

Advanced Technology Division

Aviation Maintenance Technician

Unit Plan 2004 - 2005





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Part IV

Part I. Alignment with the College

1) <u>Core Values</u>

Aviation Maintenance Technology is a credit instruction program that has been offered by Lane Community College since 1964. The program is administered by the Director of the Lane Aviation Academy which is within the structure of the Advanced Technology division which is responsible to the office of Instruction and Student Services. The Aviation Maintenance Technology program is centrally aligned with College's strategic directions and core values; in concert with learning centered principles by directly presenting a learning environment that fosters the development of enhanced learning skills, acquiring an extensive professional knowledge base and skill sets. The learning environment is rich and provides a secure environment open to inquiry and personal development. Graduates from the Aviation Maintenance Technology program enjoy a near 100 percent placement rate upon completion of their training.

Learning: Learning is both theoretical and applied. Student learning progresses from basic to advanced technical, academic and employability skills. Learning is enhanced by developing applicable theory and keyed application of theory to practical applications by "doing" in a representative environment. Labs are integrated with the theory development classes. In a well proven manner, learning progresses from the simple to the more complex. All training is geared to assure all graduates are very well prepared to meet the certification requirements as defined by the FAA and additional skills sets that assure students meet the expectations of local employers. This combination assures that our students have readily marketable skills.

All learning follows a highly ordered program of instruction, all lab sessions involve work with actual physical equipment; second year students spend two classes working in what is called RTS (Return To Service) facilities on the Eugene Airport. In this environment, students are supervised as they gain experience working on actual customer aircraft to FAA Approved Repair Station standards. The RTS facilities supported by Lane Community College is one of only five similar programs in the United States.

Diversity and Accessibility: The program is open to students of very diverse backgrounds and the faculty is well prepared to serve a diverse student population. Students with special needs are supported in a manner essential to assure individual success. The program has a long history of training relatively large numbers of international students. Women and other under represented groups have a well established history and enjoy considerable prestige and success in the industry.

Innovation: The faculty maintains their expertise in the field and incorporate advanced technologies in the curriculum. Summer employment in the field provides ample opportunity to gain current experience in the industry; these contacts are a rich source of employment opportunities for our graduates. A significant effort is being directed toward increased use of computer data bases, CBT and continuous logging of student's hours and mastered skills sets.

Collaboration and Partnership: The faculty works very closely with the program advisory committee. The advisory committee members come from the aviation industry and local business community. The Aviation Maintenance faculty work with the director of the Lane Aviation Academy and there is increasing articulation with the Flight Technology Program and other technology based programs in the Advanced Technology Division.

Integrity: The program faculty has demonstrated a high degree of integrity. They are openly accountable to perform according to the policies, procedures and expectations of the College, the division, the advisory committee and most importantly, the students. Senior faculty consistently demonstrate a high degree of professional integrity. All faculty are openly accountable to the students, the needs of the community and the industry: management strategies assure college policies and standards are strictly adhered to and guidance from the advisory committee and industry leaders is readily accepted.

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Part I – Alignment with the College 1/12/2005

Several of the advisory committee members are affiliated with various aviation companies: these members provide a rich source of data related to the integration of technology and improved techniques that improve reliability and tend to improve efficiency.

All graduates will have completed over 1,900 hours of instruction and gained experience, have taken course level, departmental tests and FAA tests in the form of written instruments, oral testing and practical tests requiring actual manipulation of aviation equipment and systems.

2) <u>Strategic Directions</u>

Transforming Students' LivesFoster the personal, professional, and intellectual growth of learners by providing exemplary and innovative teaching and learning experiences and student support services.Commit to a culture of assessment of programs, services and learning.	The aviation maintenance technician program is a professional technical education credit program that provides career learning and counseling. The program includes both classroom and industry equivalent laboratory instruction using current equipment and technologies. The curriculum provides instruction in employability, applied academic and technical skills.
Position Lane as a vital community partner by empowering a learning workforce in a changing economy.	The program and course outcomes are assessed using multiple measures including: attainment of program outcomes, core abilities and learning college principles. Each course has identified specific assessment methods including: technical skill demonstration, group projects, research, portfolios, written tests, etc.
	The program has an active advisory committee, with representation from the employer community. The program works closely with other credit and non-credit programs to facilitate training a "learning workforce".
	This program fosters personal and professional development as well as intellectual growth by implementing innovative instructional strategies and by providing a highly professional and stimulating learning environment.
	This program is committed to assuring a culture of continued assessment via three primary modalities to assure intellectual and technical skills competencies.
	Students are encouraged and empowered to seek varied resources, traditional and nontraditional, to expand on their technical knowledge and skills base, which is expanding at a near exponential rate.
Transforming the Learning Environment Create a diverse and inclusive learning college: develop institutional capacity to respond effectively	This is an inclusive learning-centered program that actively seeks and responds to diversity in its students and staff.

and respectfully to students, staff, and community members of all cultures, languages, classes, races, genders, ethnic backgrounds, religions, sexual orientations, and abilities. Create, enhance, and maintain inviting and welcoming facilities that are safe, accessible, functional, well-equipped, aesthetically appealing and environmentally sound.	The faculty create and maintain the best learning environments possible, within their existing resource constraints, to support students in obtaining their educational goals. Instructors in this program must constantly renew and improve their curriculum and learning environments to align to the industry training standards. There is an acute awareness of the need to create and sustain a welcoming and friendly learning environment that is marked by professionalism and safety. Sustained respect for students, peers and faculty and an environment free from bias is the hallmark of the program. Personal values are not judged, all students have full access to all instructional resources available:
	compliance with industry standards and the FAA requirements is not optional.
Transforming the College Organization	The aviation maintenance technician program is
Achieve and sustain fiscal stability.	constantly assessing its operational efficiency and effectiveness. The program has been developing
Build organizational capacity and systems to	operating benchmarks (performance indicators) by
support student success and effective operations.	which it can compare its actual to its planned operations. This methodology provides the basis
Promote professional growth and provide increased development opportunities for staff both within and outside the College	for analyzing deviations and trends, identifying causes, and formulating solutions.
	The faculty in the program have continuously developed their knowledge, skills and abilities as instructors and as industry experts.

