The purpose of Program Planning and Assessment at Hartnell College is to obtain an honest and authentic view of a service/office/program and to assess its strengths, opportunities, needs, and connection to the mission and goals of the college. The process is based on the premise that each area reviews assessment data and uses these data to plan for improvement. The results of these annual cycles provide data for a p(49l 0 T.003 al

Please complete this section for services/offices/non-instructional programs scheduled for comprehensive review in spring 2015. Go to Section II for services/offices/non-instructional programs scheduled for annual review in spring 2015.

A. OVERALL

As predominantly first- generation college students Hartnell Science, Math, and Engineering students face a larger number of challenges and barriers than students who have grown up with broader college educated mentors. The SMI strives to lessen and bridge this gap. The activities and services which define the student experience in the SMI or “STEM Umbrella” are:

1. STEM Summer Bridge (STP, CalEndow)
2. Math and Science Academies (STP)
3. Supplemental Instruction for transfer level STEM major preparation courses (funded by CUSP / ACCESS and oordinated by MESA)
4. the STEM Internship Program (CUSP, STP, ACCESS)
5. Transfer focused and industry related fieldtrips (MESA, CUSP, STP)
6. STEM Speaker Series (STP, MESA)
7. STEM Counseling and Advising (MESA, STP, Student Success)

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In totality the programs and services of SMI has had access to funding of nearly $2 million in recent years. For this year and next the funding is reduced to a little over $1 million, and as our last major grants complete in 2016 we may potentially be down to a $100,000 or so.

B. Staffing Profile

1. In the table indicate the number in terms of FTE. For instance, 1 full-time staff person is 1.0, and a half-time person is .5.

Positions	2012-13	2013-14	2014-2015
Management, Supervisors	1 and 1/3	2	2
Classified Staff	5	6	6
Classified Staff- Part-time	1	1	1
Faculty Staff	~16	~16	~16
Faculty – Part-time	~8	~8	~8
Student Workers	2	2	2
Professional Experts	~15	~15	~15
Total Full Time equivalent Staff	~14	~14	~14

2. What staffing factors/challenges have influenced the effectiveness of the service/office/program?

There is no formal structure to coordination of the SMI. The SMI or “STEM Umbrella” exists because of the willingness of staff and faculty to work together on behalf of the students, however there is no person or structure facilitating the collaboration and coordination of activities. Additionally, many of the staffing positions are grant funded (roughly 85%). The primary challenge will be institutionalization, streamlining, and/or obtaining additional funding to continue implementation of key SMI programs when grants end.

C. Service / Office / Program Goals

1. List and describe service/ office/ program goals for the next comprehensive review cycle. Be sure to highlight innovative, unique, or other especially noteworthy aspects.

In considering your service's/ office's/ program's future goals, please review Hartnell's vision and mission statements.

VISION STATEMENT

Hartnell College will be nationally recognized for the success of our students by developing leaders who will contribute to the social, cultural, and economic vitality of our region and the global community.

MISSION STATEMENT

Focusing on the needs of the Salinas Valley, Hartnell College provides educational opportunities for students to reach academic goals in an environment committed to student learning, achievement and success.

1) Streamline and institutionalize key STEM support programs and services.

2) Continue to pursue Department of Education, National Science Foundation, NASA, USDA, and other relevant granting opportunities to maintain and expand key STEM support programs and services.

3) Create a Science, Math and Engineering support center in the new science building.

4) Develop a virtual "one-stop shop" for students to access calendar of activities, social media network, educational planning

5) Expand Early Alert, embedded counseling, and intrusive advising for STEM majors to ensure student success through support and follow up services.

6) In collaboration with Student Life, develop a well-coordinated system for student engagement and outreach and exposure activities to K-12 students and schools.

7) Develop and coordinate an alumni network of STEM students who have transferred, graduated, and entered into industry to serve as speaker and mentors

2. Analyze and report on salient patterns and trends in this data. Given these patterns and trends in users, needs, usage and/or other key factors, identify particularly challenging issues in service/program provision, office functioning, and the evaluation of the service/office/non-instructional program.

STEM majors at Hartnell College have dramatically increased over the last 4 years. This time period corresponds tightly with the times of heavy grant funding designed to build the STEM pipeline; we content that the funding has had an important effect. Regarding the high levels of student success, we contend the "STEM umbrella" fosters a group identity and provides wrap around support services.

3. Provide any other relevant data and describe any other relevant qualitative factors that affect service/program provision, office functioning, and the evaluation of the service/office/non-instructional program. List the sources of this data and information.

B. SERVICE/PROGRAM MODALITY

1. Describe the different physical locations (campuses, sites, etc.) at which, the various delivery vehicles (phone, online, face-to-face, etc.) through which, and the times (of day, evening, week, etc.) at which the service/program is provided to intended recipients. Consider staffing and other resources available to serve user needs for each location, vehicle, and time specified.

The Math, Science and Engineering Programs at Hartnell are nearly exclusively at the Main Campus, driven by the importance of lab spaces for the majority of these programs. The SMI/"STEM umbrella" is focused here as well. Computer Science is a program that fits STEM but not Math, Science and Engineering. This program is located at the Alisal Campus. Computer Science students do participate actively in MESA and various SMI programs, though likely concentrated in their Math or Science course work.

