NORCO COLLEGE
ANNUAL INSTRUCTIONAL PROGRAM REVIEW

Discipline/Unit: <u>Manufacturing</u>

(If applicable) Program or Certificate

Computerized Numerical Control (CNC) Operator	NCE799
Computer Numerical Control Programming	NAS655 NAS655B NAS655C NCE655
Conventional Machine Operator	NCE865

Please give the full title of the discipline or department. You may submit as a discipline or department as is easiest for your unit

Contact Person: <u>Paul Van Hulle</u>
Due: April 20, 2017

Please send an electronic copy in a word document to:
programreview@norcocollege.edu

Form Last Revised: November 2016

Norco College

Web Resources: http://www.rccd.edu/administration/educationalservices/ieffectiveness/Pages/ProgramReview.aspx

Annual Instructional Program Review Update
Instructions

*Please retain this information for your discipline's/department's use (or forward to your chair).

The Annual Self-Study is conducted by each unit on each college and consists of an analysis of changes within the unit as well as significant new resource needs for staff, resources, facilities, and equipment. It should be **submitted by April 20** or the first working day following the 20th in anticipation of budget planning for the fiscal year, which begins July 1 of the *following* calendar year.

For Program Review data, please go to the following link:
 http://www.norcocollege.edu/about/president/strategic-planning/programreview/Pages/index.aspx

The questions on the subsequent pages are intended to assist you in planning for your unit.

The forms that follow are separated into pages for ease of distribution to relevant subcommittees. **Please keep the pages separated** if possible (though part of the same electronic file), **with the headers as they appear**, and be sure to include your unit, contact person (this may change from topic to topic) and date on each page submitted. Don't let formatting concerns slow you down. If you have difficulty with formatting, Nicole C. Brown can adjust the document for you. Simply add responses to those questions that apply and forward the document to nicole.brown@norcocollege.edu with a request to format it appropriately.

If you cannot identify in which category your requests belong or if you have complex-funding requests, please schedule an appointment with your college's Vice President for Business Services right away. They will assist you with estimating the cost of your requests. For simple requests such as the cost of a staff member, please e-mail your Vice President. It is vital to include cost estimates in your request forms. Each college uses its own prioritization system. Inquiries regarding that process should be directed to your Vice President.

      Norco: **VP Business Services**   **951-372-7157**

Mission

Norco College serves our students, our community, and its workforce by providing educational opportunities, celebrating diversity, and promoting collaboration. We encourage an inclusive, innovative approach to learning and the creative application of emerging technologies. We provide foundational skills and pathways to transfer, career and technical education, certificates and degrees.

Vision

Norco – creating opportunities to transform our students and community for the dynamic challenges of tomorrow.

Strategic Plan: Goals and Objectives 2013-2018

Goal 1: Increase Student Achievement and Success

Objectives:
1. Improve transfer preparedness (completes 60 transferable units with a 2.0 GPA or higher).
2. Improve transfer rate by 10% over 5 years.
3. Increase the percentage of basic skills students who complete the basic skills pipeline by supporting the development of alternatives to traditional basic skills curriculum.
4. Improve persistence rates by 5% over 5 years (fall-spring; fall-fall).
5. Increase completion rate of degrees and certificates over 6 years.
6. Increase success and retention rates.
7. Increase percentage of students who complete 15 units, 30 units, 60 units.
8. Increase the percentage of students who begin addressing basic skills needs in their first year.
9. Decrease the success gap of students in online courses as compared to face-to-face instruction.
10. Increase course completion, certificate and degree completion, and transfer rates of underrepresented students.

Goal 2: Improve the Quality of Student Life

Objectives:
1. Increase student engagement (faculty and student interaction, active learning, student effort, support for learners).
2. Increase frequency of student participation in co-curricular activities.
3. Increase student satisfaction and importance ratings for student support services.
4. Increase the percentage of students who consider the college environment to be inclusive.
5. Decrease the percentage of students who experience unfair treatment based on diversity-related characteristics.
6. Increase current students' awareness about college resources dedicated to student success.

Goal 3: Increase Student Access

Objectives:
1. Increase percentage of students who declare an educational goal.
2. Increase percentage of new students who develop an educational plan.
3. Increase percentage of continuing students who develop an educational plan.
4. Ensure the distribution of our student population is reflective of the communities we serve.
5. Reduce scheduling conflicts that negatively impact student completion of degrees and programs.

Goal 4: Create Effective Community Partnerships

Objectives:
1. Increase the number of students who participate in summer bridge programs or boot camps.
2. Increase the number of industry partners who participate in industry advisory council activities.
3. Increase the number of dollars available through scholarships for Norco College students.
4. Increase institutional awareness of partnerships, internships, and job opportunities established with business and industry.
5. Continue the success of Kennedy Partnership (percent of students 2.5 GPA+, number of students in co-curricular activities, number of students who are able to access courses; number of college units taken).
6. Increase community partnerships.
7. Increase institutional awareness of community partnerships.
8. Increase external funding sources which support college programs and initiatives.

Goal 5: Strengthen Student Learning

Objectives:
1. 100% of units (disciplines, Student Support Service areas, administrative units) will conduct systematic program reviews.
2. Increase the percentage of student learning and service area outcomes assessments that utilize authentic methods.
3. Increase the percentage of programs that conduct program level outcomes assessment that closes the loop.
4. Increase assessment of student learning in online courses to ensure that it is consistent with student learning in face-to-face courses.
5. Increase the number of faculty development workshops focusing on pedagogy each academic year.

Goal 6: Demonstrate Effective Planning Processes

Objectives:
1. Increase the use of data to enhance effective enrollment management strategies.
2. Systematically assess the effectiveness of strategic planning committees and councils.
3. Ensure that resource allocation is tied to planning.
4. Institutionalize the current Technology Plan.
5. Revise the Facilities Master Plan.

Goal 7: Strengthen Our Commitment To Our Employees

Objectives:
1. Provide professional development activities for all employees.
2. Increase the percentage of employees who consider the college environment to be inclusive.
3. Decrease the percentage of employees who experience unfair treatment based on diversity-related characteristics.
4. Increase participation in events and celebrations related to inclusiveness.
5. Implement programs that support the safety, health, and wellness of our college community.

I. Norco College Annual Instructional Program Review Update

Unit: Manufacturing
Contact Person: Paul Van Hulle
Date: 1/28/17

Trends and Relevant Data

1. **How does your unit support the mission of the College?**

2. **Have there been any changes in the status of your unit? (if not, please indicate with an "N/A")**

   a. Has your unit shifted departments?

   Yes, we have hired a new instructor in the electronics department. Glen Graham will be doing the program reviews for the following programs.
   - Industrial Automation
   - Digital Electronics
   - Electrician
   - Green Technician
   - Supply Chain Technology
   - Electrical apprenticeship program
   - Sound communications apprenticeship program

   b. Have any new certificates or complete programs been created by your unit?