3) Learning Centered Principles

Lane provides opportunities for transformation through learning.	The primary learning outcome of the Aviation maintenance technician program is to provide instruction and hands-on training to enable students to obtain career employment. The program prepares students by focusing on both technical and employability skill development. Qualifying for entry-level and advanced employment transforms the student's life.
	The Aviation Maintenance Technology (AMT) program has a national reputation for excellence – this reputation has been well earned as a result of profound and high quality technical training that has changed the lives of the individual learners. Graduates from the program become

	productive citizens in the communities they work and live in. Skilled technicians earn well above average wages and graduates are in constant demand.
	As students progress through the program they earn their FAA certificates and ratings essential for obtaining gainful and fulfilling employment.
	The learning environment fosters inquiry and opportunity for research and individualized emphasis within the structure requires to assure compliance with federal and industry standards.
	The program design encourages both individual achievement and developed collaborative skills and team building. Clear communications between team members and faculty assures the development of functional partnerships and accuracy – accuracy and compliance with standard from is absolutely essential in the aviation industry.
	The instructional environment fosters a respect for members in the larger college population and a respect for other individuals and a respect for the value of other individuals and their elected professions.
Lane engages learners as active partners in the learning process.	Students must actively demonstrate their technical and employability skills. Students initiate and manage their progress through the learning process.
Lane creates a learning environment that motivates and inspires students to recognize their responsibility for their own learning.	Students recognize their active involvement may lead to high-paying career positions. The learning environment includes both classroom and laboratory experiences that emulate the workplace.
Lane offers multiple options for learning based on proven and innovative theories and methods that address the needs of diverse learners.	Learning methods include lectures, reading, writing, demonstrations, laboratories, problem solving, researching, building, diagnosing, repairing, modeling, computer-based, cooperative work experiences, group/team projects, formal and self- assessment. Students receive appropriate learning accommodations to ensure success in the program.
Lane commits to a culture of assessment of programs, services and learning, honoring the values of intellectual freedom, community responsibility and student need.	The aviation maintenance technician program conducts both formative assessment of a student's knowledge, employ-abilities, technical skills and academic skills; and, summative assessment based on industry or national standards. Faculty assess the stated achievement of the program learning and operational outcomes. Advisory

	committees provide additional assessment on the relevancy of the curriculum and the quality of the student completers.
Lane fosters knowledge and appreciation of diversity among staff and students and encourages pluralism and intercultural competence. Lane engages learners from diverse cultural and social contexts.	The mission of the aviation maintenance technician program is to transform student lives through learning. The "student" should be representative of the diversity of the community. The program faculty work closely with the college's cultural and diversity programs and initiatives.
Lane is committed to both individual and organizational learning.	Program students, faculty, staff, administrators and community members are committed to learning. Each organizational member gains knowledge and intrinsic reward for actively engaging in learning.
Lane students and staff are a community of learners, all of whom contribute to learning.	The program faculty are continuously engaged in keeping current with the new advances in the industry. They are active learners engaged with students and other colleagues to promote a community of learners.
Lane promotes open communication among staff, students and the community within and across organizational and physical boundaries.	The students, faculty and staff have open access to many forms of operational and governance communications: e-mail, The Daily, the web, meetings, forums, governance councils, etc.

Part II. Unit Description

1) <u>Unit Mission/Vision</u>

The aviation maintenance technician program aligns with the College's mission. Lane is a learningcentered community college that provides affordable, quality, lifelong educational opportunities that include: Professional technical and lower divisional college transfer programs.

The aviation maintenance technician program's vision is the same as the College's vision: *Transforming lives through learning.*

2) <u>Catalog Description</u>

Program Description

The Aviation Maintenance Technician program is an occupational, preparatory, two-year Associate of Applied Science degree and/or a two-year certificate of completion program.

The Aviation Maintenance Technician program is approved under part 147 of the Federal Aviation Regulations of the Federal Aviation Administration. FAA oral, practical and written certification exams are required. The program features state-of-the-art laboratories where students learn how to diagnose and repair the operating condition of aircraft using advanced diagnostic tools and equipment. The advanced equipment and expertise of the faculty make Lane's Aviation Maintenance Technician program the best way to enter the field.

Faculty in the program bring considerable field experience to the classroom and regularly attend workshops at manufacturer training centers to help them keep up with technological changes in the industry.

The program provides classroom instruction, considerable hands-on training on aircraft in the laboratories, and technical field experience that prepares you for employment in the aviation maintenance field. Program course work includes: airframe -1150 hours (400 general plus 750 airframe); powerplant - 1150 hours (400 general plus 750 powerplant); combined airframe and power plant – 1900 hours (400 general plus 750 airframe and 750 poweplant).

Graduates of this program begin careers as Aviation Maintenance technician working at company-owned repair stations, airports

This training can lead to employment in entry occupations in the aviation maintenance field earning approximately \$44,600 annually. Employment opportunities are favorable for trained aircraft mechanics and annual new openings are expected to be much higher than average.

New students can enter the program at the beginning of fall or winter terms. For consent to enroll in major courses students must attend a program orientation in fall terms (dates available in counseling or the Students First! Center) or contact the department advisor/counselor in winter and spring terms). All interested applicants should complete placement testing (Assessment & Testing Office, Building 1) in reading, writing and math. Take testing results to the program orientation and/or advisor/counselor for assistance with course selections. Restricted facilities limit the number of students admitted to this program. Students are selected on a first-come, first-served basis by or date of application to this program.

Purpose

To prepare technicians for Federal Aviation Administration (FAA) certification exams (written, oral and practical) for the airframe and powerplant airman's certificate. Federal regulations direct the following minimum number of hours of instruction for rating shown.

- Airframe is 1150 hours (400 General, plus 750 Airframe).
- Powerplant is 1150 hours (400 General, plus 750 Powerplant).

• Combined Airframe and Powerplant is 1900 hours (400 General, plus 750 Airframe and 750 Powerplant).

Learning Outcomes

The graduate will:

- repair and maintain the operating condition of aircraft.
- pass the FAA written, oral and practical exams for licensing.
- demonstrate and use industry safety standards.
- access library, computing, and communications services and obtain information and data from regional, national, and international networks.
- interpret the concepts of a problem-solving task and translate them into mathematics.

Employment Trends

Employment opportunities are favorable for trained aircraft mechanics. Annual new openings are expected to be much higher than average. Those with an associate degree have a competitive advantage in this labor market.

Wages

Statewide, \$11-16 hourly, \$20 median hourly, \$17-25 middle range, and \$44,615 average annually.

Costs in Addition to Tuition (estimates

- Books \$850
- Tools \$750-1,000
- Fees \$1,800
- Total \$3,400-3,650

Fees are subject to change without notice.

Program Approval

The program is approved under Part 147 of the Federal Aviation Regulations of the Federal Aviation Administration.

Licensing or Other Certification

Exams Required FAA oral, practical, and written certification exams are required.

Prerequisites

Minimum placement scores - Reading 68, Writing 64. Applied Geometry for Technicians MTH 076 is a prerequisite to this program. A high school diploma or equivalent is recommended for all applicants to this program. Procedures for crediting and guidelines for the determination of documented military or field experience are available through application with the FAA liaison.

Note: See a counselor or advisor to learn what entry-level skills are suggested for successful completion of this program.

Criteria Used for Admission

Students may enter major courses fall term. For consent to enroll in major courses, students must attend a program orientation for fall terms (dates available in Counseling or the Students First! Center) or contact advisor/counselor for possible entry in winter and spring terms.

3) <u>History/Significant Program Events</u>

The program initially started as a part of the old Eugene Vocational school program in 1938. This program has provided many skilled and vital technicians to support of the military after the onset of WWII. Many of the graduates became instructors in the Army and in the Navy aviation branches. These people were absolutely essential for the support required to assure our national security. Graduates from the (A&P) program occupy responsible positions for aviation companies; presently, some of the faculty members at Lane are LCC alumni; others are teaching in other colleges.

