PROGRAM REVIEW: AERONAUTICS

2014

SOLANO
COMMUNITY COLLEGE

1.1 Introduction

Program Description

The Aeronautics program has been offered at Solano Community College for over 30 years. The goal of the Aeronautics Program is to train students to pass FAA Testing in Airframe and Powerplant Mechanics. According to the Solano Community College Catalogue description, the program provides "Practical and theoretical knowledge in basic maintenance techniques, plus the special requirements of either airframe or powerplant work. Upon satisfactory completion of the required courses, the student is eligible to take the Federal Aviation Administration written oral and practical examination for airframe or powerplant license."

Certificate of Achievement and Associate in Science Degree

A Certificate of Achievement can be obtained upon completion of one of the 41-unit majors listed below. An Associate in Science Degree can be obtained upon completion of the units required for the major in either Airframe or Powerplant or Airframe and Powerplant and general education requirements.

The Federal Aviation Administration (FAA) requires 1900 hours (Six full semesters) of instruction to complete the combination airframe and powerplant curriculum. All courses in the major must be completed with a grade of C or better.

Recent Changes

Over the last five years the program has experienced changes in regard to staffing and enrollment. The full-time Aeronautics instructor left the College in Spring 2010. At this point the program was in need of major program improvement to meet FAA standards. An interim instructor came on board 2010-2011, and then a permanent full-time instructor was hired for academic year 2011-2012. Since that time enrollment has more than doubled. Teaching practices (lectures and lab assignments) have been updated and improved. An adjunct instructor was also hired and a second full-time instructor is in the hiring process for academic year 2014-2015. Other recent program improvements include the donation of a Beechcraft Bonanza aircraft, Ice and Rain protection training mock-up, and landing gear training mock-up. Other improvements to the building include organization of all shop tools and equipment as well as the organization of a student aviation library.

1.2 Relationship to College Mission and Strategic Goals. The College mission is: "Solano Community College educates an ethnically and academically diverse student population drawn from our local communities and beyond." The Aeronautics Program is committed to help our students to achieve their educational, professional and personal goals centered on thoughtful curricula in basic skills education, workforce development and training, and transfer level education. The Aeronautics accomplishes this three-fold mission through its dedicated teaching, innovative programs, broad curricula, and services that are responsive to the complex needs of all students.

Using the matrix provided in Table 1, describe which of SCC's Strategic Directions and Goals the program supports. Address only the Goals relevant to the program. *Limit evidence to one paragraph per objective*.

Table 1. SCC's Strategic Directions and Goals

Goal 1: Foster Excellence in Learning	*Program Evidence*
Obj. 1.1 Create an environment that is conducive to student learning.	The "Hangar" has a 24 Student classroom, library, tool room and an 8000 sq. ft. lab area for student lecture and lab project completion. Equipment to Complete required Projects. The "Hangar" was recently reorganized to improve the learning atmosphere and access tools, equipment and reference data.
Obj. 1.2 Create an environment that supports quality teaching.	Instructors are highly qualified with formal education, aviation field experience and classroom teaching experience. All FAA licenses are current. Assignments are provided in written form, and students are encouraged to consult with faculty if they have questions.
Obj. 1.3 Optimize student performance on Institutional Core Competencies	All courses are assessed regularly through the SLOs and instructors work to ensure students have the workforce training to be success in their careers.
Goal 2: Maximize Student Access & Success	*Program Evidence*
Obj. 2.1 Identify and provide appropriate support for underprepared students	Additional time is available for all students during office hours and additional time for any questions that may arise. Students in crisis are referred to Counseling on the main campus.
Obj. 2.2 Update and strengthen career/technical curricula	Aeronautics curricula is under constant review and improvement by aeronautics staff. Since 2011, lectures and lab assignments have been updated to meet industry standards. For example, lab assignments have been structured to teach students relevant definitions, how to research aeronautical concepts, and practical lab techniques in hydraulics, turbine engines, and sheet metal repair.
Obj. 2.3 Identify and provide appropriate support for transfer students	Students that transfer to SCC from a different FAA approved program can receive an FAA 8610-3 form for FAA testing upon verification of training.