   Yes, we created the Conventional machine operator certificate

   c. Have activities in other units impacted your unit? For example, a new Multi Media Grant could cause greater demand for Art courses.

   None

3. List and discuss your retention and success rates as well as your efficiency. If helpful, please note any differences between instruction delivery format (Online, Hybrid etc.)
What are the changes or significant trends in the data? To what do you attribute these changes?

Looking at the data we can see that students did better during the ACE program. The ACE program started for the machining classes during the Summer 2015 semester and continued until the Fall 2016. We can see a significant jump in the success rate for the 2015-2016 year from 66.41 to 83.18%. This can be attributed to the ACE program with the fact that students were given more direction and guidance for the completion of their courses. The discipline feels that we should continue to do the ACE program during the upcoming semesters.

Examining the retention rates we can see that during the 2012-13 year till the 2015-16 years we can see a significant jump from 82.47 to 91.12%. Similarly, the learning community of the ACE program attributed to this jump. The special attention, case management, and cohort learning group made a huge deference on student retention in the manufacturing discipline.

Efficiency: the efficiency rate has been relatively stable since fall 2014. The manufacturing discipline has a lower course cap as compared to other disciplines in the college, and this is necessary for the safety of the students. Plus, we have a small machine shop and thus fewer students can work on the machines at one time.
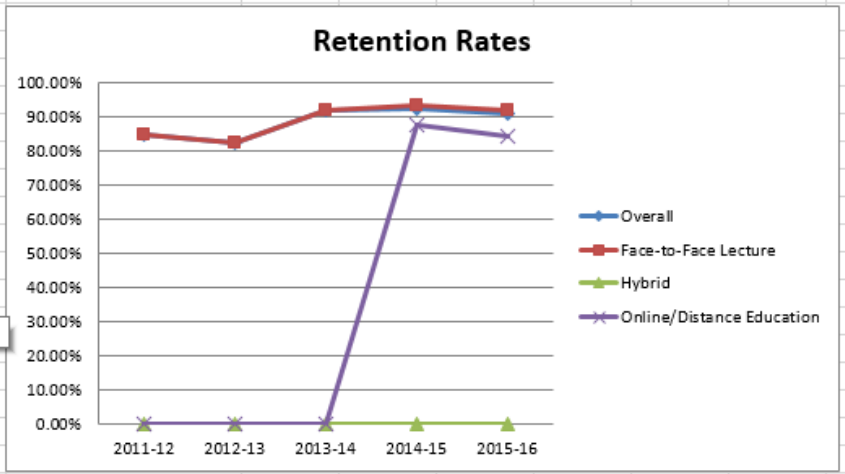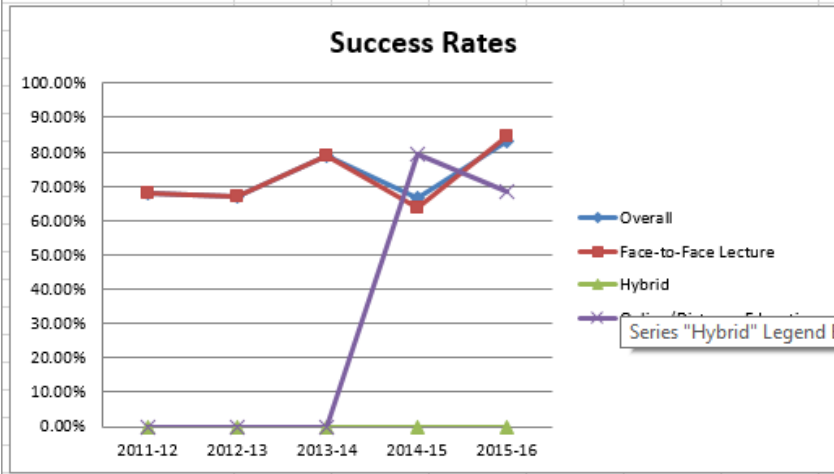
Discipline

ACC	ADJ	AMY	ANT	ARE	ART	BIO
BUS	CAT	CHE	CIS	COM	CON	CSC
DAN	EAR	ECO	ELE	ENE	ENG	ESL
FRE	GAM	GEG	GUI	HES	HIS	HUM
ILA	JOU	JPN	KIN	LIB	MAC	MAG
MAN	MAT	MIC	MKT	MUC	MUS	PHI
PHO	PHP	PHS	PHY	POL	PSY	REA
RLE	SCT	SOC	SPA	THE	WKX	

<-- If the box to the left is completely blank, you do not have the 2010 version of Excel. Please contact the Office of Institutional Effectiveness to get data for your discipline.

Success Rate NORCO	2011-12	2012-13	2013-14	2014-15	2015-16
Overall	68.14%	67.01%	78.79%	66.41%	83.18%
Face-to-Face Lecture	68.14%	67.01%	78.79%	63.46%	84.62%
Hybrid	0.00%	0.00%	0.00%	0.00%	0.00%
Online/Distance Education	0.00%	0.00%	0.00%	79.17%	68.42%

Retention Rate NORCO	2011-12	2012-13	2013-14	2014-15	2015-16
Overall	84.96%	82.47%	91.92%	92.19%	91.12%
Face-to-Face Lecture	84.96%	82.47%	91.92%	93.27%	91.79%
Hybrid	0.00%	0.00%	0.00%	0.00%	0.00%
Online/Distance Education	0.00%	0.00%	0.00%	87.50%	84.21%

Discipline

ACC	ADJ	AML	AMY	ANT	ARE	ART	BIO
BUS	CAT	CHE	CIS	COM	CON	CSC	DAN
EAR	ECO	ELE	ENE	ENG	ESL	FRE	GAM
GEG	GUI	HES	HIS	HUM	ILA	JOU	JPN
KIN	LIB	MAC	MAG	**MAN**	MAT	MIC	MKT
MUC	MUS	PHI	PHO	PHP	PHS	PHY	POL
PSY	REA	RLE	SCT	SOC	SPA	SPE	THE
WKX							

