Advanced Technology Division

Construction Technology

Unit Plan

2004 - 2005

Lane Community College SM

Lane Community College
Construction Technology Unit Plan 2004 - 2005

Table of Contents

Lane Community College
Construction Technology Unit Plan 2004 - 2005

Part I. Alignment with the College

1) Core Values

The construction technology program is a credit instructional program and has been offered at Lane Community College since 1976. The program is administered under the Office of Instruction and Student Services through the Advanced Technology Division. This program is centrally aligned with the College's strategic directions, core values, and learning centered principles.

Learning: Learning is both theoretical and applied. Student learning progresses from basic to advanced technical, academic and employability skills.

Diversity and Accessibility: The program faculty welcome students from diverse backgrounds. Students with special needs are accommodated with appropriate supplemental learning technologies and experiences.

Innovation: Faculty maintain their expertise in the field and incorporate advanced technologies in the curriculum. The faculty has made a commitment to maximize the use of innovative instructional technologies to transform the curriculum.

Collaboration and Partnership: The faculty work very closely with their program advisory committee. This committee is a representation of active community business partners who provide advice and program support. The construction technology faculty also work very closely with other divisional programs, especially diesel, construction technology, aviation maintenance and drafting.

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.

2) Strategic Directions

Transforming Students' Lives Foster 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. Position Lane as a vital community partner by empowering a learning workforce in a changing economy.	The construction technology 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. 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".

Transforming the Learning Environment Create a diverse and inclusive learning college: develop institutional capacity to respond effectively 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.	This is an inclusive learning-centered program that actively seeks and responds to diversity in its students and staff. 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.
Transforming the College Organization Achieve and sustain fiscal stability. Build organizational capacity and systems to support student success and effective operations. Promote professional growth and provide increased development opportunities for staff both within and outside the College	The construction technology program is constantly assessing its operational efficiency and effectiveness. The program has been developing operating benchmarks (performance indicators) by which it can compare its actual to its planned operations. This methodology provides the basis for analyzing deviations and trends, identifying causes, and formulating solutions. The faculty in the construction technology program have continuously developed their knowledge, skills and abilities as instructors and as industry experts.

.

3) <u>Learning Centered Principles</u>

Lane provides opportunities for transformation through learning.	The primary learning outcome of the construction technology 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.
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 construction technology 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 construction technology 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 construction technology 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) Unit Mission/Vision

The construction technology program aligns with the College's mission. *Lane is a learning-centered community college that provides affordable, quality, lifelong educational opportunities that include: Professional technical and lower divisional college transfer programs.*

The construction technology program's vision is the same as the College's vision: *Transforming lives through learning.*

2) Catalog Description

Program Description

The Construction Technology program is an occupational, preparatory, two-year Associate of Applied Science degree and/or a one-year certificate of completion program.

The Construction Technology program features state-of-the-art laboratories where students learn the technical skills and knowledge of the construction industry. The advanced expertise of the faculty make Lane's Construction Technology program the best way to enter the field.

Faculty in the program bring considerable field experience to the classroom and regularly attend workshops to help them keep up with changes in building codes and materials in the industry.

The program provides classroom instruction and considerable on-site training on construction projects in the local community. Program course work includes: Building Construction; Blueprint Reading; Construction Codes; Construction Estimating; Into to Bricklaying; Commercial and Residential Buildings; Health and Safety and Construction Surveying

Graduates of this program can expect to work in the residential and commercial building construction field. This training can lead to employment for experienced builders earning approximately $35,000 annually. Employment opportunities are expected to be much higher than average with the industry growing faster than average. Those with formal training and related work experience would have a competitive advantage in this labor market.

New students can enter the program at the beginning of fall, winter or spring 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. A minimum score of 68 in Reading and 64 in Writing is required. 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.

Purpose

To train students in the technical skills and knowledge of the construction industry. The graduate of this program can expect to work in the residential and commercial building construction field.

Learning Outcomes

The graduate will:

- demonstrate basic carpentry skills for the construction industry.
- cut, fit, and assemble wood and other materials for building construction.
- demonstrate and use industry safety standards.
- use blueprint reading skills necessary to the profession.

- demonstrate knowledge of laser level and field elevations.
- be adequately prepared to enter the workforce in the field of construction.
- use appropriate library and information resources to research professional issues.
- interpret the concepts of a problem-solving task and translate them into mathematics.

Employment Trends
Employment in this industry is estimated to be larger than average. Growth is projected to be faster than average. Annual new openings are expected to be higher than average. Reasonable employment opportunities should exist. Those with formal training and related work experience would have a competitive advantage in this labor market.

