Advanced Technology Division
Unit Plan for FY 2008

Section III
Planning for Fiscal Sustainability

FY 2008 Incremental Changes

Revenue Enhancements
Efficiencies and Productivity
Budget Reductions

FY 2009+ Fundamental Changes

Revenue Enhancements
Efficiencies and Productivity
Budget Reductions

Appendices - Proposals

Transforming the Classroom: Interactive Learning
Learning Management Information System
High School Middle College
AAS to BAS Career Pathway
Non Credit Fast Track Automotive Program

2007-2008 (FY 08) Incremental changes:

1. **Revenue Enhancements:** (Include impact, consequences, and comments; examples might include: receiving grant funding, securing a donation from a local business to replace general fund costs, offering a new course combining non-credit and credit students that increases FTE).

Guaranteed Revenue Enhancements:

Description	Impact	Consequences	$	R/NR
(Welding) Establish a student fee for welding wire.	Reduce program costs.	Improve student learning efficiency. Reduce waste. Increases student costs.	7,400 annual savings	R

Additional Narrative:

Non-Guaranteed Revenue Enhancements:

Description	Impact	Consequences	$	R/NR
(Automotive) The non-credit fast track automotive program will provide accelerated and focused training for students to enter the workforce in less than one year.	Will serve an additional 45 student FTE annually. Will use the existing automotive curriculum, facilities, equipment and computer laboratory.	The program could compete with the traditional credit two-year program. Students who do not have financial sponsorship, dedicated time (one year full-time) or who require financial aid will still have access to the traditional two-year credit program.	30,000	R

Additional Narrative:

2. **Efficiencies and Productivity**: (Include impact**,** consequences, and comments; examples might include: increasing maximum class size, consolidating courses of two instructional programs**).**

Guaranteed Efficiencies and Productivity:

Description	Impact	Consequences	$	R/NR
(Automotive) Increase the automotive credit students program by 10 students	Additional 21 student FTE per year.	The effective teaching capacity of the instructor is increased by using the new automotive computer lab and its learning management information system.	37,000 in tuition and fees. 58,000 in future Total Public Support.	R
(Fabrication/Welding) Reduce the duplication of non-credit offerings. Continuing Education offerings utilize credit welding facilities, curriculum and instructional staff for certain	Reduces administrative/staff costs to the college.	May limit access to some students.		R

Description	Impact	Consequences	$	R/NR
welding courses. The non-grade CE practice functionally duplicates the credit "audit" grade. Inasmuch as CE provides no real alternative to credit welding for certain courses the net effect is that a single population of students is supporting two instructional and administrative functions without value being added. This seems inefficient and wasteful of resources				

Additional Narrative:

Non-Guaranteed Efficiencies and Productivity:

Description	Impact	Consequences	$	R/NR
(Division) Change the instructional delivery from lecture and lab to lecture/lab in mechanical technologies.	Student weekly contact hours increase from 20 to 24 which increases student FTE by 17% or an annual student FTE increase of 20.	This complies with the 2002 mechanical technologies workload agreement. The new TLCs will remain less than 17 per term. Instructors are already on campus 30 hours per week, Monday through Friday. The differential pricing will need to be held constant with the amount prior to this change.	56,000 in future Total Public Support.	R
(Division) Increase each section by 1 student	Move from a 20:1 student/teacher divisional average ratio to 21:1 for a 5% increase in efficiency. This will yield and additional 22 student FTEs.	Class sizes will be larger.	65,000 in tuition and fees. 67,000 in future TPS	R
(Drafting) Drafting degree requirements revision. Drafting's sustainability initiative was begun spring term 2006 which entailed the creation of one core program from three emphasis areas. This change was initiated to improve student skill sets and enhance their employability. Both financial benefits and efficiency improvements will be realized by the college through the new core program. It requires 33% fewer part-time TLC's than the original program	Increased course enrollment; decreased part-time faculty salary costs	Improved skill development; students better prepared for employment.	10,000 includes OPE	R

Description	Impact	Consequences	$	R/NR
design and enrollment in second year classes will significantly increase thus improving full-time faculty/student ratios.				

Additional Narrative:

3. Budget Reductions: (Include impact, consequences, and comments; examples might include: reducing a faculty or management position in a program, reducing materials and supplies allocation).

Description	Impact	Consequences	$	R/NR
(Division) Adjust student advisor's PAF	This is a cost accounting change. 100% of the position will continue to be budgeted in the advanced technology division with 75% of the student advisor should be charged to the student services function and 25% charged to the instruction function.	Decreases the costs of instruction but increases the costs of student services. This change is required to appropriately calculate the instructional costs for the division.	49,651 including OPE	R
(Division) Reduce part time instruction.	Cut the 1.00 FTE in part time funds.	Loss of 26 reimbursable student FTE unless there is compression (retention in remaining sections)	53,025 including OPE	N
(Division) Reduce the division chair position.	Cut 50% of the division chair assignment to the division.	Significant reduction in divisional development and program advocacy. Work will focus on the existing curricula and evaluations.	70,448 including OPE	N
(Division) Reduce faculty in aviation maintenance program.	Cut 1.0 full-time faculty in aviation maintenance.	Loss of 15 reimbursable student FTE (no part-time backfill). The aviation maintenance program is the only divisional program with more than two full-time faculty. This cut will leave two-full time faculty. The program will have to restructure its curriculum to facilitate the completion of the program within two-	84,764 including OPE	N

Description	Impact	Consequences	$	R/NR
		years and within the Federal Aviation Regulations.		
(Division) Reduce faculty in the electronics program.	Cut 1.0 full-time faculty in electronics.	Loss of 20 reimbursable student FTE (no part-time backfill). The program will have to be restructured with only 1 full-time and .5 part-time faculty.	94,662	N
(Division) Reduce faculty in the automotive program.	Cut 1.0 full-time faculty in automotive.	Loss of 26 reimbursable student FTE (no part-time backfill). The program will have to be restructured with only 1 credit full-time faculty and 1 non-credit faculty.	94,662	N

The above divisional budget adjustments total $447,211 with 5.25 positions affected. The division's reimbursable student FTE will be reduced by 87 which will be about $282,000 in lost college revenues. If the 87 student FTE is not recaptured by the college (students moving to other programs) then the net college budget reduction will be about $165,000.

(Drafting) Begin a cycle of updating AutoCAD software every other year, rather than every year, thereby saving annual license fee; estimated cost savings for 2007-08 is $10,000. Fees are expected to increase each renewal cycle; savings will be realized every other year.	Renew CAD software every other year.	Minimum.	5,000	R

Additional Narrative:

2008-2009 (FY 09) and beyond, Fundamental changes:

1. **Revenue Enhancements:** (Include impact, consequences, and comments)

Guaranteed Revenue Enhancements

Description	Impact	Consequences	$	R/NR
(Automotive) The non-credit fast track automotive program will provide accelerated and focused training for students to enter the workforce in less than one year. [*refer to Appendix E for more information]*	Will serve an additional 45 student FTE annually. Will use the existing automotive curriculum, facilities, equipment and computer laboratory.	The program could compete with the traditional credit two-year program. Students who do not have financial sponsorship, dedicated time (one year full-time) or who require financial aid will still have access to the traditional two-year credit program.	30,000	R
(Drafting) Create a new integrated construction mini-certificates and/or one-year certificate. Collaborate with Construction Technology program to create a new one-year certificate that utilizes existing courses from Drafting and Construction.	1) New certificate programs increase FTE. 2) Increased enrollment in existing classes.	1) Creation of program that meets local employer needs. 2) Increased enrollment in Construction classes could result in need for additional instructor.	Increase; amount unknown	R
(Drafting) Create a new integrated manufacturing mini-certificates and/or one-year certificate. Collaborate with Manufacturing Technology and Welding to create a new one-year certificate that utilizes existing courses from Drafting, Manufacturing, and Welding. (Manufacturing) Combine four programs: Mfg, Welding Electronics and Drafting under one title. 72 credits total with each program having 18 credits of instruction. Maybe call it - Technology Cluster. Of coarse Mfg is already taken, not that I wouldn't mind changing ours to Machine Technology but Mfg is already known locally as the "Machinist trade" degree title. This new degree would work best if offered with the RTEC/OIT 4yr Bachelor of	1) New certificate programs increase FTE. 2) Increased enrollment in existing classes.	1) Creation of program that meets local employer needs. 2) Increased enrollment in Construction classes could result in need for additional instructor.	Increase amount unknown	R

Description	Impact	Consequences	$	R/NR
Applied Science degree as a likely outcome. The "would be" entrepreneur maybe attracted also if marketed that way. There should be room to customize their electives. Engineering students may also be attracted.				