Efficiency 2011-2016
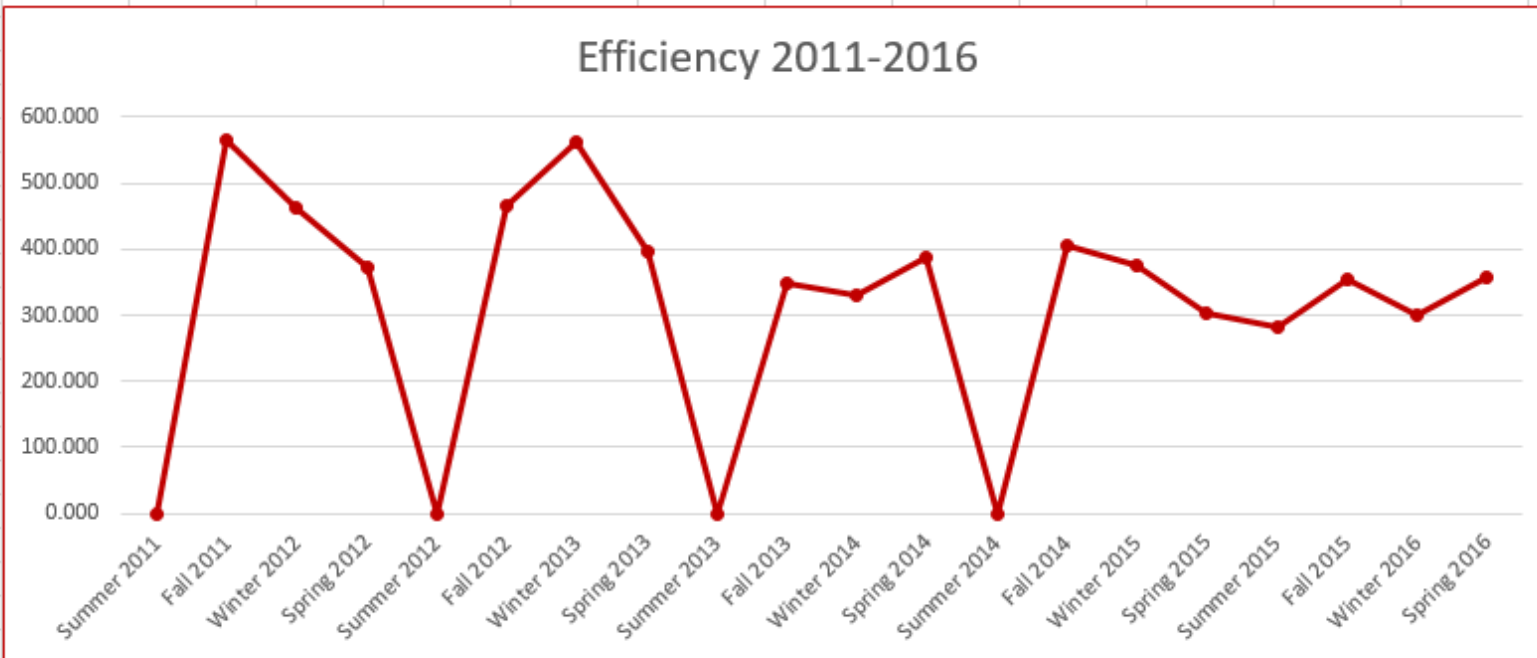
Looking at the previous two pages we can see that the program does not have very many courses that are online. The only course that is offered online is the MAN 55 course. We can also see that success rates and retention rates have increased slightly but not significantly. These charts represent success, retention and efficiency rates for manufacturing only.

4. **List the resources that you received in the last year as a result of program review. How did the resources impact student learning? If you requested resources and did not receive them, how did it impact your unit?**

The most significate resource we were given this year was a new ELE instructor. Students now have more access to their instructor and the program is working to develop new curriculum that is better for industry needs. CTE programs need full time faculty leadership to be successful; finally, our ELE students will have the faculty leadership they deserve.

5. **What annual goals does your unit have for 2016-2017 (please list the most important first)? Please indicate if a goal is directly linked to goals in your comprehensive. How do your goals support the college mission and the goals of the Strategic Plan/Educational Master Plan?**

List the goals of your unit for 2016-2017	Define activity(s) linked to the goal	Briefly explain the relationship of goal to mission and Strategic Plan/Educational Master Plan (see above)	Indicate if goal is limited to Distance Education
Dissolve the machining discipline	We will be deleting all references to machining from the catalog, program review and the schedule. It will make it less confusing for students trying to gain a certificate because their will only be one discipline.	Goal 3	No
National Institute for Metalworking skills (NIMs) and/or skills USA involvement	During the 2016 year we created two new certificates that relate to the NIMs certification.	Goal 4, objective 6	No
Continue to provide a	Industry advisory meetings every	Goal 4 objective 2 and 7	No

commitment to upgrading courses per industry standards	year, on going		
Marketing: We are excited to have a new director of marketing for all CTE programs, Jennifer is doing a wonderful job.	Ongoing. One suggestions I would like to see followed through on campus is to market machine, ACE and Electrical programs on the new recycling trash cans located around campus. Kevin Fleming and Jesse Lopez are working hard to find marketing opportunities	Goal 3	No
Outreach: Continued participation on Norco Campus tours and activities where the public is invited on campus. MAN/ENE/ELE instructors will continue to present the programs in the program to K-12 students.	Ongoing, The outreach department continues to arrange K-12 visitors to the classrooms and instructors in the department continue to host these students as much as possible	Goal 3	No
Website: Work with Jennifer to improve the Norco College website to better enhance access to our programs.		Goal 3	No
Better document the job offers in our community. We really need to hire an employment and resume director accessible to our students.		Goal 1 objective 10	No
More emphasis will be placed on marketing strategies and recruitment of JFK students.	We would like to accept more JFK and other high school students in our programs. I truly believe that machining can be a way to help students get jobs before they get their associates degree.	Goal 1 objective 6	No
Growth of the machining and manufacturing program.	The discipline feels that based on student success in the electronics	Goal 1 #7, 10 Goal 3 #2 And Goal 4 #8	No

	department we would like to try to offer more classes accelerated using ACE as a template.		
Improve pathways between high schools and the college.	This past year we continue to sign off on many articulation agreements. We would like to continue with these efforts	Goal 1 #1 and 2 and Goal 4	No
Make MAN-35 and MAN-56 more practical.	Lacking a 5th axis machine, students do not get to practice what is taught in the MAN-35 class nor do they have the ability to practice the setup of 5th axis parts. Industry makes parts that require 5th axis machining.	Goal 5	No

Your unit may need assistance to reach its goals. Financial resources should be listed on the subsequent forms. In addition, you may need help from other units or Administrators. Please list that on the appropriate form below, or on the form for "other needs."