Wages
Statewide $9-10 hourly, with experience $18-26 hourly, $35,000 average annually.

Costs in Addition to Tuition (estimates)
Books - $700
Tools - $100-200
Fees - $600 Total -$1,400-1,500
Fees are subject to change without notice.

Prerequisites
Minimum placement scores - Reading 68, Writing 64. A high school diploma or equivalent is recommended for all applicants to this program.

Criteria Used for Admission
Students may enter this program fall, winter or spring term. Students should attend a program orientation in fall terms (dates available in Counseling or the Students First! Center) or contact advisor/counselor in winter and spring terms.

3) History/Significant Program Events

How did your instructional unit evolve at Lane?
This program has been offered at the college since 1976.

What significant events have marked your growth?
1) The program is operating with only a .750 contracted FTE faculty.
2) Student demand has historically been very high (currently 57 students).

Do you have a system for maintaining an archival history of your unit?
General historical information relies on oral transmission. Hard copy documentation is limited to instructors' record keeping of student class performance and classified personnel's recordation of budgetary information.

Do you have annual events that are representative of your unit's goals or teaching methods?
The students in the program usually work on a community project such as habitat for humanity.

4) Degrees and Certificates

Two-Year Associate of Applied Science Degree	*Credits*
AAS Program Total	**113-114**
First Year	
Fall	
Building Construction CST 118	5

Blueprint Reading 1 CST 110	3
Construction Orientation and Environment CST 111	2
English Composition WR 121 or higher	3
Concepts of Computing CS 120 or Computer Fundamentals CIS 101	3-4
Total Credits	**16-17**
Winter	
Building Construction CST 118	5
Blueprint Reading 2 CST 211	3
Construction Codes CST 122	2
CAD 1 DRF 167	4
Applied Geometry for Technicians MTH 076 or higher	4
Total Credits	**18**
Spring	
Building Construction CST 118	5
Building Construction Surveying CST 119	3
Construction Estimating CST 116	4
Introduction to Bricklaying CST 283	1
Human Relations requirement	3
Total Credits	**16**
Second Year	
Fall	
Workplace Safety HE 125 or First Aid HE 252 or PE/Health requirement	3
Directed electives (see list below)	3
Residential Buildings DRF 208	4
Arts and Letters requirement	3
Cooperative Education: Construction CST 280C	3
Total Credits	**16**
Winter	
Science/Math/Computer Science requirement	3
Directed electives (see list below)	6
Commercial Buildings DRF 210	4
Cooperative Education: Construction CST 280C	3
Total Credits	**16**
Spring	
Directed electives (see list below)	9
Arts/Letters or Science/Math or Social Science/Human Relations requirement	3
Cooperative Education: Construction CST 280C	3
Total Credits	**15**

One-Year Certificate of Completion	*Credits*
One-year Certificate of Completion total	**113-114**
First Year	
Fall	
Building Construction CST 118	5
Blueprint Reading 1 CST 110	3
Construction Orientation and Environment CST 111	2
English Composition WR 121 or higher	3
Computer Fundamentals CIS 101	3
Total Credits	**16**
Winter	
Building Construction CST 118	5
Blueprint Reading 2 CST 211	3
Construction Codes CST 122	2
CAD 1 DRF 167	4
Applied Geometry for Technicians MTH 076 or higher	4
Total Credits	**18**
Spring	
Building Construction CST 118	5
Building Construction Surveying CST 119	3
Construction Estimating CST 116	4
Introduction to Bricklaying CST 283	1
Human Relations requirement	3
Workplace Safety HE 125 or First Aid HE 252 or PE/Health requirement	3
Total Credits	**19**

Directed Electives (18 credits required for AAS degree):

Apprenticeship Courses
Trade Skills Fundamentals APR 101 - 4 credits

Business Courses
Management Fundamentals BA 206 - 3 credits
Small Business Management BA 250 - 3 credits

Drafting Design Courses
CAD 2 DRF 168 ***** - 4 credits
Architectural Drafting – Plans DRF 137 - 4 credits

Skill Development Courses
Shielded Metal Arc Welding 1 WLD 121 - 4 credits
Shielded Metal Arc Welding 2 WLD 122 ***** - 4 credits

Science/Technical Trades Courses
Principles of Technology 1 PGS 199A - 4 credits
Principles of Technology 2 PGS 199B ***** - 4 credits
Statics DRF 205 ***** - 3 credits
Strength of Materials DRF 207 ***** - 3 credits

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 construction technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required fabrication/technology course credits.