The unit does not have a formal system for tracking alumni; however, all FAA certificate holders are tracked by the FAA and alumni can be tracked via a web-based program called "Landings." Toward the end of the spring term the unit does host a barbeque at the RTS facilities on the Eugene Airport. The advisory committee members and tenants on the airport are invited to participate. The private individuals, who support the Aviation Maintenance program take students for airplane rides. This is a time of celebration for newly certificated technicians and graduates.

4) Degrees and Certificates

Two-Year Associate of Applied Science Degree	Credits
AAS Program Total	109 - 112
First Year	
Fall	
General 102 AV 193	6
General 103 AV 194	6
Workplace Safety HE 125 or First Aid HE 252 or PE/Health requirement	3
Total Credits	15
Winter	
General 101 AV 192	6
General 104 AV 195	6
General 105 AV 196	6
Applied Algebra for Technicians MTH 086 or higher	4
Total Credits	22
Spring	
Powerplant (Section 1, 3, & 4) AV 281	18
Total Credits	18
Second Year	
Fall	
Powerplant (Section 2) AV 281	6
Airframe (Section 3 & 4) AV 279	12
Total Credits	18
Winter	
Airframe (Section 2) AV 279	6
Powerplant Return to Service AV 283	6
Science/Math/Computer Science requirement	3
Introduction to College Writing: Workplace Emphasis WR 115W or higher	3
Total Credits	18
Spring	
Airframe (Section 1) AV 279	6
Airframe Return to Service AV 282	6
Arts/Letters requirement	3
Human Relations requirement	3
Cooperative Education: Aviation Maintenance AV 280 (optional	3
Total Credits	18-21

Students interested in completing the FAA Airway Science requirements for two-year institutions should substitute:

- English Composition: Exposition & Introduction to Argument WR 121 for Introduction to
- College Writing: Workplace Emphasis WR 115W.
- Fundamentals of Public Speaking SP 111 for Arts/Letters requirement.
- College Algebra MTH 111 for Science/Math/Computer Science requirement.

Add:

- Technical Report Writing WR 227
- Business and Professional Speech SP 130

• Public Relations J 205

- Any 200 level Psychology course (3 credits)
- Fundamentals of Physics PH 101 or PH 102
- General Aviation AV 179

Two-Year Certificate of Completion	Credits
Certificate of Completion Total	103-106
First Year	
Fall	
General 102 AV 193	6
General 103 AV 194	6
Workplace Safety HE 125 or First Aid HE 252 or PE/Health requirement	3
Total Credits	15
Winter	
General 101 AV 192	6
General 104 AV 195	6
General 105 AV 196	6
Applied Algebra for Technicians MTH 086 or higher	4
Total Credits	22
Spring	
Powerplant (Section 1, 3, & 4) AV 281	18
Total Credits	18
Second Year	
Fall	
Powerplant (Section 2) AV 281	6
Airframe (Section 3 & 4) AV 279	12
Total Credits	18
Winter	
Airframe (Section 2) AV 279	6
Powerplant Return to Service AV 283	6
Introduction to College Writing: Workplace Emphasis WR 115W or higher	3
Total Credits	15
Spring	
Airframe (Section 1) AV 279	6
Airframe Return to Service AV 282	6
Human Relations requirement	3
Cooperative Education: Aviation Maintenance AV 280 (optional	3
Total Credits	15-18

Cooperative Education

Cooperative Education (Co-op) offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op a student can integrate theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Aviation maintenance technician Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Aviation maintenance technician course credits.

5) Organizational Structure

Board of Education President

Vice President of Instruction

Associate Vice President of Instruction

Division Chair Advanced Technology

Faculty Aviation Maintenance Technician Program

6) <u>Staff/Faculty</u>

Name	Cliff Guse
Classification	Full-Time Faculty
Year Hired	2000
Degrees/Credentials	A&P License / IA certificate; DME

Name	Brian McGlynn
Classification	Full-Time Faculty
Year Hired	2000
Degrees/Credentials	BA, MPA, / A&P License; IA, DME

Name	Keith Bird
Classification	Full-Time Faculty
Year Hired	2000
Degrees/Credentials	ASB Aviation Maintenance; A&P License / IA certificate

7) <u>Student Profile</u>

Please refer to the Program Learning Outcomes, Goals and Performance Indicators on page 12.

8) Facilities and Equipment

The Aviation maintenance technician program is housed in building 10 and the Eugene airport.

What are its strengths?

On campus facilities: total instructional / lab space in building 10: 16,000 square feet; 2000 square feet in building 12 (engine lab); 6 engine test cells; RTS facilities on the Eugene Airport, 12,000 square feet.

Equipment: the unit has an extensive inventory of equipment common to industrial aircraft maintenance facilities; extensive inventory of teaching aircraft subassembly instructional jigs specific to each major system. Multiple airframes representing multiple classes of aircraft, airplanes and helicopters. Engine systems, opposed engines, radial engines and turbojet engines; propellers, wood, fixed pitch and variable pitch. Airframe structures, tubular steel, monocoque and composite materials and hybrid structures.

Strengths: Combined spaces are adequate to meet current and immediate future program growth. Having an RTS (return to service) capability is a major asset; there only five college programs in the US that have RTS capability.

Equipment suitability: Existing labs are very dated, most have been in use for at least 20 years. The existing lab equipment has been well maintained and is functional; however, equipment is dated and there is a progressive gap between the technology represented in the lab equipment and the technology currently represented in the industry.

Its challenges?

The AMT program is split between the campus facilities and the RTS facilities on the Eugene Airport represents a major logistics and staffing challenge. Commuting is a major waste of time and the practice is expensive.

History: resources essential for the upgrade of lab equipment and lab spaces have not been available. There is a longer-term need to build a current technology facility that is large enough to house the entire AMT program. The projected budget for this project is in the range of \$2

million. The larger plan includes having funds available to purchase digital diagnostic equipment, lab equipment to provide computer technology for ignition and fuel control systems and there is a need for funds to train faculty in the current technologies.

Integrated labs: With the advent of the Lane Aviation Academy and the rapid increase integration of technology in aircraft, there is a need to include more technology training for pilots and maintenance technicians. The plan calls for building discrete labs that can be dual used by the AMT program, pilots in advanced systems analysis courses and potentially, capacity to support the needs of a "skills center" activity.

The program has \$1,461,000 in existing equipment. It is very difficult to maintain, replace and upgrade this equipment. Additionally, the program must keep current with new advances in the industry and in instructional technologies. The program is reliant upon Carl Perkins and the local business for support.

What are your utilization ratios? Refer to Program Operations on page 15.

Provide a copy of your equipment inventory. Please refer to the Equipment Inventory Spreadsheet on page 29.

What are your equipment strengths? Students learn on well equipped computers running the industry standard software.

Challenges?

It has been challenging to continuously upgrade the computers and software.

Do you have any plans in place for equipment replacement? Refer to the Existing Equipment Inventory Spreadsheet on page 29

9) Budget Profile

Refer to the Program Operations charts on pages 15 and 16.