Norco College Annual Instructional Program Review Update

Unit: Manufacturing
Contact Person: Paul Van Hulle
Date: 2/1/17

Current Human Resource Status

6. Complete the Faculty and Staff Employment Grid below. Please list full and part time faculty numbers in separate rows. Please list classified staff who are full and part time separately:
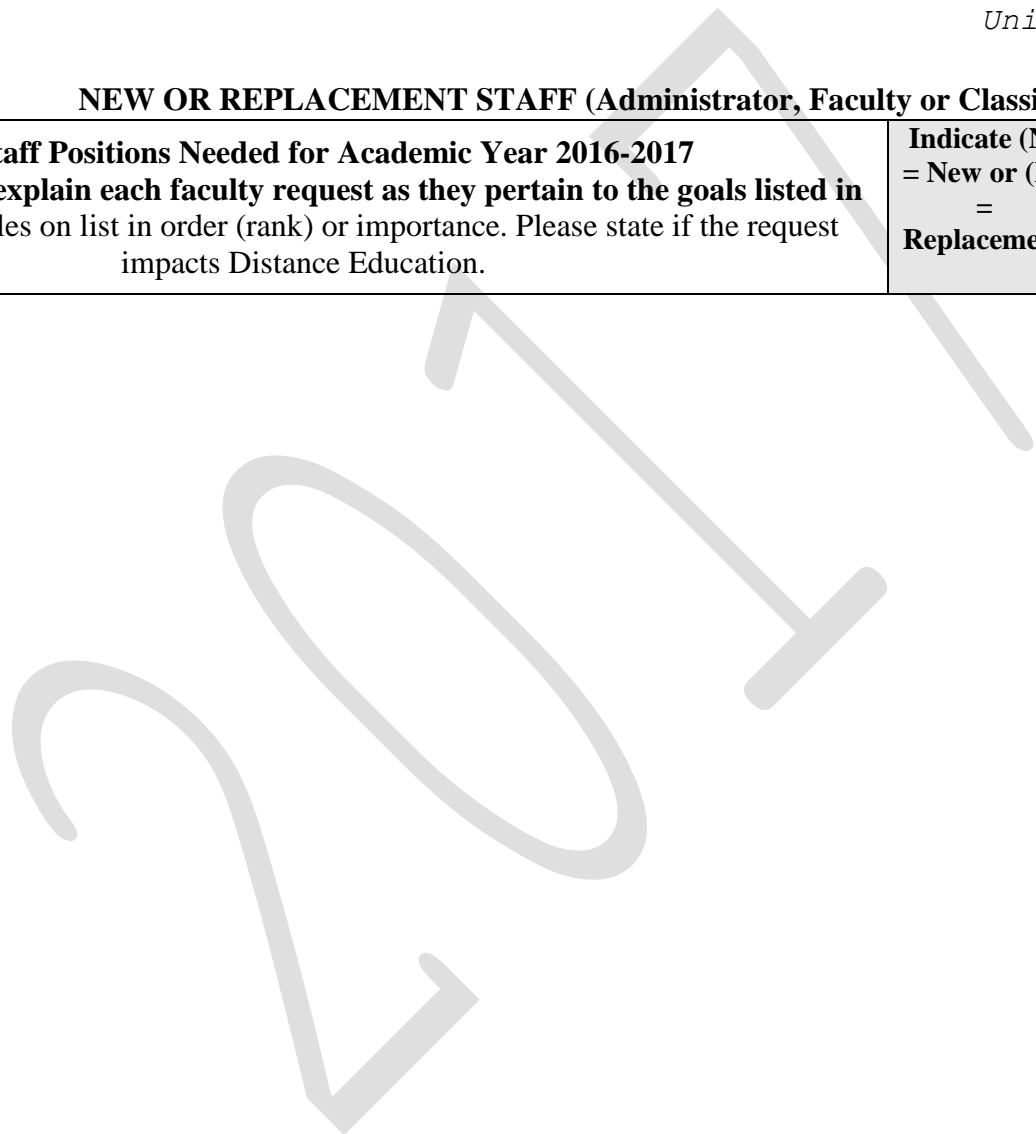
Faculty Employed in the Unit		
Teaching Assignment (e.g. Math, English)	Full-time faculty or staff (give number)	Part-time faculty or staff (give number)
Manufacturing	1	3

Classified Staff Employed in the Unit		
Staff Title	Full-time staff (give number)	Part-time staff (give number)
	0	0

7. Staff Needs

NEW OR REPLACEMENT STAFF (Administrator, Faculty or Classified)[1]

List Staff Positions Needed for Academic Year 2016-2017 **Please justify and explain each faculty request as they pertain to the goals listed in item #3.** Place titles on list in order (rank) or importance. Please state if the request impacts Distance Education.	Indicate (N) = New or (R) = Replacement	Number of years requested	Annual TCP*

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[1] If your SLO assessment results make clear that particular resources are needed to more effectively serve students, please be sure to note that in the "reason" section of this form.

1. Lab Technician for the CACT and IT 124 classrooms, manufacturing and electronics labs **Reason: Lab aide for the CACT building. The machines in the CACT and the classroom need a person to maintain the machinery and to organize the tools and consumables. Currently, we are using student workers to replace the tasks that the previous technician used to do. Since this is a student worker I am now required to come to the campus at 10:00am and I end my day at 9:30pm. This student worker has class while I am teaching and cannot do the tasks that the previous technician used to do. In addition, recently the Naval Base asked Norco College to help them fabricate and machine some gauges for their lab. We currently do not have adequate staff support to complete these community requests. A part-time Lab Technician could help in this regard.** **I have been running architecture, electronics, electrician, supply chain technology, industrial automation, machining, and manufacturing for many years without proper support/faculty. According to the Enrollment Management Dashboard, these disciplines total 18.21 FTEF in 2015-2016.** **Currently, I do all of the purchasing, program review and assessment for these disciplines/programs. I keep up labs for industrial technology 124, and 3 classrooms in the CACT building. If you go into IT-124 you will note that I am not doing a great job with it but Dean Hines has been helpful, although he is categorical. We used to have Jim Sutton help with much of the lab upkeep, but after Jim retired we could not replace his position and were forced to switch to using student lab aides to help with lab upkeep and organization. Student lab aides are well intentioned but can only do so much; plus I or another full timer instructor has got to be there to supervise their work, which adds an undue burden on me as the sole faculty member over all these disciplines.**	**Replacement**		**Part time $28,000 plus fringe benefits.**
2. Senior Applied Technologist - .5 Reason: Jim Sutton retired from this role June 2011 and the functions he performed were only temporarily completed by Tom Childers Fall 2016 (grant funded) before he resigned; and we have added a number of MAN, STEM, ELE, and SCT programs in the	**R**	**$51.785**	**1,2,5**

last 4 years that require additional support. This position is desperately needed to perform preventative maintenance for our expensive electronics, engineering, and advanced manufacturing equipment. Faculty and students have been performing these duties for the past 4 years.			
3. New Faculty Hire – Electrician Faculty 1.0 Reason: Currently Norco College offers 3 certificates and degrees for Electricians without dedicated full-time faculty leadership. These include Electrician, Electrician Apprenticeship, Green Technician, and Sound & Communication System Installer Apprenticeship. These 4 academic programs need dedicated full-time faculty leadership to ensure successful/updated curriculum, program review, assessment, & industry collaborations. Starting in the 2017-18 Catalog, Electrician will be a separate discipline from Electronics as these are different, albeit related, academic disciplines.	N	$139,717	1,2,3,4,5,6,7
4. Job development and student placement technician **Reason:** We have a big gap in how we place students in industry. We need a person that will track job offerings and help students with writing resumes cover letters. This person will help students in all CTE programs.	N	$25,000	1,2,3,4,5,6,7
5. Program Advertisement specialist **Reason:** Currently, we have a person creating advertisements for all aspects of CTE but soon this person's salary will be lost because it is Perkins funded.	N	$25,000	1,2,3,4,5,6,7

* TCP = "Total Cost of Position" for one year is the cost of an average salary plus benefits for an individual. New positions (not replacement positions) also require space and equipment. Please speak with your college Business Officer to obtain accurate cost estimates. Please be sure to add related office space, equipment and other needs for new positions to the appropriate form and mention the link to the position. Please complete this form for "New" Classified Staff only. All replacement staff must be filled per Article I, Section C of the California School Employees Association (CSEA) contract.