5) Organizational Structure

Board of Education
President
Vice President of Instruction
Associate Vice President of Instruction
Division Chair Advanced Technology
Faculty Construction technology Program

6) Staff/Faculty

Name	Leonard Keen
Classification	Full-Time Faculty
Year Hired	1999
Degrees/Credentials	Journeyman, Construction; General Contractor

7) Student Profile

Please refer to the Program Learning Outcomes, Goals and Performance Indicators on page 10.

8) Facilities and Equipment

The construction technology program is housed in building 18. Much of the curriculum is taught at the construction sites in the community.

What are its strengths?
The curriculum is mostly hands-on construction at a worksite. The students and faculty have worked very closely with humanitarian groups to build or renovate homes.

Its challenges?
The program needs an on-campus shop to provide consistent construction instruction. Currently, the instructor must find building projects in the community. This is very time consuming, and often limits the scope of instruction.

What are your utilization ratios?
This program is operating well beyond the highest expectation for a student to faculty ratio (current 49.32 reimbursable student FTE to 1 faculty FTE).

Provide a copy of your equipment inventory.
Please refer to the Equipment Inventory Spreadsheet on page 23.

What are your equipment strengths?
The equipment is portable (it can be easily moved to construction sites).

Challenges?
There is very little shop instruction occurring on the campus because of the limitation of space and equipment.

Do you have any plans in place for equipment replacement?
Refer to the Existing Equipment Inventory Spreadsheet on page 23.

9) Budget Profile

Refer to the Program Operations charts on pages 12 and 13**.**

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 tool usage while performing operations in a shop environment.	90% of all students will pass a safety written and demonstration test.
3) Demonstrate basic carpentry skills for the construction industry including: cut, fit and assemble wood and other materials; knowledge and use of laser leveling and field elevations; and, reading and properly constructing from blueprints.	90% of the “select” students will gain entry level employment in a construction or related field within 12 months of completing the program.
4) Perform computations for construction including: estimations, conversions, and use of precision measuring tools.	90% of the program completers will pass a final program computations examination with a 70% or better score.
5) Demonstrate technical abilities in researching, accessing and interpreting written, computer program or web-based reference materials for construction and carpentry.	All students will conduct research with citations in a written report in both the first and second year of the program.
Enrollment Goals	**Performance Indicators**
Students will have access to the program.	The program will achieve the following student to faculty ratios: R-SFTE / FFTE = 26 : 1 CH-SFTE / FFTE = 16 :1 This means for every funded faculty position 26 reimbursable student full-time equivalents should be enrolled or 16 credit hour student full-time equivalents. The program exceeded the student access goal by achieving a 49.32 to 1 R-SFTE/FFTE ratio, and a 29.6 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	12% of students enrolled in the advanced

the program will exceed the percentage of females in the division programs.	technology division were female. 7% of the construction technology students were female.
The percentage of enrolled non-Caucasian program students will exceed the percentage of the non-Caucasian students in the college.	30% of the construction technology students are non-Caucasian.
The percentage of program students who complete each term will exceed the college completion rate.	The college completion rate was 83.24%. The program completion rate was 88.92%.
The percentage of program term completers who receive a C- or greater will exceed the college "success" rate.	The college "success" rate was 79.08%. The program "success" rate was 88.92%.

