

Program Planning and Assessment (PPA)  
for Academic Programs

Comprehensive Review, Annual Review & A

Dean's Comments (required):

Chemistry is a strong program with increasing enrollments. With increased/stable lab support and guaranteed supply money, additional sections need to be added to meet the increase of students in the STEM pipeline. The chemistry faculty are engaged in improving success in their classes, indicated by recent prereq changes and their engagement in the Chemistry Academy.

Typed Name of Area Dean Shannon Bliss

Date 5/27/15

VPAA Comments (required for comprehensive reviews):

\_\_\_\_\_  
Typed Name of VPAA

\_\_\_\_\_  
Date

This PPA report is organized in 3 sections and 11 subsections as follows:

- I. Comprehensive Review a. Overall Program Effectiveness, b. Instructional Staffing, c. CTE Programs Labor Market & Achievement, and d. Program \_\_\_\_\_

## I. COMPREHENSIVE REVIEW

*Please complete this section for programs/disciplines scheduled for comprehensive review in spring 2015.  
Go to Section II for programs/disciplines scheduled for annual review in spring 2015.*

### A. OVERALL PROGRAM EFFECTIVENESS

1. Describe your program in terms of its overall effectiveness over the past several years.

*Please consider the questions below in describing your program/discipline/area.*

*How are students/employees served by the program?*

*What are the unique aspects of the program?*

*How does the program relate to the needs of the community?*

*How does the program interface/collaborate with other programs on campus?*

*What is wo*

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2. Describe the number of, activities of, and recommendations resulting from advisory committee meetings that have occurred over the past two years. What information and/or data were presented that required or currently require changes to be made to your program? Please attach copies of meeting minutes over the past two years and a list of committee members and their respective industries/areas.

*[Begin response here]*

3. Does labor market data and/or the need for additional education indicate that changes should be made to your program? Does the program (continue to) meet a labor market demand and/or fulfill an important step toward higher/additional education?

*[Begin response here]*

#### D. PROGRAM GOALS

1. List and describe program/disciplinary goals for the next comprehensive review cycle. Be s

3)

4)

5)

*This section must be completed for ALL academic programs, including those scheduled for a comprehensive review in spring 2015.*

#### A. COURSE DATA & TRENDS

<b>Enrollment</b>						
Course	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
CHM 22	193	160	184	184	246	224
CHM 60	27	24	30	32	25	28
CHM 1A	72	48	60	50	68	53
CHM 1B		59				67

## SUCCESS

3. Review the success data. Describe and analyze any patterns or anomalies that you notice. What do you make of these patterns or anomalies? What actions should be





Chemistry/Science Academy:

Not applicable.

4. Compare student retention in the DE teaching environment with retention in the face



Apply appropriate chemical theories, concepts, principles, methods, and laboratory skills to relevant science and engineering settings.	Chemistry faculty developed and designed a one week Chemistry Academy in Summer 2012 to address this outcome for incoming CHM 22 students.	yes
demonstrate competence in chemistry laboratory techniques and experimental methods.	We continually update and revise our lab courses to enhance student learning and lab skills.	yes

List Program level outcome(s) scheduled for assessment in AY 15-16	Have your course level SLOs needed for this program level outcome been assessed or scheduled for assessment?
Apply appropriate chemical theories, concepts, principles, methods, and laboratory skills to relevant science and engineering settings.	Yes

We have identified skills in which chemistry students need improvement and developed and designed a one week Chemistry Academy for incoming CHM 22 students in Summer 2012. A second Chemistry Academy was offered in Winter 2013. This one week workshop was repeated in Summer 2013 to include biology students in a Science Academy. The Science Academy was offered in January 2014, and January 2015

We do not plan to make any changes to our degree program but continue to assess SLO data to improve student learning.

We plan to implement a Chemistry AS degree in the future.