Requests for staff and administrators will be sent to the Business and Facilities Planning Council. Requests for faculty will be sent to the Academic Planning Council.

Unit Name: Manufacturing

8. Equipment & Technology Not Covered by Current Budget[2]

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[2] If your SLO assessment results make clear that particular resources are needed to more effectively serve students, please be sure to note that in the "reason" section of this form.

List Equipment, Technology, Software or Equipment Repair Needed for Academic Year_____ **Please list/summarize the needs of your unit on your college below. Please be as specific and as brief as possible.** Place items on list in order (rank) or importance. Provide the Asset Tag Number(s) for replacement requests. In the Justification, include how the item addresses the department's goals, and if it assists in remaining competitive with comparable institutions (if applicable). Please state if the request impacts Distance Education.	*Indicate whether Equipment is for (I) = Instructional or (N) = Non-Instructional purposes	How many students/Staff/ departments will directly benefit from this equipment/ technology?	Number of years requested	**Use this link for Annual TCO***			
				Cost per item	Number Requested	Total Cost of Request	EMP GOALS
1. **Software for the cmm machine** Justification: This software will be used in ENE 52, MAN 38, 39 and 56. A coordinate measuring machine (CMM) is a device for measuring the physical geometrical characteristics of an object. This machine may be manually controlled by an operator or it may be computer controlled. Measurements are defined by a probe attached to the third moving axis of this machine. We have the machine but it no longer works because the current version works with windows XP	I	**ENE 52, MAN 38, 39 and 56 students will be using this machine. Most of these classes have about 20 students in them**	**5 years**	**$3,800**	**1**	**$3,800**	**Goal 1 and 5**

2. **Purchase a 5ᵗʰ axis milling table** Justification: Two of the classes that we teach requires students to know 5ᵗʰ axis program and setup. The SLOs of the MAN 56 and MAN 35 courses require the students to make parts that require 5ᵗʰ axis programming. The results of the industry advisory council meetings show that students need to know how to do 5ᵗʰ axis programming, part setup and creation. TRT160 160 mm (6.3") Tilting 2-Axis Rotary Table. Brushless Sigma 5 Servo Rotary Table. Requires Haas mill with 4th-axis and 5th-axis drives option (mfg after ~2010, and with software version 18.01 or later) for full 5th axis operation or a dual-axis rotary control box (mfg after 5/1/2011) for stand-alone operation. For GR/SR/HS/VS (open frame) machines, Software Version 17.05A is required to operate Sigma 5 rotary products.	I	**MAN 35 and 56**	**20 years**	**$30,000**	1	$30,000	**Goal 1 and 5**
3. **Fluid sim software** Justification: This software is used in MAN-60 and 64. This software shows the simulation of many fluid power topics. It also has the ability to show the students how PLCs can control fluid power systems. We have been using this software for many years and the version is the same age as the industrial technology building.	I	**Used in MAN-60 and 64. Most of these classes have about 20 students in them.**	**5 years**	**$9,500**	1	$9,500	**Goal 1 and 5**
4. **Floppy emulator for Haas machine** Justification: We have one machine in the classroom that still uses floppy disks. I called machinery time savers to find out how we can upgrade the machine so that it will accept USB disks. They suggested that we replace it with a floppy emulator. http://www.shopfloorautomations.com/shop/floppy-emulator-haas/ • Haas compatible, Plug and Play model • Replace old Floppy disks with a USB Flash drive & still maintain Floppy procedures	I	**Used in MAN 56, 57 and 35. About 50 students each semester**	**20 years**	**$300.00**	1	$300.00	**Goal 1 and 5**

Description							
- Slide your old floppy drive out of the HAAS & slide in the SFA Floppy Emulator - Hold the same amount of Data on a USB drive that Floppy disk could - Add USB to your old Haas at a low cost							
5. Upgrades to the computers in CACT 2. Justification: Replacement will soon be needed and these computers are quite slow. The new computers should have more ram better processing speeds and at least five of these computers have floppy disk in them since some of the CNC machines still use floppy disk.	**I**	**26 computers in the classroom MAN 38, 35, 39, and 56 use these computers**	**3 years**	**About $2,000**	**26**	**$52,000**	**Goal 1**
6. A better licensing server to run the Mastercam and Solidworks Justification: We are constantly having the licensing that runs Mastercam and Solidworks break down.	**I**	**All students that use the software. About 500**		**About $2,000**		**$2,000**	**Goal 1**
7. The discipline is suggesting that the aisles in the classroom be rearranged so students can look straight ahead instead of having to turn around backwards to see the screen at the front of the class. Justification: So that students can see the projector without turning their heads	**I**						
8. The Electronics department is asking for the shop Fox M1052 three in one sheet metal machine, 12 inch. Justification: Electronics would like to be able to have students cut and make printed circuit boards and aluminum enclosures.	**I**	**25 students**		**$350.00**	**1**		**Goal 1**
9. Battery set for RV-2a1 robot in IT-124. Reason: During one summer the robot was turned off (unplugged), the batteries require constant power to keep its charge. Robot batteries are dead.	**I**	**MAN 61 and 64. 50 students**	**5 years we hope**	**$617.00**	**1**	**$617.00**	**Goal 1 and 5**
10. Purchase Surface Grinder for the CACT	**I**	**MAN 38, 56, and 39**	**20 years**	**$11,440**	**1**	**$11,440**	**Goal 1**