Lane Community College
Construction Technology Unit Plan 2004 - 2005

Program Learning Outcomes Assessment Matrix

	PROGRAM COURSES									GENERAL EDUCATION											
Construction Technology	CST 110 Blueprint Reading 1	CST 111 Construction Orientation	CST 116 Construction Estimating	CST 118 Building Construction	CST 119 Building Construction Surveying	CST 122 Construction Codes	CST 211 Blueprint Reading 2	CST 280C Cooperative Education	CST 283 Introduction to Bricklaying	Arts and Letters	CIS 101 Computer Fundamentals	Directed Electives	Distribution Requirement	DRF 167 CAD 1	DRF 208 Residential Buildings	DRF 210 Commercial Buildings	HE 125 Workplace Safety	Human Relations	MTH 076 Applied Geometry for Technicians	Science/Math/Computer Science	WR 121 English Composition
Associate Degree Credit Hours (97 Total Credits)	3	2	4	15	3	2	3	9	1	3	3	18	3	4	4	4	3	3	4	3	3
One-year Certificate Credit Hours (53 Total Credits)	3	2	4	15	3	2	3		1		3			4			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.	P	P	P	P	P	P	P	P	P			S		S	S	S	P	P			
Demonstrate safe work practices and tool usage while performing operations in a shop environment.	P	P	P	P	P	P	P	P	P			P		S	S	S	P				
Demonstrate basic carpentry skills for the construction industry including: cut, fit and assemble wood and other materials; knowledge and use of laser leveling and field elevations; and, reading and properly constructing from blueprints.	P	P	P	P	P	P	P	P	P			S		S	S	S					
Perform computations for construction including: estimations, conversions, and use of precision measuring tools.	P	P	P	P	P	P	P	P	P		S	P	S	S	S	S			P	P	
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	P		S	P	S	S	S				S	P
Core Abilities																					
Communicate effectively.	P	P	P	P	P	P	P	P	P									P			P
Think critically and solve problems effectively.	P	P	P	P	P	P	P	P	S			P	P	P		P	P	P	P	P	S
Increase understanding of the relationship between self and community, including self-awareness and personal responsibility.	S	S	S	S	S	S	S	S	P		S	S	S	S		P		P			
Explore academic disciplines of liberal arts, social sciences, and physical sciences.											S	S	S	S		P	P	P	P	P	P
Learning College Principles																					
Learners are active partners in the learning process.	P	P	P	P	P	P	P	P	P			S	P	P	P	P	S				
Learners are self-directed.	P	P	P	P	P	P	P	P	P			P	P	P	P	P	S				
Multiple learning options for diverse learners.	P	P	P	P	P	P	P	P	P		S	S	S	S	S	S	S	S	S	S	S
Learning is promoted across organizational boundaries.										P	P	P	P	P	P	P	P	P	P	P	P
Learning is substantive and documented.	P	P	P	P	P	P	P	P	P	P	S	P	P	P	P	P	S	S	S	S	S
Assessment Methods																					
Technical Skill Performance Observation/Evaluation	P	P	P	P	P	P	P	P	P					P	P	P					
Employability Skills Evaluation	P	P	P	P	P	P	P	P	P					P	P	P					
Group Project																					
Journaling																					
Library Research																					
Oral Report/Presentation																					
Peer Assessment																					
Portfolio																					
Pre and Post Test																					
Project Evaluation																					
Quizzes																					
Self Assessment																					
Written Report																					
Written Tests/Examinations																					

