1. **Identifying Information**

Name of Program: Data Science
Type of Program: Major
College of Arts and Sciences Division :Sciences
Name/Title/Email Address of Submitter: Stephen Devlin/Associate Prof. Maths & BSDS
Director /smdevlin@usfca.edu
Name/Email Address of Additional Individuals Who Should Receive Feedback:

2. **Mission Statement:** To deliver a high quality data science program that instructs students in the theory and practice of mathematical and computation analysis of applied data driven problems, and to graduate students with appropriate experience in industry-standard data science tools.

   Has this statement been revised in the last few years? Yes

3. **(Optional) Program Goals:**



   Have these goals been revised in the last few years?

4. **Program Learning Outcomes (PLOs)**

   L1. Think logically and analyze information critically in a mathematical setting.
   L2. Reformulate and solve problems in an abstract framework.
   L3. Express mathematical results verbally, working individually and in collaborative groups.
   L4. Apply mathematical techniques to specific problem domains
   L5. Demonstrate competence with programming concepts, including software development techniques and data structures

L6. Apply mathematical and computational techniques to real-world problems involving large, complex data sets.
L7. Visualize, present and communicate analytical results.

Have these PLOs been revised in the last few years? yes

## 5. Brief Summary of Most Recent Assessment Plan

Planned to asses L3 and L7 via projects and presentations in Mathematical Modeling Course Math 345.

## 6. Academic Program Review
Date of most recent Academic Program Review's External Reviewer Visit:  None.
Date of most recent Action Plan Meeting: ?
Brief Summary of the most recent Action Plan:  ?

## 7. Methods
What did you do with regard to assessment of your program/department in 2015-2016?  See above and previous assessment plan documentation submitted. Aside from preliminary L3/L7 assessment, much of our attention went to revising the curriculum in light of new hires and changes in the industry.

What were your questions?

How are these questions related to your most recent Academic Program Review and/or Action Plan?

What PLOs are these questions related to? L3,L7.

What direct (most important) and/or indirect methods did you employ? c,e,j.

Some Possible Direct Methods (pick > 1 and *briefly describe*):

a.  Published (Standardized) Test (e.g., Major Field Test)

b. Class Tests & Quizzes with Embedded Questions
c. Class Presentations
d. Off-Campus Presentations (NGOs, clients, agencies, etc.)
e. Research Projects Reports
f. Case Studies
g. Term Papers
h. Portfolio
i. Artistic Performances, Recitals & Products
j. Capstone Projects
k. Poster Presentations
l. Comprehensive Exams
m. Thesis, Dissertation
n. Pass Rates on Certification or Licensure Exams
o. Group Projects
p. In/Out-of Class Presentations
q. Competency Interviews (e.g., oral exams)
r. Simulations
s. Juried Presentations
t. Other

Some Possible Indirect Methods (*briefly describe*):

a. Student Survey
b. Student Interview
c. Focus Groups
d. Reflection Sessions
e. Reflection Essays
f. Faculty Survey
g. Exit (end of program) Survey
h. Exit (end of program) Interview
i. Alumni Survey
j. Employer Survey
k. Diaries or Journals
l. Data from Institutional Surveys (e.g., NSSE, SSI, GSS)
m. Curriculum/Syllabus Analysis
n. Other

8. **Results**

   What were the direct data results?  Too early to make any definitive conclusions.
   More data needed.

   What were the indirect results?

   What surprised you?

   What aligned with your expectations?

   What do you understand these results to mean?

   What are the implications of the data?


9. **Closing the Loop**

   What might you do as a result of these assessment results? What curricular or
   programmatic changes might you implement?  We are a new program and need
   more time and experience for data to mean anything real.

   Possible Closing(s) of the Loop(s) (pick > 1 and *briefly describe*):

a.  Revision of PLOs
b.  Changes in pedagogical practices
c.  Revision of program course sequence
d.  Revision of course(s) content
e.  Curriculum Changes (e.g., addition and/or deletion of courses)
f.  Modified program policies or procedures
g.  Designed measurement tools more aptly suited for the task
h.  Improved within and across school/college collaboration
i.  Improved within and across school/college communication
j.  Revised student learning outcomes in one or more courses
k.  Modified rubric
l.  Developed new rubric
m.  Developed more stringent measures (key assessments)
n.  Modified course offering schedules
o.  Changes to faculty and/or staff
p.  Changes in program modality of delivery
q.  Other

   Have you or will you submit any course or program change proposals as a result
   of these results? No.