Obj. 2.4 Improve student access to college facilities and services to students	To better accommodate work schedules, the aeronautics program changed to a 4 day a week, 5 hours per day to better accommodate student work and commute schedules.
Obj. 2.5 Develop and implement an effective Enrollment Management Plan	*N/A*
Goal 3: Strengthen Community Connections	*Program Evidence*
Obj. 3.1 Respond to community needs	SCC Aeronautics program meets the needs of students desiring a quality maintenance aviation training.
Obj. 3.2 Expand ties to the community	The Aeronautics program has close ties and relationships within Travis Air Force Base and the Jimmy Dolittle museum.
Goal 4: Optimize Resources	*Program Evidence*
Obj. 4.1 Develop and manage resources to support institutional effectiveness	Extensive organization of institutional resources has begun for inventory control, quality lab assignments, and updating and management of lab tools and training aids.
Obj. 4.2 Maximize organization efficiency and effectiveness	A student worker has been hired and exhaustive organization has taken place of library, tool room, tool boxes, and general shop equipment for ease of access and program effectiveness.
Obj. 4.3 Maintain up-to-date technology to support the curriculum and business functions.	Recent purchases by the Aeronautics program include many general use hand tools, precision measuring equipment, an Avotec ice and rain trainer, an Avotec landing gear trainer, a radial engine trainer, multiple pneumatic tools for sheet metal fabrication, and a beach craft Bonanza has been added to the program training fleet.

1.3 Enrollment. Enrollment in the courses offered has more than doubled since 2010. Faculty speculate that enrollment has increased due to program improvement, and a changing economy that has drawn interested students into employable workforce education. Currently there are 44 students in the program with a year to year retention rate of 90%. Enrollment of 44 students is 92% of capacity of 48 students. Three of the last 4 semesters have started with 110% of capacity and semester retention is 90%.

Section counts:

	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
Total	2	4	2	6	6	10	4	8

Head counts:

	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
Total	30	33	40	36	41	47	46	47

FTES:

	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
Total	20.0	23.3	26.7	25.6	29.5	35.9	31.8	30.2

1.4 Population Served. 35-45% of the students are between the ages of 18-25. 25% of the students are older than 46. Solano Community attracts a high degree of students directly out of high school, as well as a high percentage of students that are post-military seeking a second career. The gender break down of the students has for years ranged between 0-10% females. This is due to the social norms of aviation maintenance being considered a male dominated profession. The ethnic breakdown is 50% White Non-Hispanic, with equal populations of Black Non-Hispanic, and Hispanic. The remainder of the population is roughly 10-15% of Asian and Other.

1.5 Status of Progress toward Goals and Recommendations.

Table 2. Educational Master Plan

Educational Master Plan		*Status*
1.	*Expand outreach to share career opportunities in the aeronautics field*	*Participating in Career Fair day to promote program*
2.	*Continue to provide hands-on, real world learning opportunities for students*	*Purchasing equipment to give students a more complete education in Aviation Maintenance*
3.	*Incorporate technological advances into program curriculum*	*Purchasing advanced and complex training equipment is keeping the Aeronautics Program technologically advanced*
4.	*Support competency in English and math*	*Lab assignment require written answers at a college writing level, and advanced math concepts*

Table 3. Program Review Recommendations

Program Review Recommendations (Previous Cycle)		*Status*
1.	*No Previous Program Reviews available for Evaluation*	*N/A*

1.6 Future Outlook.

Internal conditions affecting the program in the coming years will be influenced by the ability to hire additional support staff (see short-term goals 2 and 3). Currently effort has been made toward implementing an accelerated aviation maintenance program specifically geared toward teaching Chinese students at an additional hangar at the Nut Tree Airport. This program offers the potential to provide additional sources of program funding. There are plans to partner with the Jimmy Dolittle Museum to open up a new campus for all aeronautics programs at the Nut Tree Airport.

External changes in the immediate job market are the possibility of Icon Aircraft beginning manufacturing at the Nut Tree Airport, which would provide employment to graduates of the aeronautics program. According to California labor market data, there is a projected growth of 5.8% for Aircraft Maintenance Technicians between 2010-2020.

CURRICULUM DEVELOPMENT, ASSESSMENT, AND OUTCOMES

Program Level Outcomes

2.1 Using the chart provided, list the Program Level Student Learning Outcomes (PLSO) and which of the "core four" institutional learning outcomes (ILO) they address. In the same chart, specifically state (in measurable terms) how your department assesses each PLSO. For example, is there a capstone course (which one), is it completion of a series of courses (list), is it a passing

grade on certain assignments that are universally given (list), passing a licensing exam, completing a portfolio, etc.