Additional Narrative:

Non-Guaranteed Revenue Enhancements

Description	Impact	Consequences	$	R/NR
(Division and College) Introduce a new teaching methodology integrating three modes of instructional activities: 1) small group instruction; 2) knowledge navigation (using computers); and, 3) collaborative learning (peer groups). The activities are managed by a learning management information system. The instructor is assisted with a team of instructional aides. The automotive program is prototyping this new methodology this year. *[refer to appendix A for more information]*	The amount of time a student is interactively learning is increased. Both the efficiency (more students) and effectiveness (students learning more) will increase. Programs or courses using this methodology should increase the student FTE by 25% with only 10% more costs which will significantly increase college revenues. Faculty will spend more time teaching and with smaller groups of students.	This transformational initiative will require substantial commitment and investment by the college.	>1,000,000	R
(Division and College) Design and develop a high school middle college with the following "magnet schools". • Oregon Transfer Module (45 credits) • Transportation Careers (36 credits) • Manufacturing Careers (36 credits) • Construction Careers (36 credits) • Aviation Careers (36 credits) • Health Careers (36 credits) • Computer Careers (36 credits). Qualified high school seniors would select one of the magnet schools, located at the community learning centers or host high schools, and complete a one-year cohort program.	This initiative leverages educational resources to facilitate an academic and career pathway for high school seniors who would otherwise not have many options. The college should see a significant increase in earned student FTE and high school capture rates (number of students continuing to Lane).	This transformational initiative will require substantial commitment and investment by the college.	>1,000,000	R

Description	Impact	Consequences	$	R/NR
[refer to appendix C for more information]				
(Diesel) Take on outside repair work through the advisory committee recommendation. "An example of this would be complete hydraulic hose replacement on a backhoe".	May increase student FTE through a Cooperative Experience. Students would get some production repair experience on campus.	Starting a business within a program is risky. It will demand more supervision from the faculty (increased workload).	1,000	R
(Diesel) Obtain certification and begin training for Commercial Driver's License (CDL) certification.	This could be a new non-credit program which would generate 30 student FTE per year.	None	75,000 in future Total Public Support	R
(Diesel) Add a 12 credit pre-requisite to Diesel Tech that would be simply "Boot Camp for Mechanical Technologies" offer it every term and make it available at the main campus and at all satellite campuses. It could be offered CBT and online.	Would increase the skill level of students in the programs. Could be offered by RTEC.	None	Unknown	R
(Diesel) Work together with Lane transit district to coordinate a training program tailored to their technician needs.	Work with customized training non-credit. Could generate 10 student FTE per year.	None	25,000 in future TPS	R
(Fabrication/Welding) Add to, eliminate, rearrange program content. Modularize some program content.	Requires some curriculum rewrite. Modularization is dependant on availability/cost of educational materials.	Improve student retention. Open more points of access to program.	$1,000 (cost for curricular materials)	R
(Auto Collision and Refinishing) Develop a program in conjunction with ICAR (Inter-industry conference on auto collision and repair) that will provide students an ICAR certificate after they complete different areas of the programs. This will make students more employable. Shop employees have to be ICAR certified to do insurance work for most insurance companies. Technicians must attend training sessions to obtain and maintain this certification. The shops and our students will both be beneficiaries of this program	Additional 5 student FTE per year. Additional employment benefit for students completing the certificate. Should increase the number of students who want to complete the program.	None	$10,000 in tuition and fees $13,000 in future Total Public Support	R

Additional Narrative:

2. Efficiencies and Productivity: (Include impact**,** consequences, and comments)

Guaranteed Efficiencies/Productivity

Description	Impact	Consequences	$	R/NR
(Automotive) Increase the automotive credit students program by 10 students	Additional 21 student FTE per year.	The effective teaching capacity of the instructor is increased by using the new automotive computer lab and its learning management information system.	37,000 in tuition and fees. 58,000 in future Total Public Support.	R
(Division) Change the instructional delivery from lecture and lab to lecture/lab in mechanical technologies.	Student weekly contact hours increase from 20 to 24 which increases student FTE by 17% or an annual student FTE increase of 20.	This complies with the 2002 mechanical technologies workload agreement. The new TLCs will remain less than 17 per term. Instructors are already on campus 30 hours per week, Monday through Friday. The differential pricing will need to be held constant with the amount prior to this change.	56,000 in future Total Public Support.	R
(Division) Increase each section by 1 student	Move from a 20:1 student/teacher divisional average ratio to 21:1 for a 5% increase in efficiency. This will yield and additional 22 student FTEs.	Class sizes will be larger.	65,000 in tuition and fees. 67,000 in future TPS	R
(Cooperative Education) There are funds available through Foundations, Industries, Governmental Agencies, and individuals for this purpose. Grants require expertise to successfully apply and be funded. A grant-writer with the necessary expertise would be hired to provide this service, compensated through a percentage of the grants awarded. Department grant funds would go to the submitting department. Division grant funds would be distributed according to the components of the grant. Departments, Divisions applying for and being awarded				

Description	Impact	Consequences	$	R/NR
grants would not have general fund dollars reduced as a result of being awarded a grant. The College will support this revenue generating effort through institutional approval and authorization of grant applications.				
(Electronics) Move our daytime E.T. classes from morning to late afternoon and evening.	This would expand the offerings for evening E.T. students (currently taking CBT classes) by giving them the opportunity to take second year classes in the same time slots that they are accustomed. The additional advantage is that we will probably be able to design our classes to include some Apprenticeship students which would also increase the student to teacher ratio.	Unknown RISK: how many daytime students would be lost vs. evening student gained.	Unknown	R
(Electronics) Develop online classes to further reduce E.T. Faculty load. Lectures for Shop Practices, Robotics, PLC's, Electrical theory 3, digital 2 and Microcomputer Hardware could be presented online and the instructor could use his/her time for managing the labs associated with these classes..	Improve the use of existing faculty resources.	This will require curriculum development funding	Unknown	R
(Drafting) Integrate credit and non-credit Drafting courses. Currently, Drafting courses through Continuing Education are similar but not identical in content to credit courses. Non-credit courses cannot currently be articulated with credit courses primarily because of assessment differences. Students are prevented from making an easy transition from non-credit to credit and must repeat content. Offering all CAD courses for both credit and non-credit simultaneously, that is, within one class, has the potential to	1) Optimizes faculty and space utilization. 2) Maximizes schedule flexibility and student access to courses. 3) Opens a pathway to continued college studies.	Need to align course content of continuing education with credit classes. Need for creation of noncredit-to-credit conversion policies.	Increase amount unknown	R

Description	Impact	Consequences	$	R/NR
1) increase enrollment, thus optimizing faculty and space utilization, and 2) increase the numbers, times, and locations of classes available to students. Offering students the option of taking a class for non-credit allows them a non-threatening way to see that they can be successful in a college environment. A policy would need to be created that would allow a student to convert a non-credit CAD class to a credit class. This could include attendance requirements, additional assessment activities, a maximum time limit, and additional fees.				