Lane Community College
Construction Technology Unit Plan 2004 - 2005

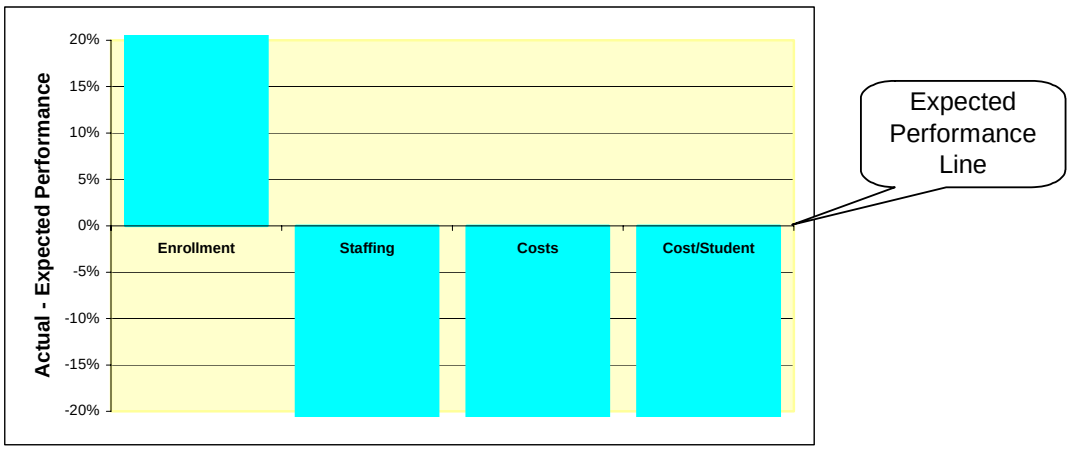
Unit Performance

Program Operations – Actual to Expected Analysis

Construction Technology

	2003 - 2004 Outcomes	Expected*	Actual	Difference	Analysis
1	**Enrollment**				
2	Reimbursable Student FTE	24.800	45.870	185%	
3	Credit Hour Student FTE	14.880	27.522	185%	**Enrollment is higher than expected.**
4	Student Head Count	37	57	153%	
5	**Staffing**				
6	Full-time Equivalent Faculty	1.376	0.750	55%	
7	Part-time Equivalent Faculty	0.344	0.180	52%	
8	**Total Faculty FTE**	**1.720**	**0.930**	**54%**	**Faculty Staffing is lower than expected.**
9	**Budget**				
10	FT Faculty Dollars	79,909	43,552	55%	
11	PT Faculty Dollars	12,934	6,767	52%	
12	Lab Assistant Dollars	3,720	540	15%	
13	Other Payroll Expenses	45,743	24,092	53%	
14	Materials and Supplies	12,041	4,645	39%	
15	**Direct Instruction Costs**	**154,347**	**79,596**	**52%**	**Expenses are lower than expected.**
16	**Operating Ratios**				
17	R-SFTE/Faculty FTE	14.42	49.32	342%	
18	CH-SFTE/Faculty FTE	8.65	29.59	342%	**Faculty are serving more students.**
19	Cost / R-SFTE	6,223.66	1,735.25	28%	
20	Cost / CH-SFTE	10,372.77	2,892.08	28%	**Cost per student is less then expected.**
21	**Non-tuition Revenues**				
22	Course Fees				
23	Differential Fees				
24	Program Fees				
25	Sales				
26	Donations				

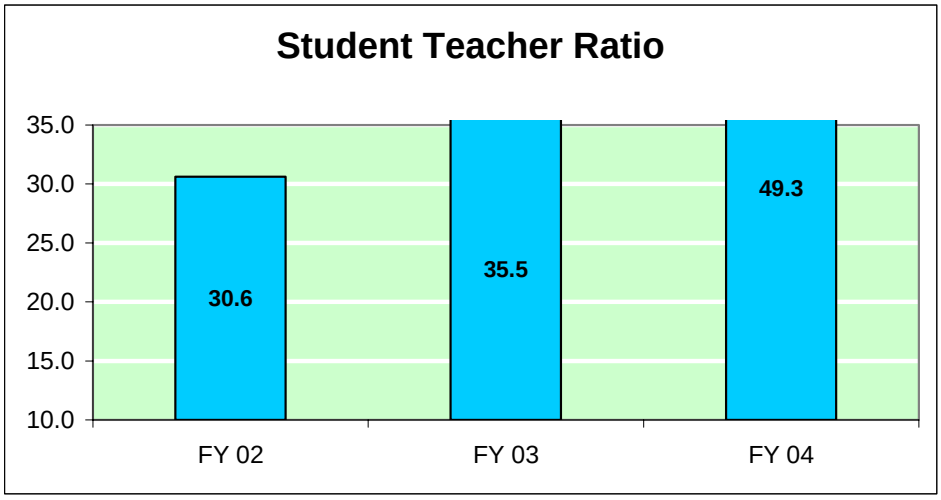
* Expected calculations are based on the instructional program benchmarks model.
* This program is a medium cost program in the benchmark model.