Table 4. Program Level Outcomes

Program Level Outcomes	*ILO (Core 4)*	*How PLO is assessed*
1. *Demonstrate proficient, entry level aviation maintenance skills in airframe and powerplant with emphasis on aircraft engines, aircraft structures, and aircraft systems.*	*IV C*	*This PLO is assessed daily by student completed shop projects and by subject unit tests throughout the Aeronautics program.*
2. *Have a working knowledge to inspect, maintain, service and repair aircraft electrical, engine (piston and turbine), airframe structure, flight controls, hydraulic, pneumatic, fuel, navigation and instrument systems and other aircraft components specified by federal aviation regulation part 147.*	*IV C*	*The shop projects and course subject areas follow an FAA Part 147 mandated Curriculum that addresses the depth and hours of instruction that required subject areas must follow. This curriculum requires instruction in all areas of Aviation Maintenance.*
3. *Obtain an FAA, Airframe and Powerplant license upon completion of the Federal Administration (FAA) knowledge, oral, practical and written examination in general, airframe, and powerplant subjects.*	*IV C*	*Student completion of all Aeronautics courses at a required 70% or earns the students the authority to take FAA tests for licensing. Currently, graduates have a 70% pass rate of FAA airframe and powerplant mechanic test.*

2.2 Report on how courses support the Program Level Outcomes at which level (introduced (I), developing (D), or mastered (M))

Table 5. Program Courses and Program Level Outcomes

Course	*PL01*	*PL02*	*PL03*
	Demonstrate proficient, entry level aviation maintenance skills in airframe and powerplant with emphasis on aircraft engines, aircraft structures, and aircraft systems.	*Have a working knowledge to inspect, maintain, service and repair aircraft electrical, engine (piston and turbine), airframe structure, flight controls, hydraulic, pneumatic, fuel, navigation and instrument systems and other aircraft components specified*	*Obtain an FAA, Airframe and Powerplant license upon completion of the Federal Administration (FAA) knowledge, oral, practical and written examination in general, airframe, and powerplant subjects.*
AERO 055	*I*		
AERO 102	*M*	*M*	
AERO 103	*I*		
AERO 105	*M*	*M*	
AERO 106	*M*	*M*	
AERO 107	*M*	*M*	
AERO 118			*D*
AERO 119			*D*

Based on analysis of the curriculum map, the program will consider changing the wording of PLO3, so that it reads "Obtainment of the skills necessary to pass FAA written, practical, and oral tests," since the program itself cannot administer the federal tests.

2.3 Describe the results of the program level assessments and any changes/planned actions made based on the outcomes of program level student learning assessments.

Table 6. Program Level Assessments

Program Level Outcomes	*Dates Assessed*	*Results*	*Action Plan*
1. ***Demonstrate proficient entry-level aviation maintenance skills in airframe and powerplant with emphasis on aircraft engines, aircraft structures, and aircraft systems.***	*These outcomes have not been assessed.*		
2. ***Have a working knowledge to inspect, maintain, service, and repair aircraft electrical, engine (piston and turbine), airframe structure, flight controls, hydraulic, pneumatic, fuel, navigation and instrument systems and other aircraft components specified by Federal Aviation Regulation Part 147.***	*These outcomes have not been assessed.*		
3. ***Obtain an FAA, Airframe and Powerplant License upon completion of the Federal Aviation Administration (FAA) knowledge, oral, practical, and written examination in general, airframe, and powerplant subjects.***	*These outcomes have not been assessed.*		

Student Learning Outcomes

2.4 Faculty have been working with the SLO coordinator to update and assess SLOs.

2.5 Course SLOs will follow college schedule and recommendations, whereas even numbered courses are reviewed in fall, and odd numbered courses are reviewed in the spring.

2.6 It is the faculty's understanding that they are current on SLO assessments.

2.7 Faculty will continue to work with the SLO coordinator as needed, and when a new full-time instructor is brought on board next academic year, he/she will be apprised of the SLO requirements/expectations.