Additional Narrative:

Guaranteed Efficiencies/Productivity

Description	Impact	Consequences	$	R/NR
(Division and College) Design, prototype and implement a college-wide Learning Management Information System (LMIS) that will manage and document student learning, assessment, career exploration, curriculum, competencies, course outcomes, program outcomes, articulation, employers requirements, and interface with the college's other production information system using a lifelong student learning portal. An initial design and prototype of the LMIS can be developed selected programs (advanced technology and mathematics). *[refer to appendix B for more information]]*	This system will be the information infrastructure necessary to create and sustain new approaches to teaching and learning.	This transformational initiative will require substantial commitment and investment by the college.	>1,000,000	R
(College) Design and implement an Associate of Applied Science to Bachelor of Applied Science degree matriculation agreement with the Oregon Institute of Technology. This agreement would allow any Lane graduate with an	The college will realize at least three major benefits: 1) students will be retained or will want to return to the college to complete their AAS degrees to take	This is a win-win-win proposal. It will require a matriculation agreement with the Oregon Institute of Technology.	>100,000	R

Description	Impact	Consequences	$	R/NR
Association of Applied Arts degree to transfer 90 credits of that degree to fulfill the lower division graduation requirements. The student would then complete the BAS degree by completing upper division credits in business management (minimal arts and letters courses). *[refer to appendix D for more information]*	advantage of the matriculation agreement; 2) parents, high school counselors and students will see career technical pathways continue to the bachelors level and do not terminate with an associates degree. 3) OIT could offer cohort instruction at Lane employing local instructors. The college should realize more student FTE with better recruitment and retention.			
(Fabrication and Welding) First year of program: Maintain block time format for the first year Reduce fabrication/machine tool training Import some welding training from second year of the program Modularize some components Second year of the program: If block time format is retained: Fill time vacated by moving welding training to first year with more fabrication/machine tool trainiing. Modularize some components. If second year block time eliminated: Offer second year curriculum as single skill classes Offer second year single skill classes in afternoons or evenings Modularize some components	Requires some curriculum rewrite. Modularization is dependant on availability/cost of educational materials.	Improve retention. Increase program access opportunities.	$8,000 cost for curricular materials	R
(Aviation) The curriculum change we have been working on will of coarse make us more efficient but I think I have an additional slant on it ... we teach every subject area to one of three skill levels ... and basically they are skill level 1 --- you must	Additional 10 student FTE.	Students will have to be more accountable for their learning.	12,000 in tuition and fees. 25,000 in future TPS	R

Description	Impact	Consequences	$	R/NR
know about the topic area and be able to discuss it ... skill level 2 --- you must have an absolute understanding of the subject area and be able to discuss it with authority, you must be able to demonstrate your knowledge and skill if asked to .... Skill level 3 --- You must have and absolute understanding and you will demonstrate your knowledge of the subject area .... skill area 3 and parts of skill area 2 have definite lab time ... which brings me to skill level 1 and parts of skill level 2 ... they can be 100% CBT ... to the point that we (faculty) will not be involved with class room training ... these can be set up as online computer classes ... this will reduce faculty work load, which in turn will allows larger classes ... it will allow off campus students an opportunity to get involved with our program.				

Additional Narrative:

3. Budget Reductions: (Include impact, consequences, and comments)

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(Division) Adjust student advisor's PAF	This is a cost accounting change. 100% of the position will continue to be budgeted in the advanced technology division with 75% of the student advisor should be charged to the student services function and 25% charged to the instruction function.	Decreases the costs of instruction but increases the costs of student services. This change is required to appropriately calculate the instructional costs for the division.	49,651 including OPE	R
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(Division) Reduce the division chair position.	Cut 50% of the division chair assignment to the division.	Significant reduction in divisional development and	70,448 including OPE	R

Description	Impact	Consequences	$	R/NR
		program advocacy. Work will focus on the existing curricula and evaluations.		
(Division) Reduce faculty in aviation maintenance program.	Cut 1.0 full-time faculty in aviation maintenance.	Loss of 15 reimbursable student FTE (no part-time backfill). The aviation maintenance program is the only divisional program with more than two full-time faculty. This cut will leave two-full time faculty. The program will have to restructure its curriculum to facilitate the completion of the program within two-years and within the Federal Aviation Regulations.	84,764 including OPE	R
(Division) Reduce faculty in the electronics program.	Cut 1.0 full-time faculty in electronics.	Loss of 20 reimbursable student FTE (no part-time backfill). The program will have to be restructured with only 1 full-time and .5 part-time faculty.	94,662	R
(Division) Reduce faculty in the automotive program.	Cut 1.0 full-time faculty in automotive.	Loss of 26 reimbursable student FTE (no part-time backfill). The program will have to be restructured with only 1 credit full-time faculty and 1 non-credit faculty.	94,662	R

Additional Narrative:
These divisional budget adjustments total $447,211 with 5.25 positions affected. The division's reimbursable student FTE will be reduced by 87 which will be about $282,000 in lost college revenues. If the 87 student FTE is not recaptured by the college (students moving to other programs) then the net college budget reduction will be about $165,000.

Advanced Technology Division
Unit Plan for FY 2008

Section III
Planning for Fiscal Sustainability

Appendices - Proposals

Transforming the Classroom: Interactive Learning
Learning Management Information System
High School Middle College
AAS to BAS Career Pathway
Non Credit Fast Track Automotive Program

#	*Unit*	*Initiative Title*
A	Division/College	Transforming the Classroom: Interactive Learning

FY08	FY09 +	Guaranteed	Net Dollars	Recurring/Non Recurring
X	X	Yes	> 1,000,000	Recurring

Description

Introduce a new teaching methodology integrating three modes of instructional activities:

4) small group instruction;
5) knowledge navigation (using computers); and,
6) collaborative learning (peer groups).

The activities are managed by a learning management information system. The instructor is assisted with a team of instructional aides. The automotive program is prototyping this new methodology this year.

Impact

The amount of time a student is interactively learning is increased. Both the efficiency (more students) and effectiveness (students learning more) will increase. Programs or courses using this methodology should increase the student FTE by 25% with only 10% more costs which will significantly increase college revenues. Faculty will spend more time teaching and with smaller groups of students.

Consequences

This transformational initiative will require substantial commitment and investment by the college.

Narrative

The division and the college should develop and implement learning-teaching methodology using interactive technologies to provide teacher-directed dynamic curricula. The implementation of this methodology will:

- increase student interactive learning time,
- increase the attainment of learning outcomes,
- provide continuous student assessment,
- dramatically reduced student-teacher ratios, and,
- **increase college revenue!**

Interactive Learning Time

Interactive learning time is the amount of time that a student is on-task and is interactively learning (one-on-one) within a formal learning-teaching process. Put another way, Interactive learning time is the time when a student is anxious to receive knowledge (learn) and the teacher or expert is immediately responsive to give that knowledge (teach). It is amazing how little interactive learning time occurs within the traditional process. In a section of 30 students, meeting 30 hours per quarter, only one hour of interactive learning time can occur per student. But, when you factor down time,

testing time, time off-task, passive learning time (seat work), and teacher and student absences, the one hour may be reduced to less than 10 minutes!