Description							
Justification: In the MAN 38-General Machine Shop course one of the SLOs claims that we teach the students how to "Demonstrate aptitude in safely setting up and operating the lathe, mill, drill press, saw and grinder." Last year we worked with San Bernardino Valley College to align our courses for transferability. The San Bernardino Valley college machining program has a surface grinder that they use to have the students demonstrate and practice how to safely setup and operate a surface grinder. Based on this SLO, course description and the course outline of record we should have a surface grinder in the classroom. My idea to have this happen would be to replace the Dyna Milling machine with a surface grinder. Some examples of surface grinders that could be used to make this happen would be the Clausing – 18 inch long x 8 inch wide table, 3 phase, 230/460 volt, manual floor machine surface grinder for $11,440 or the Clausing-CSG3A818 Surface grinder machine type The power for 230 volt is already in this location so we would not need money to change the electrical in the area. We also will need a vise for the machine.				or $17,710 Vise: $500.00		or $17,710 Vise: $500.00	and 5
11. Supply budget Reason: we need to have a yearly supply budget of at least $10,000 for tooling and other supplies	I	All students in MAN classes	1 year	$10,000	1	$10,000	Goal 1 and 5
12. Mitutoyo - 0.03 Inch Range, 0.0005 Inch Dial Graduation, Horizontal Dial Test Indicator - 1.5748 Inch White Dial, 0-15-0 Dial Reading, Accurate to 0.0005 Inch **Reason: The indicators that the students are using in the classroom are over 12 years old. Some have broken and need to be replaced.**	I	All students in MAN 38, 39 and 56 courses	2 years	$150.00	6	$900	Goal 1 and 5
13. **Allocations in case a machine breaks down in the CACT center** Reason: Previously, we had the support of the CACT	I						

grant in case of machine break downs. Machine break downs are a constant concern. I have had one machine break during the Spring 2011 semester and then the same part break down again during the fall semester. Luckily the part was only $500.00 and it was something that my students could replace. I have now replaced the part with a new design that another company came up with that will only break one section of the part at a time. I am also making a better effort to make sure that the students keep the pull-tabs on the machines well-greased so that we don't have the same problem. I would suggest that the college plan on having at least $20-$40,000 every year available in case of machine failure or replacement parts needed.						

* Instructional Equipment is defined as equipment purchased for instructional activities involving presentation and/or hands-on experience to enhance student learning and skills development (i.e. desk for student or faculty use). Non-Instructional Equipment is defined as tangible district property of a more or less permanent nature that cannot be easily lost, stolen or destroyed; but which replaces, modernizes, or expands an existing instructional program. Furniture and computer software, which is an integral and necessary component for the use of other specific instructional equipment, may be included (i.e. desk for office staff). ** Total Cost of Ownership requests are sent to the Business and Facilities Planning Council.

Unit Name: Manufacturing

9. Professional or Organizational Development Needs Not Covered by Current Budget*[3]

List Professional Development Needs for Academic Year_____. Reasons might include in response to assessment findings or the need to update skills to comply with state, federal, professional organization requirements or the need to update skills/competencies. Please be as specific and as brief as possible. Some items may not have a cost per se, but reflect the need to spend current staff time differently. Place items on list in order (rank) or importance. Examples include local college workshops, state/national conferences. Please state if the request impacts Distance Education.	**Annual TCO***			
	Cost per item	**Number Requested**	**Total Cost of Request**	**EMP Goals**
1. none Justification:				

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[3] If your SLO assessment results make clear that particular resources are needed to more effectively serve students, please be sure to note that in the "reason" section of this form.

2. Justification:				
3. Justification:				
4. Justification:				
5. Justification:				
6. Justification:				

*It is recommended that you speak with the Faculty Development Coordinator to see if your request can be met with current budget.

** These requests are sent to the Professional Development Committee for review.

10. Student Support Services, Library, and Learning Resource Center (see definition below*) Services needed by your unit over and above what is currently provided by student services at your college. Requests for Books, Periodicals, DVDs, and Databases must include specific titles/authors/ISBNs when applicable. Do not include textbook requests. These needs will be communicated to Student Services at your college[4]

List Student Support Services Needs for Academic Year 2016-2017 Please list/summarize the needs of your unit on your college below. Please be as specific and as brief as possible. Not all needs will have a cost, but may require a reallocation of current staff time. Please state if the request impacts Distance Education.	EMP GOALS
1. **10 copies of Mastercam X8: Mill Level 1-W/2 DVDs** Justification: For student use during class. The professor for MAN-35 suggest that we have some textbooks for student use in the library. He states that the textbooks for MAN-35 is very expensive and students are having problems purchasing them. Many do not purchase because they are just too expensive.	**GOAL 1 and 3**
2. **10 copies of Mastercam X8: Mill L3 with 2 DVDs** Justification: For student use during class. The professor for MAN-35 suggest that we have some textbooks for student use in the library. He states that the textbooks for MAN-35 is very expensive and students are having problems purchasing them. Many do not purchase because they are just too expensive.	**GOAL 1 and 3**

*Student Support Services include for example: tutoring, counseling, international students, EOPS, job placement, admissions and records, student assessment (placement), health services, student activities, college safety and police, food services, student financial aid, and matriculation. * These requests are sent to the Student Services Planning Council and the Library Advisory Committee.

11. OTHER NEEDS AND LONG TERM SAFETY CONCERNS not covered by current budget[5]
   ** For immediate hazards, contact your supervisor **

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4   If your SLO assessment results make clear that particular resources are needed to more effectively serve students, please be sure to note that in the "reason" section of this form.

5   If your SLO assessment results make clear that particular resources are needed to more effectively serve students, please be sure to note that in the "reason" section of this form.

List Other Needs that do not fit elsewhere. Please be as specific and as brief as possible. Not all needs will have a cost, but may require a reallocation of current staff time. Place items on list in order (rank) or importance.	Annual TCO*			
	Cost per item	Number Requested	Total Cost of Request	EMP Goals
1. Spill containment drum shed for the side of the CACT building. <u>Justification:</u> We used to store the drums for chip storage in the metal shed behind the cact building. Currently, the Electronics department has taken up a great deal of space in the shed and we are not able to store the drums in the shed. I should purchase an additional spill containment drum shed for the side of the CACT building to accommodate chip storage and to meet osha requirements.	$2,000.00	1	$2,000.00	**Goal 7 objective 5**
2. We need to have more 110 volts plugs along the side of the classroom to be able to run equipment especially along the north side adjacent to the roll-up door along with a bench strip to distribute power. <u>Justification:</u> We need these plugs in CACT 2 near the common wall of CACT 2 and CACT 3. This is a safety concern. Students are plugging in high amperage machines into a computer gang plug which could cause heat resulting in a fire.	$500.00	2	$500.00	**Goal 7 objective 5**

These requests are sent to the [Business and Facilities Planning Council], but are not ranked. They are further reviewed as funding becomes available.