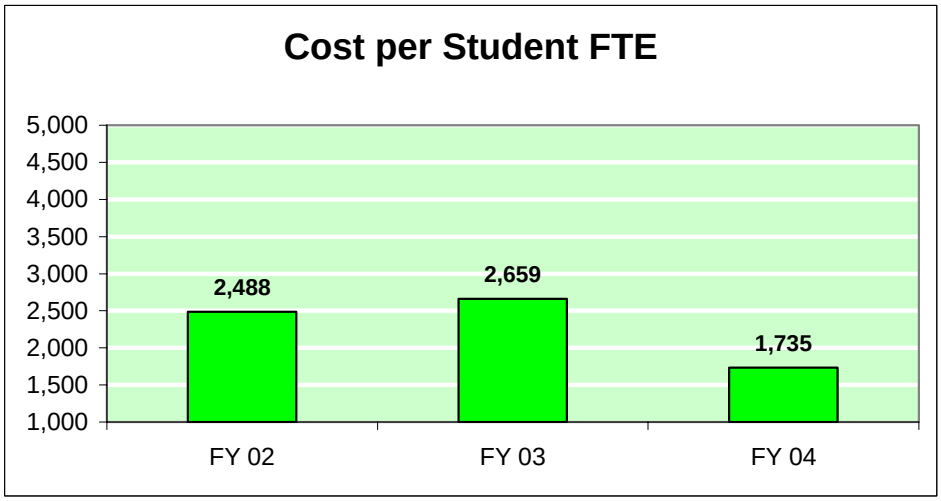


Program Operating Trends

Construction Technology

	Operating Data	FY 02 Actual	FY 03 Actual	FY 04 Actual
1	Full-Time Faculty FTE	0.750	0.750	0.750
2	Part-Time Faculty FTE	0.042	0.042	0.180
3	Total Faculty FTE	0.792	0.792	0.930
4	Student FTE	24.250	28.140	45.870
5	SFTE / FFTE	30.619	35.530	49.323
6				
7	Full-Time Faculty	35,161	47,758	43,552
8	Part-Time Faculty	2,807	1,436	6,767
9	Lab Assistant	154	783	540
10	Other Payroll Expenses	18,203	19,693	24,092
11	Materials and Supplies	4,000	5,158	4,645
12	Total	60,325	74,828	79,596
13	Cost per Student FTE	2,488	2,659	1,735





Program Outcomes Analysis

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

The program served 57 students (49.32 reimbursable student FTE). Students are gaining knowledge and skills working on real construction projects.

2. How well did students meet your learning outcomes?

Refer to the Program Learning Outcomes (pages 9 and 10) 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 faculty do qualitatively note that the students met these outcome goals this year.

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

Refer to the Program Learning Outcomes Assessment Matrix on page 11.

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

Please refer to the Program Operations: Actual to Expected Analysis on page 12.
In summary:

Enrollment: 85% greater than expected.
Staffing: 46% less than expected.
Budget: 48% less than expected.
Cost per Student: 72% less than expected.

This program is producing at nearly double the efficiency rates than expected. The faculty have made a commitment to allow access to the program, even at the risk of creating a tremendous unpaid overload.

5. How well are you utilizing current technology?

The program is currently using appropriate technology.

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

This program advisory committee meets three times per year. The major concerns of the advisory committee is the faculty member's tremendous workload.

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

The program is very efficient.

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

The program received a masonry saw last year.

9. What are the overall unit's strengths?

This program is very efficient because of the dedication of the faculty. The program does great works, especially working with humanitarian projects.

10. What are the overall unit's challenges?

The current campus facilities are not sufficient. The faculty must constantly find community projects to work on. This limits the ability of the instructor to ensure instructing of all of the construction skills.

The student demand exceeds the capacity of the faculty to provide quality instruction.

11. Program Analysis Findings

Finding 1: The construction technology program needs to move and upgrade its shop.
Finding 2: The program needs to hire an additional full-time faculty. The program is exceeding its student learning and operating performance goals.
Finding 3: The construction technology program needs to maintain its laboratory equipment.
Finding 4: The construction technology program needs to continuously improve its curriculum and operations. The program should acquire new technologies to keep current with advances in automotive and instructional technologies.

Part IV: Projected Performance

Program Initiatives

1. 1. Initiative Title and Identifier (Unit Abbreviation, Fiscal Year, Type, Sequence Number)
Division Priority: 3

Initiative 1: Move and Upgrade the Program's Classrooms
Construction Technology, FY 2005, Maintenance, 01 = **CT05M01**

2. Linkage to Program Analysis Findings

Finding 1: The construction technology program needs to move and upgrade its shop.

3. Describe the Initiative

Move the program from building 18 to building 12. The program has a request to the space assignment committee asking for a 3,600 sq. ft. shop, a 800 sq. ft. classroom, a 200 sq. ft. office, and 600 sq. ft. of storage. These facilities current exist in the vacated recreation vehicle area in building 12. The vacate space in building 18 would be available for general college use.

Lane Community College has a good Construction Technology Program. The program has enjoyed a good relationship in the local community. Some of the projects completed by Construction students include 'Search and Rescue' building for the Eugene Fire Department; housing projects for Habitat for Humanity; along with individual residential projects. Currently, we do a good job with what we have to work with, however, the one critical part that we are missing in the program is adequate 'lab space' on the Lane campus.

Having adequate lab space is the difference between a 'good' program and a 'great' construction technology program. This process can only take place with the addition of adequate space. The open 'bay space' in Building 12 is ideal for use for our Construction program and related construction/designing students at Lane, including the building trades student population in the evening classes.

Having this space will enable us to bring an outside environment to the inside under a roof, where hands on learning will take place (no rain). We plan on raising a work area 40' x 40' x 2' with fill dirt, this will allow students to practice our layout and foundation skills. Having this facility will be a major improvement, and at the same time will allow for continuity of our classes. Presently we depend on others for our class projects which do not always coincide with our class schedules, time constraints and the weather factor. This space will provide opportunity for additional curriculum such as:

- Class in finish carpentry
- Stair and rafter building
- Sheet rock and texturing
- Full scale section building and large scale models
- Concrete form building
- Landscape Design and building
- Construction Site and Project Management

We also anticipate the CAD and Drafting students to take part in some of the new building technique classes. With this space, Lane Community College will have a facility that enables instructors to adequately prepare students for industries standards. Currently at LCC we provide training for over one hundred local apprentice in our evening classes without adequate lab space.