Faculty and administrators in higher education are struggling with the assessment of instructional outcomes. Most of the strategies for assessment involve the measurement of the products of teaching-learning, e.g. growth in knowledge and skills. ***The premise of this proposal is simple: by dramatically increasing interactive learning time, students will dramatically increase the attainment of learning outcomes.*** Interactive learning time is, therefore, one of the greatest measurable indicators of quality learning-teaching. The primary goal of a re-engineered learning-teaching model would be to maximize interactive learning time.

Conceptual Overview

Why Change?

Lane

A goal of instructional redesign is to implement an interactive learning-teaching strategy that merges instruction and technology to provide a student-centered, teacher-managed, dynamic curriculum.

The implementation of this strategy will

- increase student interactive learning time,
- provide continuous student assessment,
- dramatically reduce student-teacher ratios,
- substantially enhance student learning, and,
- increase college revenue!

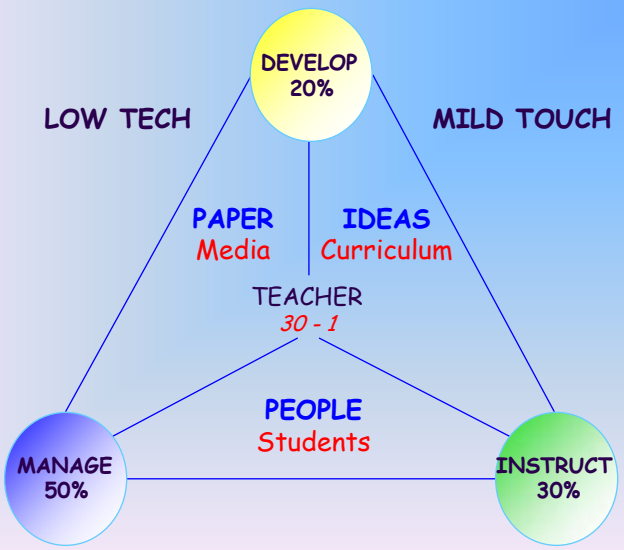
Interactive Learning Defined

Lane

The educational time in which a student is actively seeking knowledge and a teacher (or knowledge expert) presents and reinforces that knowledge. Interactive learning is:

- ✓ Active
- ✓ Student Initiated
- ✓ Teacher Reinforced
- ✓ Student Acknowledged
- ✓ Teacher Documented

Traditional Instruction

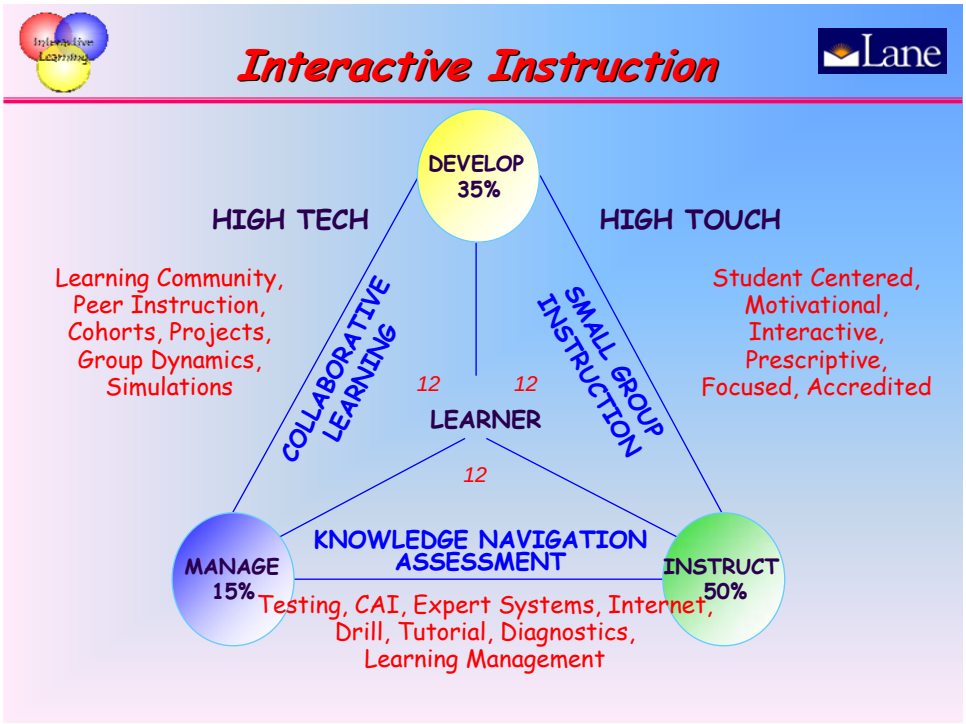


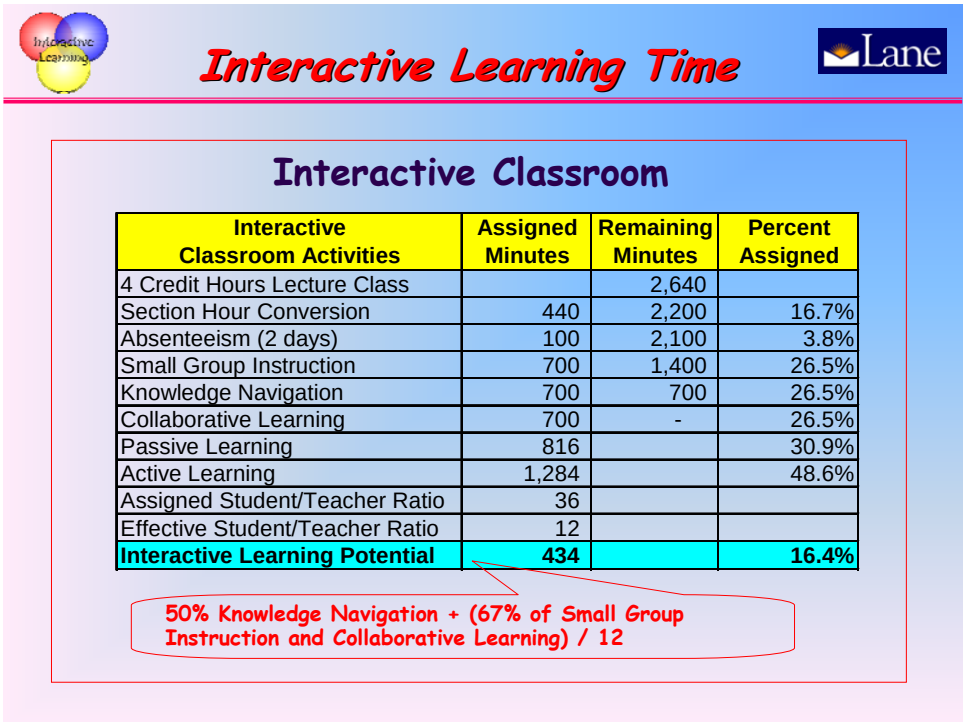
Interactive Learning Time

Traditional Classroom

Traditional Classroom Activities	Assigned Minutes	Remaining Minutes	Percent Assigned
4 Credit Hours Lecture Class		2,640	
Section Hour Conversion	440	2,200	16.7%
Absenteeism (2 days)	100	2,100	3.8%
Passive Teaching (50%)	1,050	1,050	39.8%
Active Teaching (50%)	1,050	-	39.8%
Assigned Student/Teacher Ratio	24		
Effective Student/Teacher Ratio	24		
Interactive Learning Potential	**44**		**1.7%**

= Active Teaching / Effective Student Teacher Ratio.
Interactive Learning: student initiated; teacher reinforced, student acknowledged, teacher documented.