2.8 Describe any changes made to the program or courses that were a direct result of student learning outcomes.

- Additional lecture time has been added for concepts/areas where students needed review of content (for example Electrical concepts)
- An aeronautics library was added to support research and understanding of concepts
- Tools and equipment was organized for ease of access and for inventory

Curricular offerings

2.9 Course offerings.

The course offerings are listed below. While curriculum in the classes has been improved, there haven't been any changes to the course offerings in the last 5 years. The Aeronautics program will continue to be housed at the Nut Tree airport for the foreseeable future, as the "Hangar" and all the programmatic equipment is housed there. There are no short term goals for adding courses, however the program is considering deleting Aero 066, Aero 060, Aero 062, Aero 064, Aero 175 and Aero 176 as they have not being taught for the last four years and they are not FAA required courses for Airframe and Powerplant licenses.

AERO 055 10 Units
Aviation Maintenance Technician
Course Advisory: SCC Minimum English and Math standards. Presents the fundamentals necessary for the advanced study in Aeronautics. It will define the history of aviation and powerplant operation, and the study of flight: aircraft weight and balance, ground operation and servicing, mathematics, maintenance forms and records, basic physics, maintenance publication, and mechanic privileges and limitation. Safety is stressed throughout the course. In addition, this course is a study of the methods and processes used in the production of an aircraft, including shop safety. Use of hand tools and power equipment, aircraft drawings, cleaning, corrosion control; and the processes used by the manufacturers for aircraft construction. ***Five hours lecture, fifteen hours lab.***

AERO 103 10 Units
Aviation Maintenance Technician General II
Course Advisory: SCC minimum English standard; AERO 055. A study of fluid control systems and components with emphasis on design, maintainability, testing and repair. Includes hydraulic fluids, lines and fittings, inspection, checking, servicing and testing of pneumatic and hydraulic systems. Presents theory and application of direct and alternating current as related to air electrical components and systems. ***Five hours lecture, fifteen hours lab.***

AERO 102 10 Units
Airframe Maintenance II
Course Advisory: SCC minimum English standard;
AERO 055. Presents the application of fundamental methods, techniques and practices used in aircraft inspection, maintenance and repair. Includes shop safety, wood structures, fabric covering, finishes, composite structures, plastics, sheet metal structures, welding, assembly and rigging, and airframe inspection. ***Five hours lecture, fifteen hours lab.***

AERO 105 10 Units
Airframe Maintenance II
Course Advisory: SCC minimum English standard. A detailed study of aircraft systems, their fabrication, maintenance, and repair. Includes landing gear, hydraulic, pneumatic, atmosphere control, instruments, communication, navigation, fuel, position, warning, rain and fire protection systems. ***Five hours lecture, fifteen hours lab.***

AERO 106 10 Units
Powerplant Maintenance I
Course Advisory: SCC minimum English standard;
AERO 055. Presents a study of the theory, operation, maintenance and repair of reciprocating engines and accessories. ***Five hours lecture, fifteen hours lab.***

AERO 107 10 Units
Powerplant Maintenance II
Course Advisory: SCC minimum English standard;
AERO 055. Presents a study of the theory, operation, maintenance and repair of the turbine engine and accessories. ***Five hours lecture, fifteen hours lab.***

2.10 Fill rates/Class size. Over the past three years, course fill rates have increased by 100% from the previous 5-6 years. Probably causes are improved college support, improved aeronautics program course organization, faculty commitment, and experienced staff. Currently, class maximums are set at student- teacher ratio of 24:1. This is a restricted maximum set by the local Flight Standards District Office and Solano Community Aeronautics Program Air Agency Certificate. No change in the ratio is permitted within the requirements of this air agency certificate.

2.11 Course sequencing. Aeronautics does not have a requirement for course sequencing. It is the opinion of the Staff that the new students start with the General Courses of Aero 55 an Aero 103. The General courses give the beginning student a good background and introduction to the Aviation Maintenance Industry. All of the courses are not offered each school year so in order to have a class available each year for a beginning student, the Airframe and Powerplant Courses must be available, though this is not preferred.

***2.12 Basic Skills* (if applicable).** N/A.

2.13 Student Survey. No Data currently available. This question will be answered during the next Program Review.

***2.14 Four-year articulation* (if applicable).** N/A.

***2.15 High school articulation* (if applicable).** N/A.

***2.16 Distance Education* (if applicable).** N/A.

***2.17 Advisory Boards/Licensing (CTE)* (if applicable).** Aeronautics does not currently have an active Advisory Board. This is an area that needs attention and will be in place in the near future. No advisory Board minutes are available.