Rubric for Annual Instructional Program Review - Part I only

Discipline: Contact Person:

Reviewer: Average Score:

Area of Assessment	0 No attempt	1 some attempt	2 good attempt	3 outstanding attempt
1. **Retention, success, and efficiency rates have been identified and reflected upon.**	No attempt to list retention, success, or efficiency data	Limited attempt to identify or discuss identified data	Clear attempt to identify and discuss identified data	Substantial attempt to identify and discuss/interpret identified data
2. **Previous recourse requests stated and impact discussed.**	No resource requests discussed	Limited discussion of resource requests or limited attempt to link to student learning.	Resources discussed and clear attempt to identify student impact	Resources discussed and substantial attempt to identify student impact OR No resources were requested.
3. **There are annual goals for refining and improving program practices.**	No annual goals stated	Limited/generic statement made regarding goal(s), lacks clarity or details	Clear statement made regarding goal(s), includes details	Well-defined statement made regarding goal(s), includes details, reasoning
4. **Activities identified that support annual goals; connections made between goals/activities and Retention, Success, Enrollment, and Efficiency data.**	No attempt made to identify activities	Limited/generic statement about activities; very limited attempt to connect to data from question 2 (where logical)	Clearly stated activities that support the goal(s); clear connection made to data from question 2 (where logical)	Well-defined activities that logically support the goal(s); definitive connections made to data from question 2 (where logical)
5. **The annual goals are linked to the Mission and Educational Master Plan (EMP) of NC.**	No link between the annual goals and the Mission or EMP	Limited attempt to link goals to Mission and EMP	Clear attempt to link goals to Mission and EMP	Well defined connection made between goals and Mission and EMP
6. **Resource requests have reasons identified and completed data fields, including estimated dollar amount.**	No reasons identified and incomplete data fields; or reasons identified, but incomplete or empty data field	Limited/generic/basic reasons provided, data fields completed	Clear requests for resources, all data fields fully completed	Well defined reasons for resources, all data fields fully completed
7. **Linkages made between EMP/Strategic Plan Goals (SPG) with reasons for resource requests.**	No linkage made between resource requests and EMP/SPG	Limited/generic/basic connection made between resource requests and EMP/SPG	Clear connection made between resource requests and EMP/SPG	Strong connection made between resource requests and EMP/SPG
Column scores				

Additional comments:

II. Norco College - Annual Assessment Update
USE ASSESSMENT DATA FROM fall 2014-spr 15

Purpose –An annual review provides an opportunity for reflection on all that has been accomplished and learned from your efforts in assessment. The annual review is a time to take stock of which courses and programs have undergone some scrutiny, and subsequently should help with planning for the upcoming years. Things we might learn in one cycle of assessment might actually help us to plan assessments in the next cycle, or might facilitate changes in other courses that weren't even included in the initial assessment. To this end, please complete the following with as much detail as possible. If you have any questions, please contact either Sarah Burnett at sarah.burnett@norcocollege.edu, or Greg Aycock at greg.aycock@norcocollege.edu, or talk to your NAC representative.

1. Identify where you are in the cycle of SLO assessment for each course you assessed in _**fall 2014 - spring 2015**_. Each response will be individualized; this means each completed column might look a little different. You may have a course in which you are implementing improvements to close the loop on an initial assessment that was completed in a different year. You might also have a course that only has an initial assessment and you haven't yet completed any follow-up or improvement activities. (Add rows to the chart as needed.)

Course number	SLO **Initial Assessments** Indicate which specific SLOs were assessed in the identified course	Semester assessed	Entered into Trac Dat fields Yes or No	SLOs with **Changes Made** to course Identify which SLOs for had Changes Made identified, & simple reasoning	Plan for completing identified **Changes** Identify semester & basic plan of action	SLOs not needing Changes (assumed loop-closed) Provide clear reasoning as to why loop closed	SLOs involved in **Loop-Closing** assessment Indicate semester initial assessment was started and semester when loop was closed. Provide rationale for why you consider the assessment loop is closed
ENE-42	SLO 1-3	Fall 2012 Fall 2016	Yes	In 2012 Carlos suggested the following: The advice I would offer to the next person who teaches the course based on my analysis of this data and my experience teaching the course is to master the theory and concepts as best you can. Do not try to memorize any maneuvers but develop the confidence to work your way	Sandra and I are both considering his comments when teaching the course		Loop closed based on following through with Carlos' suggestions

				through any issues. SolidWorks is a parametric solid modeler and inherit to these modelers are the parameters that govern what will happens next. If you overlook or enter a non-accommodating parameter the tool will not work and the desired result fails. This can be a bit tricky when lecturing to a room full of people. If you know the software and are confident, you should be able to easily troubleshoot your way out of this dilemma. If you tend to memorize maneuvers, you may not be able to troubleshoot your way out and that may prove embarrassing. Improving courses like this one is directly proportional to the time one allocates to the course. As is, I feel I spend large amount of time on the courses I teach especially on the weekends. Minimizing distractions, I feel, adds to the quality of my teaching. When I am distracted by other responsibilities, not related to the classroom, I find myself allocating time and energy away from my classes. At times, I can become preoccupied by these activities and it has an impact on my teaching which has a direct impact on the student's learning.			
ENE-51	None	None	None					
MAN-38	Not in trac dat							
MAN-55	SLO #1-4	Win 2017 Win 2013	Yes	No changes to the SLO. I would suggest changes to the writing assessment to prompt the students to write more about each SLO.	I will do that the next time I teach the course.	No changes need to the SLOs.	Loop closed	

| MAN-56 | SLO #2

SLO 4 Demonstrate appropriate precision measurement instrument use.

Expand

 SLO 5 Convert to and from Metric and U.S. customary; fractional and decimal fractional units.

I just created and submitted some assessment methods for SLO 1, 2 and 3. No results have been created yet. (3-2-17) | Summer 2015 and Spring 2016 | Yes | No changes need to be made to the SLOs

Some suggestions would be:
To have more questions on the exam representing more of the SLOs of the course.
Spend more time reviewing with the students the questions that they missed.
Continue to use the questions shown on this assessment so we can continue to see how the students are improving | I will do that the next time I teach the course. | No changes need to be made to the SLOs | Loop closed |
|---|---|---|---|---|---|---|---|
| MAN-39 | Not in trac dat | | | | | | |
| ENE-30 | SLOs 1-4 | Fall 2013 | Yes | Carlos made some good suggestions in SLO#3 including spending more time on the subject of dimension. I know when I (Paul Van Hulle) teach the course that I spend a lot of time with the students on dimensioning as Carlos | Sandra, or another adjunct professor and/or I will assess this course before the end of the | | |

				suggested. This course needs to be re-assessed since it has not been assessed in the past 3 years.	spring semester.		
ENE-52 The following row was written in the 2016 program review by gerald C.	SLO 1, read and interpret the ANSI Y14.5 M standard for Geometric dimensioning and tolerancing (GDT)	Spring 2015	YES	Slo 1 87% in fall 2014	No plan of action is needed.	SLO1 results met the discipline set stards of 75% success. It was surpassed by 13% (88%)	The SLO 1 surpassed the discipline set standards Therefore, I consider this SLO loop closed at this time. However, I will be re-evaluating this SLO in Spring 2016 Paul Van Hulle: more information about gerald's notes can be found on Trac-dat in the document repositiory "Percentages for E52 spring 2015 (SLO 1).pdf
ENE-60	None	None	None				
MAN-35	SLO 2	Spring 2015	Yes	The only changes I might make on future midterms is to give them the harder part to practice and the simpler part to for the exam.	I will make the changes for the midterm next time I teach the class	No changes need to be made to the SLOs	Loop closed
MAN-57	SLO 1-4	Fall 2013 Fall 2016	Yes	One suggestions for future final and midterm exams as a result of this assessment would be to take the decimal point of all dimensions out to four decimal points For SLO 4 I would suggest that the teacher put more emphasis on having the students trade their work to have	I will make the changes for the midterm next time I teach the class	No changes need to be made to the SLOs	Loop closed