Program Learning Outcomes, Goals and Performance Indicators

Program Learning Outcomes/Goals	Performance Indicators
1) Demonstrate employability skills required for initial employment and advancement in the industry that include: attendance, proper attire, customer relations, following directions, working in teams, and understanding work rules and ethics.	80% of the first year students will qualify for the "select student" status by receiving a recommendation from a full-time contracted faculty member. 90% percent of the second year students will complete their programs as "select students". Criteria to qualify for the "select" status will be determined and published by the faculty prior to the start of the academic year.
2) Demonstrate safe work practices and equipment usage while performing operations in a workstation environment.	90% of all students will pass a safety written and demonstration test.
3) Repair and maintain the operating condition of aircraft.	90% of the students who complete the program will have gained the necessary competencies to obtain entry level employment.
4) Pass the FAA written, oral and practical exams for licensing.	90% of the students who complete the program will pass the FAA written, oral and practical examinations.
5) Use basic mathematics skills, formulas and right angle trigonometry.	90% of the program completers will pass a final program computations examination with a 70% or better score.
6) Demonstrate technical abilities in researching, accessing and interpreting written, computer program or web-based reference materials.	All students will conduct research with citations in a written report in both the first and second year of the program.
Student Success Goals	Performance Indicators
Students will have access to the program.	The program will achieve the following student to faculty ratios: R-SFTE / FFTE = 16 : 1 CH-SFTE / FFTE = 10 :1 This means for every funded faculty position 16 reimbursable student full-time equivalents should be enrolled or 10 credit hour student full-time equivalents. The program exceeded this student access goal by achieving a 20.86 to 1 R-SFTE/FFTE ratio, and a 12.51 to 1 CH-SFTE to FFTE ratio.
Students who declare their major in this program will increase as a percentage of the total students enrolled.	FY2004 was the base year. 57 of the unduplicated headcount were declared majors.
Program graduates will increase as a percentage of the total students enrolled.	No data available
The percentage of enrolled female students in the program will exceed the percentage of females in the division programs.	12% of students enrolled in the advancedtechnology division were female.5% of the aviation maintenance technician students

	were female.
The percentage of enrolled non-Caucasian	13% of the aviation maintenance technician
program students will exceed the percentage of	students are non-Caucasian.
the non-Caucasian students in the college.	
The percentage of program students who	The college completion rate was 83.24%.
complete each term will exceed the college	The program completion rate was 84.5%.
completion rate.	
The percentage of program term completers	The college "success" rate was 79.08%.
who receive a C- or greater will exceed the	The program "success" rate was 84.11%.
college "success" rate.	
Students will complete the program within three	90% of the students who complete the two-year
years.	manufacturing program will have completed within
	nine terms.
Student completers will be asked to evaluate	95% of the students who complete the aviation
their overall satisfaction with the program	maintenance technician program will express
training.	satisfaction with the level of training provided.
Employers will be satisfied with the job	90% of employers will express job performance
performance of the prior year's program	satisfaction with the program's student completers.
completers.	On a five point Likert scale, satisfaction is greater
	than the midpoint.

Program Learning Outcomes Assessment Matrix

				Pro	oram	Cour	ses				Ge	neral	Educ	ation	Cours	ses
Aviation Maintenance Technician	AV 193 General 102	AV 194 General 104	AV 192 General 101	AV 195 Geneal 104	AV 196 General 105	AV 281 Powerplant	AV 279 Airframe	AV 283 RTS Powerplant	AV 282 RTS Airframe	AV 280 Cooperative Education	Arts and Letters	HE 125 Workplace Safety	Human Relations	MTH 086 Applied Algebra for Technician:	Science/Math/Computer Science	WR 115W Intro to College Writing
Associate Degree Credit Hours (109 Total Credits)	6	6	6	6	6	24	24	6	6		3	3	3	4	3	3
Two-year Certificate Credit Hours (103 Total Credits)	6	6	6	6	6	24	24	6	6			3	3	4		3
Program Learning Outcomes Demonstrate employability skills required for initial employment and advancement in the industry that include: attendance, proper attire, customer relations, following directions, working in teams, and understanding work rules and ethics.	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ		Ρ	Ρ			
Demonstrate safe work practices and tool usage while performing operations in a shop environment.	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ		Ρ				
Repair and maintain the operating condition of aircraft.	Р	Р	Ρ	Р	Р	Р	Р	Ρ	Р	Р		S				
Pass the FAA written, oral and practical examinations for licensing.	Ρ	Р	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ		s				
Perform computations for gear ratios, engine displacement, electrical circuits, power output, vehicle alignment angles, conversion between the metric system and standard system, and use of precision measuring tools.	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ		S			Ρ	Ρ	
Demonstrate technical abilities in researching, accessing and interpreting written, computer program or web-based reference materials for construction and carpentry.	S	s	S	S	S	S	S	S	S		Ρ		S		S	Ρ
Communicate effectively	P	P	P	P	P	Р	P	Р	Р		S	S	Р	S	S	P
Think critically and solve problems effectively.	P	P	P	P	P	P	P	P	5		P	9	5	P	P	- -
Increase understanding of the relationship between self and community, including self-awareness and personal responsibility.	S	s	s	s	s	S	S	S	P		P	0	P	-		0
Explore academic disciplines of liberal arts, social sciences, and physical sciences.											Ρ	Ρ	Ρ	Ρ	Ρ	Ρ
Learning College Principles																
Learners are active partners in the learning process.	Ρ	Р	Ρ	Ρ	Ρ	Ρ	Р	Ρ	Ρ							
Learners are self-directed.	Р	Р	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ						
Multiple learning options for diverse learners.	Ρ	Р	Ρ	Р	Р	Ρ	Р	Ρ	Ρ							
Learning is promoted across organizational boundaries.										Ρ	Ρ	Ρ	Ρ	Р	Ρ	Ρ
Learning is substantive and documented.	Р	Р	Ρ	P	Р	Ρ	Р	Ρ	Ρ	Ρ	Ρ	S	S	S	S	S
Assessment Methods				-	-											
Technical Skill Performance Observation/Evaluation	Р	Р	Р	Р	Р	Р	Р	Р	Р							
Employability Skills Evaluation	Ρ	Ρ	Ρ	Р	Р	Р	Ρ	Ρ	Р							
Group Project																
Journaling																
Library Research																
Oral Report/Presentation																
Peer Assessment			L							l						
Portfolio			L	<u> </u>	<u> </u>					L						
Pre and Post Test			<u> </u>				_									
Project Evaluation	P	1 1	1	Р	Р	1	Ч	1	1							
	۲	Р	Р	Р	Р	Ч	Ч	Ч	Ч							
Self Assessment		-														
Written Testo/Everyingtions							P									
whiten rests/examinations	Р	I ۲	۲ I	I ۲			Р									

 \mathbf{P} = this is a primary course for meeting the program learning outcome, core ability, learning college principle, or assessment method.

S = this course meets some of the program learning outcome, core ability, learning college principle or assessment method.