Interactive Classroom Activities	Assigned Minutes	Remaining Minutes	Percent Assigned
4 Credit Hours Lecture Class		2,640	
Section Hour Conversion	440	2,200	16.7%
Absenteeism (2 days)	100	2,100	3.8%
Small Group Instruction	700	1,400	26.5%
Knowledge Navigation	700	700	26.5%
Collaborative Learning	700	-	26.5%
Passive Learning	816		30.9%
Active Learning	1,284		48.6%
Assigned Student/Teacher Ratio	36		
Effective Student/Teacher Ratio	12		
Interactive Learning Potential	**434**		**16.4%**

Interactive Learning Time

Traditional vs. Interactive

Comparative Automotive Course Activities (12 Credits)	Traditional Minutes	Interactive Minutes	Percent Change
8 Lecture Hrs + 12 Lab Hrs	13,200	13,200	0.0%
Section Hour Conversion	2,200	2,200	0.0%
Absenteeism (2 days)	500	500	0.0%
Passive Learning	5,250	3,500	-33.3%
Active Learning	5,250	7,000	33.3%
Assigned Student/Teacher Ratio	24	36	50.0%
Effective Student/Teacher Ratio	24	12	-50.0%
Interactive Learning Potential	219	583	166.7%
Revenue (Tuition + TPS)	**32,602**	**48,904**	**50.0%**
Lab Assistant + Technology		8,151	
Net to College		**40,753**	

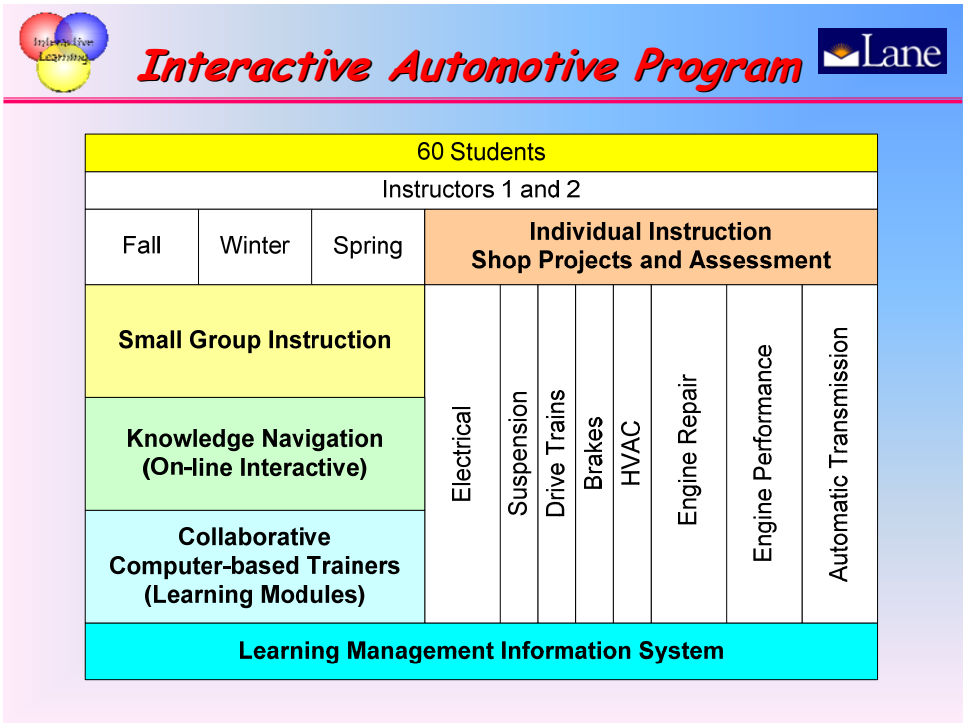
GOALS

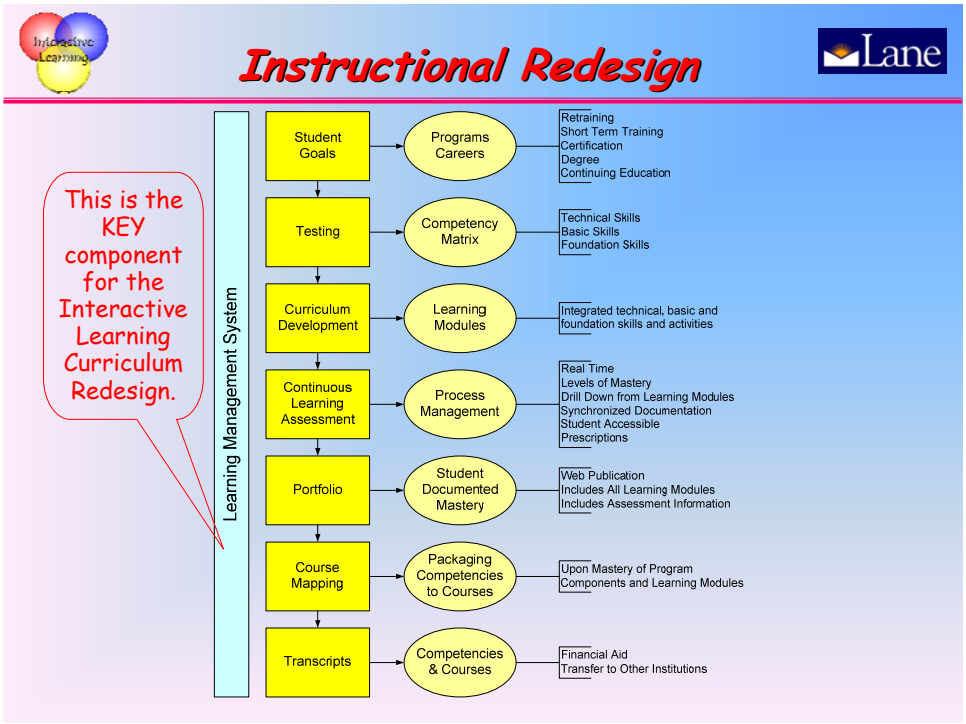
- increase student interactive learning time,
  provide continuous student assessment and feedback,
  dramatically reduce student/teacher ratios,
  and, increase college revenues!

Current Automotive Program

24 Students		
Instructor 1	Lecture	Lab
Fall	Electrical	
Winter	Suspension	
	Drive Trains	
Spring	Brakes	
	HVAC	

24 Students		
Instructor 2	Lecture	Lab
Fall	Engine Repair	
Winter	Engine Performance	
Spring	Automatic Transmission	

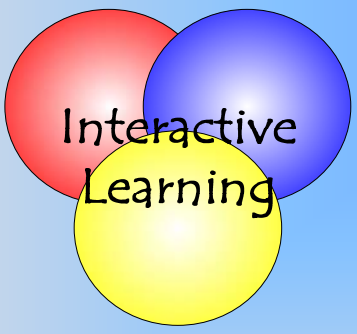

Interactive Automotive Program
Lane
60 Students
Instructors 1 and 2
Fall
Winter
Spring
Individual Instruction
Shop Projects and Assessment
Small Group Instruction
Knowledge Navigation
(On-line Interactive)
Collaborative
Computer-based Trainers
(Learning Modules)
Electrical
Suspension
Drive Trains
Brakes
HVAC
Engine Repair
Engine Performance
Automatic Transmission
Learning Management Information System


Instructional Redesign
Lane
This is the KEY component for the Interactive Learning Curriculum Redesign.
Learning Management System
Student Goals
Programs Careers
Retraining
Short Term Training
Certification
Degree
Continuing Education
Testing
Competency Matrix
Technical Skills
Basic Skills
Foundation Skills
Curriculum Development
Learning Modules
Integrated technical, basic and foundation skills and activities
Continuous Learning Assessment
Process Management
Real Time
Levels of Mastery
Drill Down from Learning Modules
Synchronized Documentation
Student Accessible
Prescriptions
Portfolio
Student Documented Mastery
Web Publication
Includes All Learning Modules
Includes Assessment Information
Course Mapping
Packaging Competencies to Courses
Upon Mastery of Program
Components and Learning Modules
Transcripts
Competencies & Courses
Financial Aid
Transfer to Other Institutions

Muddling vs Transforming

To create a learning environment that focuses directly on those activities that enhance student learning, the challenge is "…restructuring the role of faculty to maximize essential faculty-student interaction by integrating new technologies fully into the student learning process, by making use of peer interaction and collaboration learning strategies, and by substantially increasing the amount of time and effort students spend learning."