STUDENT EQUITY & SUCCESS

3.1 Course Completion and Retention. Student success is promoted by having high expectations for student learning, by having well organized and challenging lab assignments and lecture material, and by impressing upon students the importance and necessity of the knowledge, skills, and attention to detail required by aviation maintenance.
Analyzing success data, students in the Aeronautics program have a high success rate, typically between 80-100%. There are not large measurable differences based on ethnicity, gender, or age. Also, because the sample size is small (approximately 40 students), when there are some differences, it can be attributable to standard deviations (and the fact there may be only 1 or 2 females, or older individuals per semester)

***3.2 Degrees/Certificates Awarded* (if applicable).** Aeronautics students receive a Graduation certificate at the completion of the Aeronautics Program. This graduation certificate is recognized by the Federal Aviation Administration as training completion as required by Part 147 of the Federal Aviation Regulations. The Graduation Certificate allows students to take required testing from the FAA to receive an Airframe and Powerplant license. Aeronautics students can take additional General Ed courses through Solano Community College to complete an Associate of Science Degree.

The actual award counts for degrees and certificates awarded by the college are lower than the actual number of students completing, as many students take the Aeronautics certificate provided by the department to the FAA, which certifies completion. We will talk more with college administration about utilizing the Certificate of Achievement from the college upon completion of the program.

Aeronautics: Airframe Maintenance Technician

Award Counts

		2008/2009	2010/2011	2011/2012	2012/2013
Total		1 100.00	7 100.00	3 100.00	1 100.00
Aeronautics: Airframe Maintenance Technician	**Associate in Science**	0 0.00	2 28.57	0 0.00	0 0.00
	Certificate of Achievement	1 100.00	5 71.43	3 100.00	1 100.00

Aeronautics: Powerplant Maintenance Technician

Associate in Science

Award Counts

			2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total		1 100.00	1 100.00	1 100.00	3 100.00	5 100.00	1 100.00
Aeronautics: Powerplant Maintenance Technician	**Associate in Science**	0 0.00	0 0.00	0 0.00	2 66.67	1 20.00	0 0.00
	Certificate of Achievement	1 100.00	1 100.00	1 100.00	1 33.33	4 80.00	1 100.00

3.3 Transfer (if applicable). N/A.

3.5 Career Technical Programs (if applicable).

Upon completion of the program students have obtained all the requisite skills to pass the FAA oral, practical, and written test. This includes skills in airframe and powerplant subjects. While we don't have formalized placement data, we do know anecdotally that graduates have been hired within aviation and in cross-over industries due to the wide scope of their trainings. For example, a student was recently hired by Amazon for service and maintenance at the distribution facility in Tracy. Several students have been hired by United Airlines, and Light Aircraft Maintenance Companies in Marin County and Portland Oregon.

PROGRAM RESOURCES

4.1 Human Resources. Current staff is: Kevin Spoelstra - full time instructor, Rusty Mayes – full-time instructor, Tim Athey - full-time classified lab tech, and a 20 hr/wk student worker. Kevin Spoelstra has been on several hiring committees, working with industry partners and college administration in regards to program improvement and expansion (including the international accelerated program). Rusty Mayes is involved in improving rigor and applicability of the curriculum and lab assignments.

4.2 Staff has turned over considerably in the last 5 years. Full-time faculty member Tom Mitchell left Solano College and Michelle Dulleck was hired as an interim for 2010-2011. Kevin Spoelstra was hired as full-time faculty in 2011-2012. Rusty Mayes was hired as a full-time faculty member in 2014-2015. **In addition there is the need to change the current full–time Lab Tech position to two positions of 20 hr/wk. This would provide better coverage of student time on campus and improve completion and accuracy of lab tech responsibilities. There is the need to complete Lab Tech responsibilities simultaneously: in shop managing tools, student lab support responsibilities, and tracking student FAA hours (see short-term goal 2).**

4.3 Equipment. The currency of the equipment used in the Aeronautics Program is a mix of old and new. Recent purchases of technical trainers have improved the available learning potential for the students. Some of the equipment and technical trainers are 40+ years old and need to be updated with modern equipment to fully meet the instructional needs of the students and improve success. The program is in great need of two additional aircraft and an aircraft electrical trainer/simulator for student learning (see short-term goals 1 and 5).