#### CORE COMPETENCIES

3. Describe how Core Competencies (Communication Skills, Information Skills, Critical Thinking/Problem Solving, Global Awareness, Aesthetic Appreciation, Personal Growth and Responsibility) were specifically addressed by the program/ discipline during the past year. For example, were data gathered at the course level? Was there review and analysis of the data? How did the discipline faculty engage in discussion? Were any interventions conducted? Are there any plans to make changes to courses or improvements in teaching and student learning?

[Begin response here]

For each chemistry

CHM 1A	Fall 2014	
CHM 2:	Fall 2014, Spring 2015	
CHM 6(	Fall 2014	

List courses scheduled for SLO assessment in AY 2015-16	Faculty member(s) responsible for coordinating	Target semester and year Fa 2015 or Sp 2016
CHM 2:		Fall 2015
CHM 2:		Spring 2016
CHM 6(		Spring 2016

5. Describe course level assessments results and how they will influence

assessments. We continue to update our courses and seek better ways to engage our students in learning chemistry. Our main challenge is maintaining quality and safety in our chemistry labs. Our classes are in high demand and have led to enrolling more than the class size maximum in some cases. We need additional lab technical support in personnel, equipment, and supplies to ensure our students learn and apply the critical thinking skills when they complete our classes.

### E. PREVIOUSLY SCHEDULED ACTIVITIES

This subsection focuses on activities that were previously scheduled. An activity can address many different aspects of your program/ discipline, and ultimately is undertaken to improve or enhance your program/ discipline, and keep it current.

Activity scheduled	What success has been achieved to date on this activity?	What challenges existed or continue to exist?	Will activity continue into AY 15-16?	Will activity continue into AY 16-17?*
1. course scheduling grid	Enrollm			





4. new Science Building  
planning

Chemistry faculty and staff  
participated in designing  
chemistry teaching labs,  
instrument room, stockroom,  
and storage areas.

The Hartnell Foundation is  
seeking donors to make



This section must be completed for ALL academic programs, whether scheduled for annual or comprehensive review in spring 2015.

## A. NEW ACTIVITIES

This subsection addresses new activities for, and continuing new activities into, AY 2015-16. An activity can address many different aspects of your program/discipline, and ultimately is undertaken to improve, enhance

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.

Activity	Strategic Plan Goal(s) No. & Letter (e.g., 5A)*	Related Courses, SLOs, PLOs, or goals	Desired Outcome(s)	Resources Needed	Person Responsible	Estimated Date of Completion (can be more than one year in length)	Comments
1. additional CHM 22, 23, and 1B sections	1A 2A	CHM 22, 23, and 1B	Meet student demand for CHM 22	Additional funds for lab equipment and supplies for the additional lab sections. Additional lab technical support for additional lab sections. Adjunct chemistry instructors to staff additional lab sections.	Taketomo Bekker Yee	ongoing	
2. SI for chemistry classes	1A 2A	all	Increased retention and success	Funding to recruit, hire, and train students as SI leaders.	Taketomo Bekker Yee	ongoing	

3. Science Academ

1A

CHM 22, 1A

Increased  
retention and  
success

Funding for  
staff, technical  
support,  
equipment, and  
supplies for  
chemistry  
component of  
Science

2A

6.





[Begin response here]

The Chemistry Program can offer a limited number of additional CHM 22, 23, and 1B sections due to limited facilities space, lab technical support, lab equipment and supplies, and adjunct chemistry instructors .

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

[Begin response here]

Additional CHM 22 , 23, and 1B sections are measured by enrollment. Success is indicated by an increase in enrollment in CHM 2223, and 1B.

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

[Begin response here]

Barriers for achieving success in meeting CHM 22,

- Equipment (non-expendable, greater than \$5,000), supplies (expendable, valued at less than \$5,000)
- Software
- Hardware
- Outside

c) Does this ac



educational and achieve educational success.

c) Does this activity span multiple academic years? & YES & NO

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

[Begin response here]

The Science Academy is currently offered and are paid through grant funding. Science Academy will end when the grants end. We seek a plan to institutionalize the Science Academy so this student support service can continue to help our students.

d) Wh

- Faculty
- Other staffing
- Facilities
- Equipment (non-expendable, greater than \$5,000), supplies (expendable, valued at less than \$5,000)
- Software
- Hardware
- Outside services
- Training
- Travel
- Library materials
- Science laboratory materials

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

[Begin response here]

The Chemistry Program purchased scientific instruments, equipment, supplies, and chemicals through STEM grant funds. Chemistry faculty and staff continue to design and develop lab activities that use these instruments to enhance student retention and success. Our students need to use modern science instruments and equipment to prepare for future careers.

classes and employment.