Alan Guskin, 1997



Transforming the Classroom

Interactive Instructional Strategy

Thank You!

Advanced Technology Division Initiatives
Learning Management Information System

#	Unit	Initiative Title
B	College	Learning Management Information System

FY08	FY09 +	Guaranteed	Net Dollars	Recurring/Non Recurring
	X		>1,000,000	Recurring

Description
Design, prototype and implement a college-wide Learning Management Information System that will manage and document student learning, assessment, career exploration, curriculum, competencies, course outcomes, program outcomes, articulation, employers requirements, and interface with the college's other production information system using a lifelong student learning portal. An initial design and prototype of the LMIS can be developed selected programs (advanced technology and mathematics).

Impact
This system will be the information infrastructure necessary to create and sustain new approaches to teaching and learning.

Consequences
This transformational initiative will require substantial commitment and investment by the college.

Proposal

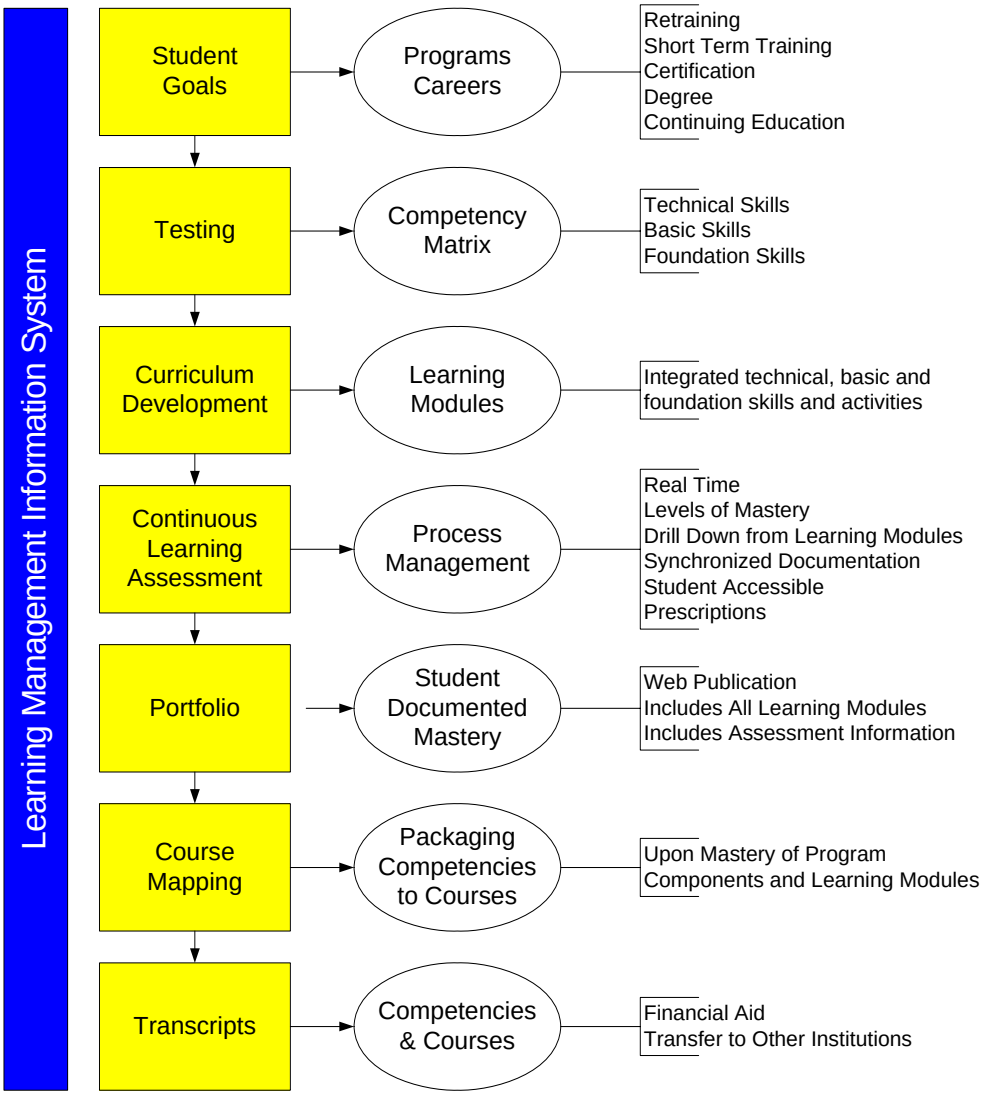
Design and develop a prototype Learning Management Information System (LMIS) that will lead to the future implementation of a college-wide LMIS. The LMIS prototype will include system design constructs to facilitate implementing and managing learning college principles, outcomes and skills-based curricula, interactive learning, continuous real-time assessment, and life-long learning documentation. The scope of the LMIS prototype will include modules for aligning student goals to careers and programs, testing, curriculum development, student assessment, student portfolio development, skills to course mapping, and interfacing to the college-wide student information system.

The LMIS prototype will involve the aviation maintenance technology, electronics, and mathematics faculty and curricula. The expected outcomes of the LMIS prototype will be to 1) design, implement, and test a skills-based curricula database; 2) provide student-initiated, web-enabled instructional navigation; 3) provide real-time instructional assessment processing; 4) increase student/faculty instructional interaction time; 5) increase interdisciplinary instruction (learning communities); and, 6) provide centralized management of the learning information systems during the project.

The primary grant expenses will be to provide faculty release time, contract web-enabled database design and programming, and purchase the prototype information system equipment and software.

Most colleges use three institutional production information systems: finance, personnel, and student information. Colleges spend millions of dollars to purchase, develop and maintain these three systems. The finance and personnel information systems are typical business resource management systems (they exist in any large organization). The student information system focuses on admissions, counseling, financial aid, registration and student records. What is amazing in higher education is the absence of a college-wide learning information management system, especially when considering the primary function of the college is to provide and manage learning. Existing student information systems are not learning management information systems. Student information systems manage student transactions other than what happens in a learning environment (classroom, lab, home, etc.). Virtual web-classrooms (WebCT, etc.) may be categorized as college-wide learning management systems but they only supply limited functionality.

The following flow-chart illustrates the primary learning management processes for the proposed Learning Management Information System (LMIS) prototype.



The prototype LMIS will include aligning student goals to careers and programs, testing, curriculum development, continuous learning assessment, student portfolio development, and skills mastery to course outcomes management. The aviation maintenance technology will be converted from its current course-based curriculum to a skill standards-based curriculum. This conversion will also involve the electronics and mathematics programs.