In order for the Construction Technology Program to adequately train our students for future job opportunities, the improvement of lab space is crucial to its success and continuing growth.

4. Requested Resources

Remodel Costs = $20,000

Initial set of shop tools for the new space = $10,000

5. Funding Sources

College General Funds (facilities)
Carl Perkins

5.1 Alignment to Carl Perkins Act goals?

Student Skills Goal
This initiative will remedy the overcrowding and off-campus shop problems. It further facilitates the interactive nature of professional technical education by locating the classroom with the laboratory.

Work-based Learning Goal
Students will have a better instructional environment to learn the skill standards.

Effect on Profession Technical Education student success?
Students will gain industry specified skills which lead to higher paying employment.

Brief Carl Perkins funding history
The construction technology program is reliant upon Carl Perkins funding to maintain and enhance its equipment and other instructional resources. This funding has allowed the program to align its capabilities with the needs of the industry for which it trains students. The result is better qualified students, a better and broader relationship with industry and more efficient use of educational time.

5.2 Alignment to Student Technology Fees.

This initiative is seeking TACT funds.

5.3 Curriculum Development

6. Fund, Organization, Account, Program Codes

611500 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

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

Initiative 2: Replace or Upgrade Existing Program Equipment and Software
Construction technology, FY 2005, Maintenance, 02 = **CT05M02**

2. Linkage to Program Analysis Findings

Finding 3: The construction technology program needs to maintain its laboratory equipment. The total equipment inventory value is $6,390. The average annual replacement and upgrade cost should average $1,127.

3. Describe the Initiative

What is the need or intended use?
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 26).

What is your evidence of the need?
The program has an equipment inventory.

Given college resources, is it feasible?
Yes. The College should strive to maintain or improve its level of quality in the instructional programs.

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 construction technology program is located on the main campus building 18.

How many students (per year) will benefit?
The program serves approximately 57 students (head count) per year. (45.87 R-SFTE).

How will students benefit?
Students will benefit by learning to industry entry-level how 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.

4. Requested Resources

If initiative 1 (move the program and fund an initial set of shop tools/equipment) is not funded, then the following items are requested:

1) Table saw = $600
2) Skill saws (3) = $500
3) Air compressor = $350
4) Routers (2) = $400
5) Sawalls (2) = $400
6) Drill motors (3) = $500
7) Scaffolding = $5,250

This is a total of $8,000 of replacement tools and equipment.

5. Funding Sources

Carl Perkins

5.1 Alignment to Carl Perkins Act goals?

Student Skills Goal
This initiative will improve technical skills of students by providing opportunity for those students to learn how to operate safe and reliable equipment of a type that they will be expected to operate by their future employers

Work-based Learning Goal
Students should be trained on equipment similar to what they will work with when employed. Employers are seeking employees with knowledge and training on the equipment they have.

Effect on Profession Technical Education student success?
Students will gain industry specified skills which lead to higher paying employment.

Brief Carl Perkins funding history
The construction technology program is reliant upon Carl Perkins funding to maintain and enhance its equipment and other instructional resources. This funding has allowed the program to align its capabilities with the needs of the industry for which it trains students. The result is better qualified students, a better and broader relationship with industry and more efficient use of educational time.

5.2 Alignment to Student Technology Fees.

This initiative is not seeking student technology fees (TACT).

5.3 Curriculum Development

6. Organization and Program Codes

611500 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
    - implementing a "life-cycle" approach for funding equipment

Program Initiatives

3. 1. Initiative Title and Identifier (Unit Abbreviation, Fiscal Year, Type, Sequence Number)
Division Priority: 31

Initiative 3: Hire a new full-time faculty member.
Construction Technology, FY 2005, Enhancement, 02 = **CT05E01**

2. Linkage to Program Analysis Findings

Finding 2: The program needs to hire an additional full-time faculty. The program is exceeding its student learning and operating performance goals.

3. Describe the Initiative

What is the need or intended use?
The construction technology program needs to continuously improve its instruction to keep current with advances in the industry.

How was that need assessed?
By performing a program operations analysis comparing actual to expected performance.