4.4 Facilities. The Program is currently being taught in an approximately 8,000 sq. ft. hangar on the Nut Tree Airport in Vacaville, California. The Hangar has a classroom inside to accommodate 24 students in a lecture setting. The hangar and classroom space is being used very well with attention given to organizing the equipment available space. The available space is at the minimum of adequate for meeting the program's educational objectives.

4.5 Budget/Fiscal Profile. The Monetary Budget (1 year, or 5 year) has not been made available to the Aeronautics Staff, consequently, there is not an evaluation available.

PROGRAMMATIC GOALS & PLANNING

5.1 As the aeronautics program only full-time instructor for the last 2 ½ years, I believe that the program's strengths are its commitment to quality of instruction, rigorous and challenging labs, and integrity to FAA attendance. These were areas that I observed upon my arrival to be weak and in immediate need of improvement. Other major accomplishments have been complete organization of library, tool boxes, lab equipment and shop space. In addition, equipment has been acquired. For example: landing gear trainer, ice and rain protection trainer, a Beechcraft Bonanza airplane, shop tables with pressurized shop air manifold. Student enrollment has doubled in the past 2 ½ years with semesters beginning with maximum attendance. The aeronautics has established and maintained a relationship with the Travis Air Force Base Jimmy Dolittle Museum. This has led to the partnership with restoring a Cessna 0-2 aircraft and a B-52 aircraft.

Areas which need improvement are the acquisition of additional aircraft for training purposes, modification of lab tech hours to two part-time positions to meet student needs, continued lab curriculum rigor with industry input.

5.2 The Aeronautics Program does not have a self-study document to reference from previous years. The following goals and objectives are based on the discussions and conclusions of the Aeronautics Staff. Based on the self-study analysis, prioritize the program's short (1-2 years) and long term goals (3+ years). Check whether the goal requires fiscal resources to achieve.

Table 8. Short-Term and Long-Term Goals

Short-Term Goals	***Planned Action***	*Target Date*	*Person Responsible*	*Source*
1. Purchase two additional aircraft for the program lab instruction	Follow-up on progress of request	Spring 2015	*K. Spoelstra & R. Mayes*	*SP*
2. Change full-time Lab-tech position to 2 20 hr./wk. positions	Submit request to dean	Spring 2015	*K. Spoelstra*	*DB*
3. Hire part-time clerk administrative responsibilities in the Aeronautics program	Submit request to dean	Spring 2015	*K. Spoelstra*	*DB*
4. Obtain additional storage space for off-year lab supplies	Submit request for Perkins funding	Spring 2015	*K. Spoelstra*	*P*
5. Purchase aircraft electrical trainer	Follow-up with request	Spring 2015	*K. Spoelstra*	*DB or SP*

6. Continue improving curriculum rigor and updating to industry needs		Spring 2015	*K. Spoelstra*	*NR*
7. Establish an advisory committee	Invite industry representatives, establish agenda	Spring 2015	*R. Mayes*	*NR*
8. Consult with ICON to assess the value of establishing an advanced composite fabrication course	Consult with ICON	Next two years – timing based on ICON's needs	*Full-time Faculty*	*NR*
9. Continue to support and consult with college administration regarding International Accelerated Aviation Maintenance Training Certificate Program	Consult with administration	2015-2016	*Full-time Faculty*	*NR*
10. Encourage students to apply for Certificates of Achievement through Solano College	Invite Admissions and Records to have them complete forms for graduation	Spring 2014	Full-time Faculty	*NR*
Long-Term Goals	*Planned Action*	*Target Date*	*Person Responsible*	*Source*
1. Replace existing shop compressor		2017	*K. Spoelstra*	*SP*
2. Continue to consider adding an afternoon or evening program	Conduct a need's assessment		*K. Spoelstra*	*DB*
3. Replace obsolete equipment with current and relevant technology	Apply as needs occur	On-going	*K. Spoelstra & R. Mayes*	*SP*

In the source column denote "SP" for Strategic Proposals, "DB" for Department Budget, "P" for Perkins or "NR" for No Additional Resources Needed.