Unit Performance

Program Operations – Actual to Expected Analysis

Aviation Maintenance Technician

2003 - 2004 Outcomes	Expected*	Actual	Difference	Analysis
Enrollment	Н			High, Medium or Low Cost Program
Reimbursable Student FTE	65.890	65.890		
Credit Hour Student FTE	39.534	39.534		
Student Head Count	49	57	115%	
Staffing				
Full-time Equivalent Faculty	3.558	3.000	84%	
Part-time Equivalent Faculty	0.395	0.159	40%	
Total Faculty FTE	3.953	3.159	80%	Faculty Staffing is lower than expected.
Budget				
FT Faculty Dollars	189,091	159,433	84%	
PT Faculty Dollars	16,778	6,748	40%	
Lab Assistant Dollars	19,767	8,417	43%	
Other Payroll Expenses	108,128	83,670	77%	
Materials and Supplies	35,581	13,098	37%	
Direct Instruction Costs	369,345	271,366	73%	Expenses are lower than expected.
Operating Ratios				
R-SFTE/Faculty FTE	16.67	20.86	125%	
CH-SFTE/Faculty FTE	10.00	12.51	125%	Faculty are serving more students.
Cost / R-SFTE	5,605	4,118	73%	
Cost / CH-SFTE	9,342	6,864	73%	Cost per student is lower than expected.

* Expected Model Drivers	High Cost	Medium	Low Cost	Formula
CH-SFTE/Faculty FTE	10.00	16.00	24.00	
FT Faculty Percentage	90%	80%	70%	
Credit Hours / Contact Hours	60%	60%	60%	Based on 6 Cr Hrs = 10 Contact Hrs
Calculated Student Load	12.00	9.00	6.00	Head Count = CH-SFTE / (Load/15)
FT & PT Faculty Salaries				Average Actual Salary x Expected FTE
Lab Assistant Dollars/FFTE	5,000	4,000	2,500	Dollars x Total Faculty FTE
Other Payroll Expenses				Actual OPE % x Expected Payroll Dollars
M&S + Equipment / FFTE	9,000	7,000	5,000	Dollars x Total Faculty FTE



Program Operating Trends

Aviation Maintenance Technician

	Operating Data	FY 02	FY 03	FY 04
		Actual	Actual	Actual
1	Full-Time Faculty FTE	4.000	4.000	3.000
2	Part-Time Faculty FTE	0.500	0.500	0.159
3	Total Faculty FTE	4.500	4.500	3.159
4	Student FTE	73.450	77.820	65.890
5	SFTE / FFTE	16.322	17.293	20.858
6				
7	Full-Time Faculty	179,239	187,917	159,433
8	Part-Time Faculty	21,802	7,381	6,748
9	Lab Assistant	10,509	7,364	8,417
10	Other Payroll Expenses	94,499	79,315	83,670
11	Materials and Supplies	15,600	8,837	13,098
12	Total	321,649	290,813	271,367
13	Cost per Student FTE	4,379	3,737	4,118





Program Outcomes Analysis

1. How effectively did you fulfill your unit's mission?

The advent of 911 and the general economic pressures have adversely impacted the program; this analysis develops three primary elements:

A significant part of the Aviation Maintenance student body has historically been composed of students from Saudi Arabia. Severe INS restrictions has totally eliminated this segment of an otherwise stable student head count.

The substantial state budget shortfalls impacted the college budget in a major way which in turn had a deleterious impact on the technical program including Aviation Maintenance. Substantial fee increases have significantly increased the problem of student recruitment, the result is a significant drop in head count and resulting FTE reduction.

The need to significantly reduce operating costs has resulted in a staff reduction. Traditionally, the program has successfully recruited a relatively large number of students. With the staff reductions and the need to effectively "market past" the higher fee structure, this burden has severely taxed the unit capacity to sustain a viable student population. The unit has to rely on any marketing and recruiting that is available at the college level; however, restructuring as an academy systems does permit some additional marketing resources.

Lane Aviation Academy resources – primarily the effort of the program director and the expanding network into the community and across Oregon.

Very high tuition rates, especially for international students has essentially precluded recruitmentof international students. This fact forces the unit to become significantly more creative and toforge partnerships with groups not traditionally developed as a potential sources for new students. The Lane Aviation Academy is a vehicle that can partner with other community colleges; the academy has been progressively more effective at recruiting high school students via the 2+2+2 program and the emerging "skills center."

The unit was very successful at meeting the unit mission: students were well prepared and met the FAA certification requirements. Within two weeks of their certification date, all graduate (100%) were employed (spring 2004).

The program served 54 students who were declared majors (65.89 reimbursable student FTE). The program identified learning outcomes, goals and performance indicators which will be used in future unit plans to better respond to this question.

2. How well did students meet your learning outcomes?

Refer to the Program Learning Outcomes (pages 12 and 13) for the performance indicators. We Identified the performance indicators this year. It is our intent to measure these goals in next year's unit plan.

The aviation maintenance program learning outcomes are in alignment with the FAA standards. Students are completing the program and obtaining employment.

3. How well did students meet the Core Abilities outcomes?

Refer to the Program Learning Outcomes Assessment Matrix on page 12. The students demonstrated their ability to communicate effectively, think critically and solve problems, plus show a mastery of knowledge in the manufacturing field.

The AMT program is standardized by the FAA and all components of the program of the instructional program must be in compliance with FAA specifications and requirements. The instructional staff is certificated by the FAA and subject to periodic review for compliance by the FAA. All testing incidental to technician certification is consistent with a national standard administered by the FAA. Testing essentially involves four separate components:

• written test instruments written and administered by the FAA;

- oral examinations, typically administered by a designated examiner;
- practical examination, typically a set of tasks administered by a designated examiner.
- Exams written and administered by the unit as a progressive set to test academic and skills.

Ultimately, All graduates from the AMT program will have successfully passed all required testing, as prescribed by the FAA, for certification.

4. How efficiently did you use the resources you were given?

The aviation maintenance program is a high cost program in the benchmarking model. Please refer to the Program Operations: Actual to Expected Analysis on page 15. In summary:

Enrollment: 25% more than expected. Staffing: 20% lower than expected. Budget: 27% lower than expected. Cost per Student: 27% lower than expected.

The best indicator for the program's efficiency is the cost per student ratio. The program is expending less per student than expected and less than two years ago (refer to page 16).

5. How well are you utilizing current technology?

The program has a rather limited history of utilizing technology for instructional purposes. Currently, major effort is being made to totally update instructional material content and mode of delivery including significant increased use of computer technology: the plan calls for maintaining student instructional history records and training hours, logged experience history by task (or skill), CBT and unit testing.

6. How effective was your relationship with your advisory committee in achieving unit goals?

Advisory committee members review the aviation maintenance program curriculum during the year. One of the goals of the advisory committee is get involved in the unit planning process before the plan is due in December. New members are added to ensure diversity and innovation within our local industry.

The advisory committee meets one evening each term. The Advanced Technology Division Chair has initiated a change for advisory committee meetings – once each term, all committees in the division meet for a general session, then each unit committee meets in a smaller (unit) group.

Maintenance Technician Advisory Committee Membership List

Diewei, Mark	
Brooks, Jim	
Calahan, Ken	Columbia Helicopters, Inc.
Confer, Larry	Weyerhaeuser Aviation
Davis, Larry	Retired, LCC AMT Instructor
Francisco, Vaden	Heli-Trade
Kosaka, Glen	Alaska Airlines
Lawrence, Mark	Lawrence Air Service
Lunnemann, Gene	
Meier, Sam	Columbia Helicopter, Inc.
Neu, Mike	Horizon Airlines
Noble, Bob	Eugene Airport Manager
Reavis, Wayne	Logan and Reavis Air, Inc.
Robinet, Bill & Leslie	WJR Enterprises, Inc.
Vargo, Jim	Flightcraft, Inc.
-	-

7. How well did you meet faculty and staff goals?

The aviation maintenance program instructors meet their basic goals of updating course textbooks, creating new curriculum and adding new instructional materials. The faculty is responsive to the recommendations of the advisory committee and are keeping the program current with the advances in technologies.