What is your evidence of the need?
Please refer to the Program Operations: Actual to Expected Analysis on page 12.
In summary:

Enrollment: 85% greater than expected.
Staffing: 46% less than expected.
Budget: 48% less than expected.
Cost per Student: 72% less than expected.

This program is producing at nearly double the efficiency rates than expected. The faculty have made a commitment to allow access to the program, even at the risk of creating a tremendous unpaid overload.

Given college resources, is it feasible?
Yes. The College should strive to improve its level of quality in the instructional programs.

Is it an efficient use of college resources?
Yes. A current and relevant program will attract and retain more students. Students who complete a current and relevant program are much more employable.

What would be the campus location of this request/project?
The construction technology program is located on the main campus building 18.

How many students (per year) will benefit?
The program serves approximately 57 students (head count) per year. (45.87 R-SFTE).

How will students benefit?
A current and relevant program will attract and retain more students. Students who complete a current and relevant program are much more employable.

4. Requested Resources

1) Add a 1.000 FTE full-time faculty position to the program's general fund budget.
Increase Leonard Keen's FTE from .750 to 1.000 = $15,000 salary + $7,500 OPE = $22,500
Hire an additional .750 FTE faculty = $45,000 salary + $22,500 OPE = $67,500.

5. Funding Sources

General Funds

5.1 Alignment to Carl Perkins Act goals?
5.2 Alignment to Student Technology Fees.
5.3 Curriculum Development
6. Organization and Program Codes
611500 112000
7. Alignment to the College's goals
This initiative aligns with the following college goals: • Transforming Students' Lives • Transforming the Learning Environment

Lane Community College
Construction Technology Unit Plan 2004 - 2005

Initiatives Spreadsheet

Division/Unit	Division Priority	Initiative ID	Expected completion date	Initiative Title	Resource Description	$$	Recurring / Nonrecurring	Resource Type (mark with an "X")				Fund (mark	
								Payroll (w/OPE)	Equipment	Space	Other	Existing	New Gen Fund
Construction Technology	1	CT05M01	9/1/2005	Move the Program to Building 12	Remodel Costs	20,000	NR			X			
Construction Technology	1	CT05M01	9/1/2005	Move the Program to Building 12	Initial Set of Tools for the Remodeled Lab	10,000	NR		X				
Construction Technology	2	CT05M02	9/1/2005	Replace/Upgrade Existing Equipment	Replacement set of Tools/Equipment	8,000	NR		X				
Construction Technology	3	CT05E01	9/1/2005	New Faculty Position	1.000 FTE full-time faculty position	90,000	NR	X					X

Equipment Inventory Spreadsheet

Existing Equipment Inventory

Program	Description	#	Unit Cost	Total Cost	Years of Life	Annual Cost
CT	Table Saw	1	600	600	10	60
CT	Skill saws	3	420	1,260	3	420
CT	Air compressor	1	140	140	10	14
CT	Routers	2	200	400	5	80
CT	Sawsall	2	180	360	5	72
CT	Drill motors	3	140	420	5	84
CT	Laser Level	1	1,200	1,200	10	120
CT	Transit level	1	900	900	10	90
CT	Rotor Hammer drill	1	190	190	5	38
CT	Saber Saw	1	150	150	5	30
CT	Air compressor	1	350	350	10	35
CT	Screw guns	3	140	420	5	84
	Existing Equipment Total			**6,390**		
	Annual Replacement Costs					**1,127**

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 9.

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 all of the program and general education courses required to compete 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 11.

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?
The courses will remain the same.

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 shop environment.

What goals do you have for your instructional environment (classrooms and/or technologies and equipment)?
The program is requesting to move from building 18 to building 12. Refer to initiative 1.

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

The program is requesting upgraded tools and equipment. Refer to initiative 3.

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

A goal of program staff is to recruit additional members to its advisory committee. If we are successful in reaching this goal we will have a broader based, more effective committee, representing more construction technology disciplines.

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 student enrollment is constrained by the number of faculty. If more faculty are hired, then the student enrollment will increase.

8. Student Success Projections

The student success projections are part of the Program Learning Outcomes, Goals and Performance Indicators (page 9). Additional measures of student success will be developed during the year and added to the chart.

9. Facilities and Equipment Need Projection

This program needs to move to a larger facility. The current facility is too small and not conducive to building projects indoors.

10. Budget Projections

This program is in desperate need of an additional full-time faculty position. This would require an increase in general funds. Carl Perkins and Technology Fee dollars will be required to maintain and enhance the equipment.

_____	_____
Advisory Committee Chair	Date
_____	_____
Division Chair	Date