				them try to figure out what is wrong with their other students code. For SLO 3 the instructor should copy the students worksheet that shows they know how to use subroutine programming			
MAN-60	All SLOs have been posted to trac dat	Spring 2013 Fall 2016	Yes	The 2013 assessment suggested an introductory course in mechatronics exposing students to mechanical hydraulics, pneumatic and electronics. This would give students a better understanding of how these discipline By looking at the assessments of the course no teachers have made any suggestions for the course	The 2013 course suggestion has been created in SCT 1 and MAN 68- Fundamentals of maintenance and 69 – fundamentals of tooling and test equipment Need to talk to the teachers on the fact that the assessment is asking for suggestions for improvement of the course	Need to talk to the instructors about their suggestions soon	
MAN-64	All SLOs in this course have been assessed	Fall 2016 Spring 2016	Yes	By looking at the assessments of the course no teachers have made any suggestions for the course	Need to talk to the teachers on the fact that the assessment is asking for suggestions for improvement of the course	Need to talk to the instructors about their suggestions soon	

2. a) How many Program Level Outcome **initial** assessments were you involved in **fall 2014 - spring 2015**? Indicate a total number per column. Name the AOE, ADT, GE and/or Certificate program.

We have results submitted for the following two PLOs

1. **Supply Chain Technology**

   PLO 2 Discuss and demonstrate occupational safety and technical communications related to working in a distribution center. (Active)
   See trac dat for more information

2. **CNC programming certificate**
   PLO 3 Compose written assignments on occupation safety in general industry. (Active)
   See trac dat for more information

We have assessment methods created for the following PLOs as shown in trac dat

1. **In Program-MAN: CNC programming. PLO 5 Establish a systematic approach to recognizing the essential information given on a blueprint.**
2. **In Program-MAN: Computer aided production. PLO 4 Establish a systematic approach to recognizing the essential information given on a blueprint.**
3. **In program - MAN: Computer aided production tech: PLO 1 Create a steam or stirling engine that involves parts using both the mill and the lathe.**
4. **In program - MAN CNC: PLO 1 Create a steam or stirling engine based on blueprints that involves parts using both the mil and the lathe.**

To provide you with supportive information for this section, the following GE and AOE assessments were conducted in 2014-15:
Initial assessment for GE PLO Information Competency and Technology Literacy

Closing Loop for GE PLO Self-Development and Global Awareness
A Closing the Loop Assessment for AOE in Humanity, Philosophy and The Arts
A Closing the Loop Assessment for AOE in Social and Behavioral Sciences

AOE (Area of Emphasis)	ADT (Associate for Transfer)	GE (General Education)	Certificate

b) How many Program Level Outcome **loop-closing** assessments were you involved in **fall 2014 - spring 2015**? Indicate a total number per column. Name the AOE, ADT, GE and/or Certificate program.

AOE (Area of Emphasis)	ADT (Associate for Transfer)	GE (General Education)	Certificate

3. Please describe any **Changes** you made in a course or a program in response to an assessment. Reflect on the impact you determine the changes may have had on student learning, student engagement, and/or your teaching. (Add rows as needed)

Course	Changes Made Please click on "Choose an item & select from the drop down menu – content can be modified to suit your needs. Type in "other" approach taken	Impact of changes on student learning, engagement, and/or teaching
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	

4. Identify any assessments that indicate a modification should be made to the Course Outlines of Record (COR), the Student Learning Outcomes (SLO), or Program Level Outcomes. State the modification.

Identify COR, SLO or PLO to modify	State Suggested Modification	Reasoning

5. Have you shared your assessments, outcomes, improvements etc. with your discipline? How? If not, how do you plan to do so in the future? (For a more complete answer, please include any meeting dates, agenda, and/or minutes, emails between faculty members, conversations captured in college, department, or discipline meetings – include these data as an Appendix at the end of this document)

6. Did any of your assessments indicate that your discipline or program would benefit from specific resources in order to support student learning, and/or faculty development? If so, please explain.

Resources State the resources identified to support student learning and/or faculty development	Assessment Name the assessment(s) that indicated resources are needed Identify course, SLO & semester	Reasoning Briefly explain what you learned in the assessment that indicates the resource might be beneficial

7. What additional support, training, etc. do you need in the coming year regarding assessment?

Scoring Rubric for Annual Program Review of Assessment (Part II only)

Assessment Unit Name: _____ **Average score** _____

	0	1	2	3	Comments
Initial SLO assessments	No evidence provided 0	Limited evidence of on-going SLO assessment (1 incomplete assessment – Plan but no results) 1	Clear evidence of on-going SLO assessment (1 complete assessment) 2	Clear and robust evidence of on-going SLO assessment (2 or more complete assessments) 3	
Loop Closing Assessments	No evidence provided 0	Limited evidence of Loop-closing assessment (Course identified as "loop-closed", but no Change Plan identified, or reasoning provided) 1	Clear evidence of loop-closing (At least 1 Change Made plan in place, or clear reasoning of "loop closed" for at least 1 initial assessment) 2	Clear and robust evidence of loop-closing (Multiple Change Made Plans in place, or very clear justification for "loop closed" for multiple initial assessments) 3	
Assessment input into TracDAT	No assessments in TracDat format or Repository	Assessment completed are in word/pdf in Document Repository 1	Assessments identified have Assessment Plan, but not all have Results 2	All identified assessments have a complete report (Plan and Results) in TracDat data field) 3	
Attempts to improve student learning	No indication of any changes made to any courses, and no clarification provided 0	No attempts to change any courses, teaching approaches, and **no** clarification or reasoning as to why not 1	Evidence of an attempt to implement a change in a course or teaching approach provided, **or** simple clarifying statement regarding why no specific improvement is needed 2	Multiple attempts made to implement changes to courses or teaching approaches, **or** clear and supported clarification why no improvement is needed 3	
Dialogue across the discipline	No dialogue or attempt to communicate results 0	Limited demonstration of dialogue or communication within the discipline, department, college 1	Clear demonstration of dialogue and sharing of assessment within discipline, department, or college 2	Robust and systematic dialogue and communication demonstrated within discipline, department, or college 3	
Participation in PLO assessment (bonus points averaged into total score)		Engagement in at least 1 initial PLO assessment **and/or** Engagement in at least 1 PLO closing-the-loop assessment fall '14-spr '15 1			
Total for Each Column					