2. Compare service/program

An evening Calculus track, with a potential addition of Physics, is being developed to accommodate students who work during the day. As these course offerings grow, the SMI may need to consider how these students are being served.

C. OUTCOMES

SERVICE AREA OUTCOMES

Each service unit/office/non -

college-wide success rate of 71 percent for that semester. The difference is a lasting one. In spring of 2014 this first group of summer bridge students had a course success rate of 76 percent. This is seven percentage points higher than the college-wide success rate of 69 percent for that semester. Unfortunately, w e are not seeing large numbers of students starting in Bridge and arriving solidly into our MSE majors (recent survey of 70 students found 1 had started in Bridge). A potential direction to go to refocus this program and facilitate sustainability is to transition this program to an Early College offering of a STEM GE course like Environmental Science linked with learning support offered in a Counseling 1 section

Math and Science Academies – Math Academy has grown to serve nearly a thousand students a year. Success rates of students who have participated in the Academy have been consistently better than those of non-participants (an average of 10 percentage points higher). A particularly striking outcome is that success rates of Math Academy participants in Intermediate Algebra, an important prerequisite for STEM majors, have been 15 to 29 percentage points higher than the college-wide success rate. The Math Academy also provides opportunities for students to improve their placement test results and place into higher levels of mathematics, thus accelerating completion of their math prerequisites.

The results for Science Academy are less clear. Science Academy is structured to have both a Biology and Chemistry track. Analysis of SLO data for CHM 22 and CHM 1A show incoming CHM 22 students lack study skills, test taking skills, math skills, and basic chemistry lab skills to be successful in CHM 22. Chemistry has an interest in using the Chemistry Academy to bridge a lab skills gap, potentially supporting fewer students needing to take Chemistry 22 before getting into the major's level courses Revision to the Chemistry Academy curriculum may be needed to focus this effort more tightly to the need. Although smaller in scale, with numbers closer to 80 a year, the Science Academy has similar success data for participants versus nonparticipants.
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Outreach - Outreach in STEM is complicated. Our service region desperately needs exposure to STEM career fields, but as a College outreach does not necessarily have an easy fit with our strategic planning goals. STEM has several quality outreach programs including the Planetarium, NASA SEMAA, STEM club outreach and collaborations between them. We additionally host several important STEM Community Events, including the Physics Olympics and Family Science Day.

Transfer focused and industry related fieldtrips – This is a quality, engagement-focused program provided by MESA.

STEM Speaker Series – This is an important engagement-focused program that has been a collaboration between MESA and the STP grant.

Online STEM resources - We have made various efforts to provide this service, but attention and tighter coordination would help

1. List information concerning new projects or activities planned. The first activity listed should be the most important; the second activity listed the second most important, etc. Please keep in mind that resources needed, if funded, would not be approved until spring 2016 and provided until FY 2016-17. Ongoing activities involving resources that will no longer be available from grant funds starting FY 2016-17 must be planned for appropriately.

* See Appendix A for a list of the 11 goals in the college's Strategic Plan.

*** Please complete items 2a-e immediately below for EACH new activity. ***

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- Pursue grant opportunities to grow or maintain other areas of the internship program - stipends for Hartnell faculty, agriculture or math research, etc.

d) What measureable outcomes are expected from this activity? List indicators of success.

Improved transfer rates of students.
Student surveys- mentors, career ground truthing

e) What are the barriers to achieving success in this activity?

Funding availability.

____

Activity 2: Math Academy

a) Describe the new activity or follow-on activity that this resource will support.

Math Academy has grown to serve over 500 students a year; with additional resources this could potentially double. Success rates of students who have participated in the Academy have been consistently better than those of non-participants (an average of 10 percentage points higher). A particularly striking outcome is that success rates of Math Academy participants in Intermediate Algebra, an important prerequisite for STEM majors, have been 15 to 29 percentage points higher than the college-wide success rate. The Math Academy also provides opportunities for students to improve their placement test results and place into higher levels of mathematics, thus accelerating completion of their math prerequisites.

b) Describe how this activity supports all of the following that apply:

2A, 2B, 5A

c) Does this activity span multiple years? YES NO

If yes, describe the action plan for completion of this activity.

The Math Academy will need classified coordination and instructor salaries.

d) What measureable outcomes are expected from this activity? List indicators of success.

Accurate course placement/reduced time in basic skills math, improved student success in supported math courses.

Stipends for SIs: 25 CHM; 10 PHY; 8 BIO; 14 Calculus
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Priority 5 : Innovation and Relevance for Programs and Services

Goal 5A: Hartnell College will provide programs and services that are relevant to the real-world needs of its diverse student population, while also developing and employing a culture of innovation that will lead to improved institutional effectiveness and student learning.

Priority 6: Partnership with Industry, Business Agencies and Education

Goal 6A: Hartnell College is committed to strengthening and furthering its current partnerships, in order to secure lasting, mutually beneficial relationships between the college and the community that the college serves.

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