The first order goal has been to "survive." The unit has been threatened by rather draconian financial measures. Staff reduction had to be accommodated by increased faculty workload. The FAA has very strict rules governing instructional content, minimum hours for instruction (lecture) and lab experience as well as student load. All stipulated requirements have been met.

8. Did last year's funded initiatives meet your goals?

- 1. Goals: First order goal was to survive that was accomplished;
- 2. Benefits realized: survival.
- 3. Challenges: Reduced faculty by one position, increased workload for the remaining faculty.
- 4. Status of implementation: A revised master plan if currently being developed in concert with the advent of the Lane Aviation Academy.
- 5. Yes: There is a need for support to build a metal storage building at the airport site, move two modular classroom buildings to the airport and there is a need for resources to move the AMT program equipment to the airport site. The objective is to provide all AMT program training in the airport facilities beginning fall term 2005.

9. What are the overall unit's strengths?

Providing quality and relevant instruction is the strength of the program. Flexibility of the faculty and a willingness to sustain a quality program while working under very difficult conditions. The faculty in the program can take pride in having a 100 percent rate for recent graduates.

10. What are the overall unit's challenges?

Having two distant facilities is challenging the faculty and students. The primary goal of moving the main campus operations to the airport will remedy this difficulty.

Sustaining the viability of the oldest unit operating as a part of Lane Community College. The advent of 911 and severe budget issues have posed significant challenges to sustained enrollments and sufficient operating funds. Continued "split" operations between the on-campus facilities and the RTS facilities on the airport is a source of stress and waste of time and financial resources.

11. Conclusions

It is imperative that the AMT unit be moved to the airport. Having the program operationally split between the main campus and the RTS facilities significantly reduces overall operational efficiency. Having an aviation training program on the airport contributes in a significant way to the attitudes of the students and the airport site provides increased opportunity gain additional practical experience.

Considering the integration of all aviation education programs in an academy system, developing an Aviation Careers Campus on the airport site represents a major step toward establishing a world class aviation education program. The short-term plan is to integrate some elements of the Flight Technology program and the AMT program: the objective is to use facilities currently dedicated for each program separately to be used by all programs within the structure of the Lane Aviation Academy consistent with the needs for superior instruction / learning.

To meet the needs of the emerging use of technology in the industry, the Flight Technology unit is moving toward developing an advanced technology training element for pilots. Work is also underway to develop and offer a program train and qualify avionics technicians.

Traditional approaches to teaching and qualifying Aviation Maintenance Technicians has to be streamlined and technically updated; delivery methods and use of technology need to be updated. With the advent of significant integration of computer technology in navigation, flight control systems and engine control systems in current generation commercial aircraft, it is imperative that our instructional programs, labs and faculty meet current industry standards: which are significantly more demanding than FAA standards.

There is a major need to be much more aggressive at marketing the program. This involves developing market

areas not traditionally approached by the unit.

Ultimately, the long-term viability of the program requires that the quality of the training is absolutely the best in the industry. Updated curriculum and instructional delivery systems must be more efficient, more effective and worthy of approval by the FAA for examining authority. (examining authority is authorization by the FAA to permit the unit to act as an agent of the FAA for the purpose of issuing airman and mechanics certificates).

11. Program Analysis Findings

Finding 1: The aviation maintenance program needs to move its main campus operations to the Eugene airport.

Finding 2: The aviation maintenance program needs to continuously maintain its shop equipment and software.

Finding 3: The aviation maintenance technician program needs to continuously improve its curriculum and operations. The program should acquire new technologies to keep current with advances in aviation maintenance and instructional technologies.

Part IV: Projected Performance

Program Initiatives

1. Initiative Title and Identifier (Unit Abbreviation, Fiscal Year, Type, Sequence Number)

Division Priority: 27

Initiative 1: Move the main campus program to the airport. Aviation Maintenance Technician, FY 2005, Enhancement, 01 = **AV05E01**

2. Linkage to Program Analysis Findings

Finding 1: The aviation maintenance program needs to move its main campus operations to the Eugene airport.

3. Describe the Initiative

What is the need or intended use?

Consolidate all aviation education related activities into the Aviation Campus on the Eugene Airport.

Master plan for the move of the AMT Program from the campus to the RTS facilities on the Eugene Airport. Electrical and pneumatic utilities must be installed to support the equipment to be moved to the RTS building.

Plan for the site preparation and erection of a metal hanger building and locating two modular classrooms/office units next to the existing RTS building.

Short-term planning for move to the airport

(The plan is to move the entire AMT program to the airport.)

- Plan for utilities to be installed in the current RTS facility.
- Plan for erecting a metal hangar building next to the existing RTS building.
- Plan to move two modular classroom/office unit next to the existing RTS
- building.
- Inventory all existing equipment on campus. Identify items to be moved, stored,
- sold, scrapped.
- Plan for the physical move of equipment from the campus to the airport.

Intermediate-term planning:

(Planning for the period between September 2005 – September 2007)

- Design discrete labs for each major aircraft system.
- Secure resources: plan for funding from grants and equipment donations from industry partners.
- Secure an operational (not flyable) Beach King Air, surplus materials.
- Continue development of transfer degree programs.
- Develop a collaborative relationship with other Oregon community colleges.

Longer-term planning:

(Planning for the period between September 2007 and September 2009)

- Design the LCC Aviation Academy Campus on the Eugene Airport
- Aviation Campus programs:
- Aviation Maintenance Technician
- Avionics Technician
- (Aviation Line Service Technician proposed)
- Flight Technology
- University Transfer degree option

What is your evidence of the need?

Industry surveys demonstrate a major growth in the aviation / space industries and a critical need exists for skilled technical people in the industry: the Lane Aviation Academy concept is to maximize efficiency of skilled trainers (faculty) and equipment.

Given college resources, is it feasible?

The existing RTS facility is only used two terms each year. Moving the AMT program to the airport facilitates yearround utilization and permits RTS specific activities each term. [Lane has one of only five Return To Service college based programs in the nation; students are supervised as they work on customer airplanes and return the aircraft to (flyable) service – this activity can take place only on an airport]. Currently, none of the AMT students have access to post maintenance test flight activities from the campus location.

Moving the AMT unit from the campus opens approximately 14,000 square feet of space on campus. There will be some modest cost required to extend the existing utilities in the RTS facility and a man power "cost" to move the equipment.

Actual projected costs for the metal hanger building and the modular classroom/office units has not been determined (\$800,000 estimate).

Is it an efficient use of college resources?

What would be the campus location of this request/project? The aviation maintenance technician program is located on the main campus building 10 and at the Return to Service Center at the Eugene airport.

How many students (per year) will benefit?

The program serves approximately 54 students (majors) per year. (65.89 R-SFTE).

