculum Maps

Please upload your Curriculum Maps below. All file types (Excel, PDF, etc.) are allowed.

*

urriculummap - J...

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Assessment Methods

Which of your Program Learning Outcomes did you assess during 2016-2017? *

LOC #4: Critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry.

What student work products did you use to assess your PLO(s)? Pick one or more direct methods from the list below and briefly describe below what specific work product(s) you used. *

- [ ] Published (Standardized) Test (e.g., Major Field Test)
- [ ] Class Tests & Quizzes with Embedded Questions
- [x] Class Presentations
- [ ] Off-Campus Presentations (NGOs, clients, agencies, etc.)
- [ ] Research Projects Reports
- [ ] Case Studies
- [ ] Term Papers
- [ ] Portfolio
- [ ] Artistic Performances, Recitals & Products
- [ ] Capstone Projects
- [ ] Poster Presentations
- [ ] Comprehensive Exams
- [ ] Thesis, Dissertation
- [ ] Pass Rates on Certification or Licensure Exams
- [ ] Group Projects
- [ ] In-/Out-of Class Presentations
- [ ] Competency Interviews (e.g., oral exams)
- [ ] Simulations
- [ ] Juried Presentations
- [ ]

Other: .....

Brief description of student work products used to assess PLOs: *

Primary journal article summaries presented in class; journal article presentations.

What tools did you use to evaluate the student work product(s) (e.g. rubric, test score)? *

rubric

Please upload any tools used to evaluate student work product(s) here in PDF format only. Please use descriptive file names (e.g. "SociologyAssessmentRubric.PDF").

RTECarticlepresent...

Who evaluated the student work product? Check all that apply. *

- [ ] FT faculty members who were not instructor(s) of the course(s)
- [x] FT faculty members who were instructor(s) of the course(s)
- [ ] PT faculty members who were not instructor(s) of the course(s)
- [ ] PT faculty members who were instructor(s) of the course(s)
- [ ] Other: .....

Describe the calibration procedure you employed, if any (i.e., how did you assure that faculty raters were consistent with each other in how they rated the student work products):

.....

What indirect methods did you employ, if any?

- [ ] Student Survey
- [ ] Student Interview
- [ ] Focus Groups
- [ ] Reflection Sessions
- [ ] Reflection Essays
- [ ] Faculty Survey
- [ ] Exit (end of program) Survey
- [ ] Exit (end of program) Interview
- [ ] Alumni Survey
- [ ] Employer Survey
- [ ] Diaries or Journals
- [ ] Data from Institutional Surveys
- [ ] Curriculum/Syllabus Analysis
- [ ] Other: _____

Please indicate and briefly describe what indirect methods you used (and/or attach the survey/script/interview below).

_____

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Results

What were the direct data results? *

From the samples of student work, it appears as though the all of the students are meeting LOC #4.

What were the indirect data results? (If applicable)

How do you interpret these results? What do they mean? *

Based upon the instructor's assessment, all of the students were able to satisfactorily (at a minimum, most above) critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry.

Closing the Loop

Which of the following actions did you take as a result of the assessment results? Pick one or more and briefly describe below. *

- [ ] Revision of PLOs
- [ ] Changes in pedagogical practices
- [ ] Revision of program course sequence
- [ ] Revision of course(s) content
- [ ] Curriculum Changes (e.g. addition and/or deletion of courses)
- [ ] Modified program policies or procedures
- [ ] Designed measurement tools more aptly suited for the task
- [ ] Improved within and across school/college collaboration
- [ ] Improved within and across school/college communication
- [ ] Revised student learning outcomes in one or more courses
- [ ] Modified rubric
- [ ] Developed new rubric
- [ ] Developed more stringent measures (key assessments)
- [ ] Modified course offering schedules
- [ ] Changes to faculty and/or staff
- [ ] Changes in program modality of delivery
- [x] Other: no changes needed

Please elaborate on your potential course(s) of action, related to any/all items you checked above. *

n/a

Presentation Rubric			
Criteria	**Ratings**		**Pts**
Article Choice view longer description	Full Marks 10.0 pts	No Marks 0.0 pts	10.0 pts
Article Interpretation view longer description	Full Marks 15.0 pts	No Marks 0.0 pts	15.0 pts
Critique view longer description	Full Marks 10.0 pts	No Marks 0.0 pts	10.0 pts
Class Discussion view longer description	Full Marks 5.0 pts	No Marks 0.0 pts	5.0 pts
			Total Points: 40.0

Article Choice

Was the paper submitted on time? Is it a primary journal article? Was the paper completely relevant for the topic area? Did it broaden the understanding of the topic? Was it impactful?

Article Interpretation

Was the outcome for the study correctly identified? Was the motivation behind the research clearly understood? Did the group correctly interpret the results/conclusions? Was the significance of the study assessed? Were group members easily understood and clear with their interpretation?

Critique

The major strengths and weaknesses of the study were correctly assessed.

Class Discussion

All members of the class participated in a thoughtful discussion. Group members correctly answered questions and were confident in their material.

PSM in Biotechnology Curriculum Map

	LOCs	Courses	Assessments (Assignments, Projects, Presentations)
1st Semester	Interpret concepts from multiple disciplines (biology, bioinformatics, business) within biotechnology. Articulate the need for ethics in science and technology based business/research/industry. Critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry. Network with industry members in molecular biology and biotechnology based business/research/industry.	• Molecular Biology • Career Prep Seminar • Information of Biotech • Ethical Implications of Biotechnology	Give an oral presentation on one of the following topics: current biotechnology R&D, product design/marketing or product development. Critically discuss and write summaries of primary research. Give an elevator pitch to industry members. Complete a mock interview with industry members and discuss your resume with industry members. Explain the positions of various religions with respect to biotechnology. Describe the importance of applying ethical approaches to biotechnology applications and industry. Appraise the efforts to incorporate ethical standards in practice.
2nd Semester	Interpret concepts from multiple disciplines (biology, bioinformatics, business) within biotechnology. Perform best practices and biotechnology-related laboratory techniques. Articulate the need for ethics in science and technology based business/research/industry. Critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry.	• Advanced Genetics and Molecular Biology • Business Teams & Small Group Dynamics • Global, Local and National Biotech Business	Perform laboratory techniques (such as PCR, gel electrophoresis, DNA isolation, RTPCR). Maintain a lab notebook; describe correct SOPs and other documentation required in a biotech lab. Design experiments and employ laboratory techniques to obtain data. Analyze data obtained from experiments and report results. Critically discuss primary research.
3rd Semester	Interpret concepts from multiple disciplines (biology, bioinformatics, business) within biotechnology. Perform best practices and biotechnology-related laboratory techniques.	• Bioinformatics • Advanced Research Methods in Biotechnology	Design experiments and employ laboratory/data techniques to obtain data. Analyze data obtained from experiments and report results.
4th Semester	Perform best practices and biotechnology-related laboratory techniques. Network with industry members in molecular biology and biotechnology based business/research/industry. Interpret concepts from multiple disciplines (biology, bioinformatics, business) within biotechnology. Critically review scientific papers and demonstrate communication skills appropriate for professional level employment in science and technology based business/research/industry.	• Internship Practicum in Biotechnology • Advanced Human Physiology Elective	Obtain an internship position at a bay-area biotech company or academic research facility. Apply knowledge and skills to day-to-day biotech industry operations. Preset on primary journal articles. Give an oral presentation or poster presentation on your Internship project.