Aligning the LMIS Design Features to the Learning College Principles

Learning College Principles	Learning Management Information System
Creates substantive changes in the learners	Outcomes-based, skill standards-based Learner acknowledges value-added An individualized skills assessment database is created and maintained for every learner.
Engages the learner as a full partner	Student goals drive the learning experience (short-term training, certification, degree). Learning is student initiated. Learning is assessed and

	managed by the instructor using the LMIS The curriculum is dynamic, adapting to the unique needs of the learner.
Creates many options for learning	Multiple learning modalities: collaborative learning, knowledge navigation, small group instruction.
Assists learners to participate in learning activities	Learning is performance based. Instructors provide learning focus and motivation.
Defines the role of the learning facilitator	Interactive instruction and learning management are the primary roles of the instructor. Learning assessment is continuous, real time, denoting levels of mastery, prescriptive and student accessible.
Success occurs when improved and expanded learning can be documented for the learner	Students create and maintain electronic portfolios based on the mastery of skill standards. Students enter the workforce with documented and accredited high-level skills.

The documentation of continuous learning assessment is the most difficult aspect of moving from the traditional instructor-centered curriculum to a learner-centered, skill standards-based curriculum. Students should be continuously assessed as they complete learning activities. This interactive feedback provides the student with direction on what to learn when it is most needed. For example: a learning module on using electronic measuring instruments may include the manipulation of trigonometric functions. At the point the student is assessed as lacking mastery of a skill, the student is directed, by the LMIS, to supplemental learning activities (instead of moving forward without mastery of this skill). The best assessment includes the ability of the student or instructor to recognize a deficiency and immediately engage in a focused supplemental learning activity. Without the LMIS, the instructor will have to document skills mastery by periodic written documentation, grade books, and time-delayed tests. Students will have to meet with the instructor to receive prescriptive feedback.

A primary feature of the project is to facilitate continuous learning assessment by providing instructors pocket computers that are connected via wireless web to the LMIS. Instructors will have graphical and voice activated data entry screens (touch screen, handwriting recognition, verbal notes, digital pictures and motion video) to document student mastery. Students may then download their assessment documentation to their web-based portfolio. For example: an aviation maintenance instructor may attach a 20 second video of a student installing the return springs in a brake assembly to the student's skills assessment database. The student may then copy this video and include it in their learning portfolio.
Many projects have been funded to redesign lecture-based technical programs to skills-based curriculum. These projects have involved program faculty in identifying skills, competencies, performance indicators, learning activities and assessment criteria. All of this information is usually assembled in either a paper or in a stand-alone information system. Assessment documentation is still dependent upon the individual instructor and is most often paper-based. This limits the effectiveness of interactive (student/teacher) feedback. It also puts a tremendous burden on the instructor to be expeditious, consistent and thorough when evaluating student mastery.

Proposed Project Plan

Activity	Plan/Design	Develop/Build	Evaluation	Roles
Project Education and Training	Learning college principles Interactive learning principles		Project members will understand the design principles	Project manager will provide continuous education and training
Career Exploration	Align student goals to the national career clusters and the college's instructional programs. Provide student-initiated and web-enabled navigation for career exploration	Create a careers database. Hyper link to existing web-based resources. Manage web portal and student navigation.	This module will include national and state career clusters, and, align student goals to career clusters and college programs.	All project members. The web/database contractor will develop and build.
Testing	Provide student-initiated and web-enabled navigation for self-testing. Provide teacher-initiated, real-time assessment.	Develop a skill-standards and competencies database that integrates technical, basic and foundation skills.	A web-accessible normalized skills, competencies and performance criteria database will be developed and maintained.	All project members. The web/database contractor will develop and build.
Curriculum Development	Design a curriculum development module to facilitate conversion to outcomes and skill standards-based curricula.	Develop outcomes-based database using learning-modules (integrated skill sets), and performance indicators. Develop hyperlinks to supplemental learning materials.	The aviation maintenance technology curriculum will be converted, including the imbedded electronics and mathematics skills.	All project members. The web/database contractor will develop and build.
Continuous Learning Assessment	Design attributes to include real time assessment, levels of	Develop a wireless pocket computer assessment entry system to	Multiple faculty can assess any student using a portable assessment	All project members. The web/database contractor will develop and

Activity	Plan/Design	Develop/Build	Evaluation	Roles
	mastery, drill down to competencies, synchronized documentation, student access and prescriptive.	include keyboard, voice annotation and video inputs. Build hyperlinks to prescriptive learning materials.	computer. Assessments are centrally documented and accessible by the student.	build.
Portfolio Development	Design the features of a student managed, web-enabled learning portfolio.	Develop web-based student learning portfolios. Ensure appropriate controls and security.	Students can manage their own web-based learning portfolios.	All project members. The will develop and build.
LMIS Administration and Management	Design access, security, redundancy, training, and documentation for the prototype LMIS.	Develop administrative rules, procedures, and system documentation.	A college database programmer can sustain the LMIS prototype.	The project manager, the web/database contractor, and the college's administrative systems manager.

The assessment of this project will be based on measuring actual operational effectiveness compared to designed (or predicted) effectiveness. Effectiveness measures will include student mastery rates, student portfolio development, student time using the system, student satisfaction survey, faculty assessments of student learning, student/faculty instruction ratios, and student program costs ratios.

The following project objectives will be assessed by the project members, students, instructional managers, and community advisory committees.

- Design and build a prototype Learning Management Information System that will demonstrate the requirements, feasibilities and operational design features for the future development of a college-wide learning management information system.
- Identify and validate the programs' skill standards using existing industry skill standards, the business-DACUM approach, and the education-curriculum approach.
- Determine performance indicators to identify the levels of skill mastery based on assessment criteria.
- Correlate technical and SCANS competencies to skill standards.
- Develop learning modules to integrated technical and academic skills.
- Correlate skill standards and competencies to equivalent credit courses.
- Provide skills assessment transaction processing
- Maintain a synchronous skills matrix database

- Provide secure wireless web-enabled pocket computer data entry (real time at any location)
- Provide multi-modality skills assessment data entry screens (touch screen, handwriting recognition, verbal notes, digital pictures and video)
- Provide student-initiated skills acquisition navigation
- Provide student managed web-based learning portfolios.
- Provide hyper-links to career/program exploration and self-testing.
- Provide hyper-links for learning modules, skill standards, performance indicators, competencies and assessment criteria.
- Provide hyper-links from competencies to supplemental drills, tutorials and simulations and other knowledge domains.
- Provide hyper-links to existing on-line student support systems.
- Provide scheduling (teacher appointments, small-group instruction).
- Provide the centralized management of information systems
- Support and maintain the web-enabled central database.
- Manage a single MIS development and operations staff.
- Administer database security and disaster recovery systems

Advanced Technology Division Initiatives
High School Middle College

#	Unit	Initiative Title
C	Division/College	High School Middle College

FY08	FY09 +	Guaranteed	Net Dollars	Recurring/Non Recurring
	X	No	>1,000,000	Recurring

Description

Design and develop a high school middle college with the following "magnet schools".

- Oregon Transfer Module (45 credits)
- Transportation Careers (36 credits)
- Manufacturing Careers (36 credits)
- Construction Careers (36 credits)
- Aviation Careers (36 credits)
- Health Careers (36 credits)
- Computer Careers (36 credits).

Qualified high school seniors would select one of the magnet schools, located at the community learning centers or host high schools, and complete a one-year cohort program.

Impact

This initiative leverages educational resources to facilitate an academic and career pathway for high school seniors who would otherwise not have many options. The college should see a significant increase in earned student FTE and high school capture rates (number of students continuing to Lane).

Consequences

This transformational initiative will require substantial commitment and investment by the college.