How will students benefit?

The aviation / space industries are highly technically complex and skills areas are highly integrated in the industry. The proposed changes significantly enhance opportunities for increased technical knowledge development and skills development. The outcome is a graduating student population that is very highly trained, skilled and prepared to be highly competitive in the market place.

4. Requested Resources

Acquire and move to a new building at the airport (approximately 16,000 sq. ft.) = \$800,000

Task 1 – Develop a detailed "move plan" to include the following:

- Inventory existing equipment;
- Identify equipment that is to be moved to RTS;
- Identify new equipment that is to be purchased and installed;
- Detail the utilities plan for equipment installation in the RTS building;
- Define specific needs for the metal hanger building;
- Develop a plan for site preparation and building (hanger) erection;
- Develop a plan for installing two modular classroom/office units;(coordinate with the city of Eugene)
- Develop a disposal plan for equipment not being moved to the airport;
- Identify each piece of equipment that is to be moved to the airport;
- Develop a move plan for each piece of equipment;
- Develop a resources detail for the move.

5. Funding Sources

General Funds

5.1 Alignment to Carl Perkins Act goals?

1. How does the request meet one or two of the Carl Perkins act goals?

The projected need for Aviation Maintenance Technicians through the year 2012 is 155,000; the need for avionics technicians for the same period is 110,000. This unit prepares highly skilled people for the aviation / space industry in the United States.

2. How will the use of the funds contribute to the success of Lane's Professional Technical students?

These funds are used as a part of the Lane Aviation Academy program to update and improve the quality of our aviation education programs and to increase our capacity for planned increased enrollments.

3. Briefly describe your past history of utilizing Carl Perkins funds.

Carl Perkins funds have been historically an important source of funding for curriculum development and for the purchase of specialized lab equipment.

5.2 Alignment to Student Technology Fees.

5.3 Curriculum Development

6. Organization and Program Codes

611400 112000

7. Alignment to the College's goals

This initiative aligns with the following college goals:

- Transforming Students' Lives
- Transforming the Learning Environment

Program Initiatives

1. Initiative Title and Identifier (Unit Abbreviation, Fiscal Year, Type, Sequence Number)

Division Priority: 6

Initiative 2: Replace or Upgrade Existing Program Equipment and Software Aviation Maintenance Technician, FY 2005, Maintenance, 01 = **AV05M01**

2. Linkage to Program Analysis Findings

Finding 2: The aviation maintenance program needs to continuously maintain its existing curriculum, equipment and software. The total equipment inventory value is \$1,461,000. The average annual replacement and upgrade cost should average \$94,525.

3. Describe the Initiative

What is the need or intended use?

Develop a task and required resources plan for the new instructional program.

- Detailed revised unit plan for the actual instructional delivery system;
- Detailed plan for CBT / on-line instruction;
- Detailed plan for computer based testing and records
- Detailed plan for data capture assuring compliance with FAA requirements for instruction time/experience;
- Detailed (computer related) equipment needs list.
- Addition of NDT (non-destructive testing equipment)

Program development / course writing (Instructional program design: develop note guide sets and computer Based Training (CBT) including testing and records.)

- Research and design the instructional materials format and instructional style.
- Research and select instructional materials.
- Write note guide sets and tests.
- Develop on-line logs for lecture instruction and lab instruction hours records.
- (FAA compliance record).
- On-line testing, grading and records.
- On-line building of student portfolio.
- Design and plan resource management considering year-round classes entirely at the airport site.
- Do planning considering the integration of an avionics program.
- Develop program with consideration for transfer degree programs, or university
- degree candidates developing aviation industry skills to enhance the university degree.

The program has an existing inventory of equipment and software that needs to be replaced or upgraded. Students should have current and operational equipment to ensure they are appropriately trained.

How was that need assessed?

There is a life cycle cost for all equipment and software. Equipment and software required for instructional program must eventually be replaced or upgraded (refer to the Existing Equipment Inventory on page 29).

What is your evidence of the need?

The program has an existing curriculum and equipment inventory than needs to be upgraded or replaced.

Given college resources, is it feasible?

Yes. The College should strive to maintain or improve its level of quality in the instructional programs. Virtually all resources for this initiative development involves staff time resources which will be shared responsibility – therefore, by default it is feasible.

Is it an efficient use of college resources?

Yes. Funding the life-cycle costs of equipment will minimize the cost of funding critical failures.

What would be the campus location of this request/project? The Aviation maintenance technician program is located on the main campus building 10 and at the Eugene Airport.

How many students (per year) will benefit?

The program serves approximately 57 students (majors) per year. (65.89 R-SFTE).

How will students benefit?

The aviation / space industries are highly technically complex and skills areas are highly integrated in the industry. The proposed changes significantly enhance opportunities for increased technical knowledge development and skills development. The outcome is a graduating student population that is very highly trained, skilled and prepared to be highly competitive in the market place.

Students will benefit by learning to operate equipment that they will be expected to operate as they obtain employment in the field for which they are being trained. They will benefit by having access to dependable, safe and current technology. They will benefit by learning to work efficiently with efficient equipment. The redesign of the curricular materials and the multi-modal delivery system will significantly improve learning proficiency, study skills and knowledge base.

It is expected that our graduates will be some of the best prepared technicians graduating from a two-year aviation maintenance technician program in the nation.

4. Requested Resources

Maintenance initiatives are requests for resources to maintain the existing levels of program efficiency and effectiveness. Maintenance initiatives respond to:

- any mandatory changes in the program (recurring contracts, change in credits, implementing accreditation or other curriculum standards), and,
- costs to maintain the existing curriculum and program equipment.

1) Upgrade the computer lab (20 stations) = \$10,000

All new generation aircraft, general aviation, helicopters and air carrier are equipped with CRT-type instrument display systems and computer augmented flight control and systems management.

- 2) Replace 10 riveting kits = \$2,000
- 3) Magnaflux repair and certification = \$5,000
- 4) Eddy current flaw detector = \$6,000
- 5) Ultrasonic flaw detector = \$6,800
- 6) Curriculum development (200 hrs) = \$7,400

5. Funding Sources

Carl Perkins Technology Fees Curriculum Development

5.1 Alignment to Carl Perkins Act goals?

1. How does the request meet one or two of the Carl Perkins act goals?

The projected need for Aviation Maintenance Technicians through the year 2012 is 155,000; the need for avionics technicians for the same period is 110,000. This unit prepares highly skilled people for the aviation / space industry in the United States.

2. How will the use of the funds contribute to the success of Lane's Professional Technical students? These funds are used as a part of the Lane Aviation Academy program to update and improve the quality of our aviation education programs and to increase our capacity for planned increased enrollments.

3. Briefly describe your past history of utilizing Carl Perkins funds.

Carl Perkins funds have been historically an important source of funding for curriculum development and for the purchase of specialized lab equipment.

5.2 Alignment to Student Technology Fees.

This initiative is seeking student technology fees (TACT).

5.3 Curriculum Development

1. How will the initiative improve learning?

The existing curriculum is old, out of date and not at all well suited for use in an integrated instructional program nor is it suitable (in form) for CBT applications.