3) Course Level Outcome (list applicable course level outcome)

\*\*\* Please complete this page for each new activity. \*\*\*

2. This item is used to describe how the new activity, or continuing new activity, will support the program/discipline.

Consider:

- Faculty
- Other staffing
- Facilities
- Equipment (non-expendable, greater than \$5,000), supplies (expendable, valued at less than \$5,000)
- Software
- Hardware
- Outside services
- Training
- Travel
- Library materials
- Science laboratory materials

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

[Begin response here]

Many departments in the Hartnell College, including the Chemistry Department in the Science Division, use chemicals. These chemicals must be stored, handled, and disposed of safely and in accordance to federal and state rules and regulations. To comply with these regulations, the College should develop and design a college-wide Chemical Hygiene Plan that meets the Occupational Safety and Health Administration (OSHA) Occupational Exposure to Hazardous Chemicals in Laboratories standard (the Laboratory standard). The Laboratory standard protects workers (faculty, staff, and students) from harm due to hazardous chemicals. The Chemistry Department has several barrels of hazardous waste that needs to be removed and disposed. Due to a lack of funding, this waste has not been removed and may present safety and exposure risk to our lab staff.

To meet the OSHA Laboratory standard, we require the following:

1. Funding to design and develop a chemical hygiene plan for the College by a trained chemical hygiene officer.
2. Funding to hire a chemical hygiene officer.
3. Worker training in safety, handling, and disposal of chemicals.



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

- 1) Core Competency (Communication Skills, Information Skills, Critical Thinking/Problem Solving, Global Awareness, Aesthetic Appreciation, Personal Growth and Responsibility)
- 2) Program level Outcome (list applicable program outcome)
- 3) Course level Outcome (list applicable course level outcome)
- 4) Program/ Discipline Goal (list applicable program/discipline goal)
- 5) Strategic Plan Goal (list applicable strategic plan goal)

[Begin response here]

A Chemical Hygiene Plan supports Strategic Priority Goal 2A by providing a safe and supportive environment to help students pursue and achieve educational success and Goal 4B by having the College's physical plant, furnishings, and grounds maintained and replaced in a planned and scheduled way to support learning, safety, security, and access.

c) Does this activity span multiple academic years? & YES & NO

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

[Begin response here]

The College does not currently have a chemical hygiene plan. The following are required:

1. Funding to design and develop a chemical hygiene plan for the College by a trained chemical hygiene officer.
2. Funding to hire a chemical hygiene officer.
3. Worker training in safety, handling, and disposal of chemicals.

d) What measurable outcomes

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

[Begin response here]

Barriers for achieving success in chemistry hygiene plan:

1. Lack of funding to develop and design a chemical hygiene plan by a trained chemical hygiene officer.
2. Lack of funding to recruit and hire a chemical hygiene officer.
3. Lack of funding for worker training in safety, handling, and disposal of chemicals.

\*\*\* Please complete this page for each new activity. \*\*\*

2. This item is used to describe how th

To make the STEMArt lab available and useful to our students, we require the following:

1, auxiliary supplies, such as

a. filament for 3D printer

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

[Begin response here]

We expect students who use the STEMArt lab will have higher retention and success rates.

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

[Begin response here]

Barriers for achieving success in STEMArt lab include:

1. Lack of funding to complete the lab,

1. Lab Technical Support	C									Office space	\$65,000
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1.

4.  
Chemical



# APPENDIX A. Strategic Priorities & Goals (from Hartnell College Strategic Plan 2013-2018)

## Priority 1: Student Access

Goal 1A: Hartnell College will provide high