Narrative

Oregon Transfer Module Example
4 cohorts of 30 students at the Community Learning Centers.
Between 5 and 10 students from each high school.

Courses	Title	Credits	
SP 105	Listening and Critical Thinking	4	*Learning Community*
ENG 107	Survey of World Literature	3	*Learning Community*
HST 104	World History	3	*Learning Community*
MTH 111	College Algebra	5	*17 week course*
GS 104	Physical Science	4	*17 week course*
Fall Term Total		**19**	

Courses	Title	Credits	
WR 121	Exposition and Argument	3	*Learning Community*
ENG 108	Survey of World Literature	3	*Learning Community*
HST 105	World History	3	*Learning Community*
Math 112	Trigonometry	4	*16 week course*
GS 105	Physical Science	4	*16 week course*
Winter Term Total		**17**	

Courses	Title	Credits	
WR 122	Exposition and Style	3	*Learning Community*
ENG 109	Survey of World Literature	3	*Learning Community*
HST 106	World History	3	*Learning Community*
Math 112	Trigonometry (continued)		*16 week course*
GS 105	Physical Science (continued)		*16 week course*
Spring Term Total		**9**	

Oregon Transfer Module Total		**45**

High School Senior Options Program - Draft 1/26/06

Option: Automotive

Courses	Title	Credits
AM 243	Electrical and Electronic Systems	6
RTEC100	Trade Skills Fundamentals	2
WLD 105	Fundamentals of Fab Welding	2
WR 115W	College Writing: Workplace	3
HS	*Graduation Requirements*	
Fall Term Total		**13**

AM 147	Suspension, Steering, Brakes	6
MTH 076	Applied Geometry	4
RTEC100	Trade Skills Fundamentals	2
HS	*Graduation Requirements*	
Winter Term Total		**12**

AM 145	Engine Repair	6
CS 120	Concepts of Computing Info Sys	4
RTEC100	Trade Skills Fundamentals	2
HS	*Graduation Requirements*	
Spring Term Total		**12**

Automotive Total		**37**

Fall	M	T	W	H	F
Oral Communication Listening/Critical Thinking					
Arts & Letters Survey of World Literature					
Social Science World History					
Lunch					
Math College Algebra					
Science, Math, CS Physical Science					

Courses	Credits		
SP 105	4		
ENG 107	3		
HST 104	3		
MTH 111	5	*17 week course*	
GS 104	4	*17 week course*	
Term Total	**19**		

Advanced Technology Division Initiatives

AAS to BAS Career Pathway

#	Unit	Initiative Title
D	Division/College	AAS to BAS Career Pathway

FY08	FY09 +	Guaranteed	Net Dollars	Recurring/Non Recurring
	X	No	>100,000	Recurring

Description

Design and implement an Associate of Applied Science to Bachelor of Applied Science degree matriculation agreement with the Oregon Institute of Technology. This agreement would allow any Lane graduate with any Association of Applied Arts degree to transfer 90 credits of that degree to fulfill the lower division graduation requirements. The student would then complete the BAS degree by completing upper division credits in business management (minimal arts and letters courses).

Impact

The college will realize at least three major benefits:

4) students will be retained or will want to return to the college to complete their AAS degrees to take advantage of the matriculation agreement;
5) parents, high school counselors and students will see career technical pathways continue to the bachelors level and do not terminate with an associates degree.
6) OIT could offer cohort instruction at Lane employing local instructors.

The college should realize more student FTE with better recruitment and retention.

Consequences

This is a win-win-win proposal. It will require a matriculation agreement with the Oregon Institute of Technology. Lane will need to partner with OIT to provide on-campus cohort instruction for the BAS degree.

Narrative

Oregon Institute of Technology
Proposal Exemplar: Bachelor of Applied Science in Management

Freshman and Sophomore Years
AAS degree from an accredited college. **90 credits**

Junior Year

BUS 215 Principles of Management	3
WRI 214 Business Correspondence	3
BUS 321 Financial Accounting	3
WRI 227 Technical Report Writing	3
BUS 322 Managerial Accounting	3
BUS 306 Principles of Marketing	3
BUS 349 Human Resource Management	3

BUS 325 Finance Management	3
BUS 397 Labor Relations	3
MIS 206 Introduction to MIS	3
SPE 321 Small Group and Team Communication	3
IMGT 345 Engineering Economy	3
MIS 375 Decision Support Systems	3
PHIL 331 Ethics: Moral Issues in the Professions	3
BUS 314 Entrepreneurship	3
	45 credits
Senior Year	
IMGT 455 Cost Engineering and Estimating	3
IMGT 326 Operational Budgeting	3
PSY 347 Industrial Psychology	3
BUS 335 Small Business Management	3
BUS 355 Business Law	3
IMGT 336 Total Quality Management	3
IMGT 495 Senior Project Proposal	1
BUS 441 Leadership	3
BUS 445 Business Presentations	3
IMGT 496 Senior Project	3
BUS 447 Controversial Issues in Management	3
IMGT 311 Principles of Operations Management	3
IMGT 497 Senior Project	3
BUS 434 Global Marketing	3
MIS 225 Business on the Internet	4
PSY 410 Organizational Change and Development	3
	47 credits
OIT Subtotal	**92 credits**
Bachelor of Applied Science Total	**182 credits**

This curriculum example is based on OIT's BS in Management, Entrepreneurship/Small Business Management Option

#	Unit	Initiative Title
E	Automotive/Other PT Programs	Fast Track Automotive Non Credit Program

FY08	FY09 +	Guaranteed	Net Dollars	Recurring/Non Recurring
X	X	No	30,000	Recurring

Description

Need
The non-credit fast track automotive program will provide accelerated and focused training for students to enter the workforce in less than one year. This program will match the private sector programs (Wyoming Tech, UTI, etc.) at a very competitive price and meet the needs of the local automobile dealers and independent repair shops.

Concept
A cohort of 16 students will receive non-credit instruction and training to master the skills required to pass NATEF's ASE certification exams in Braking Systems, Steering and Suspension, Manual Transmission, Engine Performance, Electrical/Electronics, Automatic Transmission Systems, Engine Repair and Air Conditioning. This program will start in September, 2007.

Duration
The students will meet for 36 weeks for 40 hours per week (30 hours on campus, 10 hours off campus in a shop).

Students
Students will be employed or sponsored by auto dealers and independent shops. As such, they will be accountable to their employer to successfully engage in and complete the program. Students will be enrolled into the program by their employer or sponsor, who will establish the minimum entrance requirements.

Employer or Sponsor Obligations
The employer or sponsor will pay to Lane Community College $12,000 for each student in this program.

Lane Community College Obligations
- Provide a qualified full-time instructor dedicated to this program.

- Provide a half time program assistant.
- Provide a NATEF aligned curriculum.
- Provide a computerized training laboratory with on-line access.
- Provide a training repair shop.

- Provide all training materials including books and materials.
- Provide documented assessment of each student's progress.
- Coordinate with the employers and sponsors for the off-campus work experience.

Impact
Will serve an additional 45 student FTE annually.
Will use the existing automotive curriculum, facilities, equipment and computer laboratory.

Consequences
The program could compete with the traditional credit two-year program. Students who do not have financial sponsorship, dedicated time (one year full-time) or who require financial aid will still have access to the traditional two-year credit program.

Narrative
The likelihood of this program being implemented for FY07 is dependent upon the local dealers and independent shop owners sponsoring the first cohort of 16 students. If the initiative is not implemented in FY07 it will carry-forward to FY08.

This non-credit fast-track career-training pathway can be replicated in many professional technical areas.