2. What specific curricular materials will be created?

The entire program organization is being changed to accommodate a year-round

instructional program including the RTS functions: curriculum design will be developed around a CBT / on-line format with imbedded quizzes, associated labs and computer based testing, student practical history file. Format to support a developing portfolio that a student can take upon graduation as evidence of technical skills, FAA compliance and practical work experience.

3. If the proposal is for a course revision, how does this curriculum development differ from routine course maintenance?

This proposal is much more inclusive that a simple course revision: This is a complete program redevelopment and courses are to be rewritten to meet the new program design criteria and developed in a form consistent with the requirements for the CBT/on-line options, including imbedded quizzing and integrated labs.

6. Organization and Program Codes

611400 112000

7. Alignment to the College's goals

This initiative aligns with the following college goals:

- Transforming Students' Lives
- Transforming the Learning Environment
- Transforming the College Organization
 - o implementing a "life-cycle" approach for funding equipment

Initiatives Spreadsheet

		te					Reso (mark	ре 'X")	 (1	Fund mark	ling wit	Sou h an	rces "X"	;		
Unit Priority	Initiative ID	Expected completion da	Initiative Title	Resource Description	\$\$	Recurring / Nonrecurring	Payroll (w/OPE)	Equipment	Space	Other	Existing	New Gen Fund	Carl Perkins	Stud Tech Fee	Curr Dev	Other
1	AV/05M01	9/15/2005	Replace/Upgrade Existing Program	20 computer stations	10.000	N		x						x		
2	AV05M01	9/15/2005	Replace/Upgrade Existing Program Equipment, Software or Curriculum	Riveting kits (10)	2,000	N		x					х	~		
3	AV05M01	9/15/2005	Replace/Upgrade Existing Program Equipment, Software or Curriculum	Magnaflux repair and certification	5,000	N		х					х			
4	AV05M01	9/15/2005	Replace/Upgrade Existing Program Equipment, Software or Curriculum	Eddy current flaw detector	6,000	N		х					х			
6	AV05M01	9/15/2005	Replace/Upgrade Existing Program Equipment, Software or Curriculum	Ultrasonic flaw detector	6,800	N		х					х			
7	AV05E01	9/15/2005	Move the program to the airport.	Move the program to the airport	800,000	N			x	х		х				
5	AV05M01	9/15/2005	Replace/Upgrade Existing Program Equipment, Software or Curriculum	Curriculum development (200 Hrs)	7,400	N	х						х		х	

Equipment Inventory Spreadsheet

Existing Equipment Inventory

				Total	Years of	Annual
Program	Description	#	Unit Cost	Cost	Life	Cost
AMT	Ignition systems	1	17,000	17,000	10	1,700
AMT	Lubricating systems	1	5,000	5,000	10	500
AMT	Propellers	1	50,000	50,000	20	2,500
AMT	Aircraft manuals upgrades	1	5,000	5,000	5	1,000
AMT	Fuel systems	1	2,000	2,000	10	200
AMT	Finishing systems	1	25,000	25,000	10	2,500
AMT	Cabin atmosphere controls	1	2,500	2,500	10	250
AMT	Sheet Metal equipment	1	56,000	56,000	5	11,200
AMT	RTS- General equipment	1	120,000	120,000	10	12,000
AMT	Turbine powerplants	1	167,000	167,000	20	8,350
AMT	Instrumentation	1	35,000	35,000	10	3,500
AMT	Ice & rain control aircraft	2	150,000	300,000	20	15,000
AMT	Ice & rain control	1	15,000	15,000	10	1,500
AMT	Rigging assembly systems	1	25,000	25,000	10	2,500
AMT	PA 28-140 complete	1	25,000	25,000	20	1,250
AMT	Cessna 152 - complete	1	20,000	20,000	20	1,000
AMT	Cessna 210 - fuselage mock up	1	4,500	4,500	20	225
AMT	Cessna 310 - complete	1	30,000	30,000	20	1,500
AMT	Piper PA 28-151, damaged	1	10,000	10,000	20	500
AMT	Rockwell T39A, operational	1	100,000	100,000	20	5,000
AMT	Hughes 269 Helicopter	1	10,000	10,000	20	500
AMT	Hiller Helicopter	1	25,000	25,000	20	1,250
AMT	Bell UH-1H helicopter	1	200,000	200,000	20	10,000
AMT	Cessna 182 - complete	1	35,000	35,000	20	1,750
AMT	Hydraulics	1	25,000	25,000	20	1,250
AMT	General equipment	1	20,000	20,000	20	1,000
AMT	Demonstration engines	1	80,000	80,000	20	4,000
AMT	Overhaul equipment	1	52,000	52,000	20	2,600
	Existing Equipment Total			1,461,000		
	Annual Replacement Costs					94,525

Projected FY06 Program Outcomes

1. What program level outcomes do you expect to achieve?

The program has developed a set of learning outcomes and operational goals. Assessment of these program outcomes will be based on the measurement of the actual performance to the performance indicators. Please refer to the Program Learning Outcomes, Goals and Performance Indicators chart on page 10. Specifically, student enrollment should increase.

2. How will your program enhance your students' abilities to meet Core Abilities outcomes?

The program has developed a Learning Outcomes Assessment Matrix that maps the program and general education courses required to complete an associates degree against the program's learning outcomes, core abilities and learning college principles. The primary and secondary assessment methods are also identified. Please see this chart on page 12.

3. What course level outcomes do you expect to achieve?

What goals do you wish to set for 2004-2005?

Program goals remain as indicated for 2003-2004. That is that students would receive competent instruction in an effective and efficient learning environment that will lead to the acquisition of industrial entry-level skills. To accomplish this on-going goal the program will continue to prioritize equipment replacement needs and review its curriculum.

How will your courses grow, change or adapt?

How will your instructional methods change or adapt? If the initiatives are funded, the students will have better access to the instructors in a better learning environment.

What goals do you have for your instructional environment (classrooms and/or technologies and equipment)? We are seeking to maintain and enhance our instructional equipment. Please note the exiting equipment inventory is \$1,461,000 that requires a average replacement/upgrade cost of \$94,525.

4. What plans do you have for enhancing your use of current technologies?

The program is requesting upgraded instructional lab stations, tools and equipment. Refer to initiative 2.

5. What plans do you have for working more effectively with your Advisory Committee?

The advisory committee is currently very effective and functional.

6. How will you set faculty and staff goals?

The faculty and staff in this program will use this unit plan to help set goals. The inclusion of learning outcomes and operating goals provide the basis for assessment. The faculty and staff must continuously maintain and improve the program.

7. Enrollment Projections

The enrollment is current above what is expected. At this time, we need to be more concerned with the quality of instruction.

8. Student Success Projections

The student success projections are part of the Program Learning Outcomes, Goals and Performance Indicators (page 10). Additional measures of student success will be developed during the year and added to the chart.

9. Facilities and Equipment Need Projection

Moving to a new facility at the airport will create both opportunities and challenges. It is our expectation to move all of the relevant equipment from the main campus to the airport.

10. Budget Projections

Carl Perkins and Technology Fee dollars will be required to maintain and enhance the equipment.

Advisory Committee Chair

Date

Division Chair

Date