Lane Community College SM

2016 – 2017
Career Technical Programs

Advanced Technology Division
541.463.5380

lanecc.edu

Industrial Mechanics and Maintenance Technology Apprenticeship

Associate of Applied Science Degree
Certificate of Completion

Program Coordinator Joy Crump, Bldg. 15, Rm. 201, 541.463.5496, *crumpj@lanecc.edu*

Purpose To provide a structured system of training in millwright trades or occupations, leading to certification and journey-level status, only for apprentices who are sponsored by individual employers, accepted by a Joint Apprenticeship Training Committee, and registered with the State of Oregon Bureau of Labor and Industries.

Learning Outcomes The graduate will:

- perform the duties and responsibilities of the millwright trade.
- develop machine shop skills in troubleshooting.
- demonstrate and use industry safety standards.
- identify mechanical and/or electrical industrial systems.
- develop attitudes conducive to improved customer relations skills in the millwright trade.
- develop communication and critical thinking skills necessary for job advancement.
- use appropriate library and information resources to research professional issues and support lifelong learning.
- access library, computing, and communications services, and appropriately select information and data from regional, national, and international networks.
- apply appropriate formulas to mathematical situations.
- adapt to new job requirements to qualify for advancement in becoming lead supervisors.
- complete 8000 hours State of Oregon-approved on-the-job-training.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit.

In addition, the Oregon community college Industrial Mechanics and Maintenance Technology Apprenticeship pathway provides statewide transfer opportunities, laddered certificates of completion, and an optional transfer path into Oregon Institute of Technology Bachelor of Science in Operations Management degree. The Industrial Mechanics and Maintenance Technology Apprenticeship pathway includes an advising guide with a set of recommended courses that satisfy both the AAS and the Oregon Transfer Module (OTM). Students who complete the recommended set of OTM courses may apply for 45 credits of guaranteed block transfer to any other community college or Oregon University System institution.

Admission Information Admission to the millwright trade is usually conducted as an internal process with the employer. Information is available at the Oregon Bureau of Labor and Industries website: *boli.state.or.us*.

Advising & Counseling *lanecc.edu/advtech/counselor-and-advisor-drop-hours*

Job Openings Projected through 2020
Lane County openings 2 annually
Statewide openings 27 annually

Wages
Lane County average hourly $21.15; average annual $43,989
Oregon average hourly $23.81; average annual $49,523

Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*.

Costs Estimate based on 2015-16 tuition and fees. Consult Lane's website for updated tuition.

Books	$1,500
Resident Tuition and General Student Fees	$10,000
Total Estimated Cost	$11,500

Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements

1. Prerequisites are required for some courses. See course descriptions.
2. WR 115W and MTH 060 must be must be passed with a grade of Pass or 'C-' or better to satisfy program requirements.
3. General education course choices are listed on the Associate of Applied Science degree page.
4. Complete 8000 hours State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journey-man card or BOLI-ATD Certificate of Completion.
5. Demonstrate an equivalency of 90 credit hours, with a minimum of 24 credits at Lane, including the last term at Lane.
6. Complete all requirements for an AAS degree as listed below.
7. Earn a cumulative grade point average above 2.0 at Lane or transfer credits earned at other regionally accredited colleges or universities.

Prerequisites Minimum placement scores Reading 68, Writing 64, and readiness for Math 075 or higher. Note: See the counselor or advisor to obtain the suggested entry-level skills for successful completion of these programs.

General Education

WR 115W Intro to College Writing:	
Workplace Emphasis or higher-level writing	3
MTH 060 Beginning Algebra (or higher)	4
PE/Health Requirement	3
Arts and Letters requirement	3
Human Relations requirement	3
Science/Math/Computer Science requirement	3
Choice of:	3
Arts and Letters requirement	
Human Relations/Social Science requirement	
Science/Math/Computer Science requirement	

Industrial Mechanics and Maintenance Technology Apprenticeship

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division, prior certification	22
Millwright Core Related Training	43
APR 150 The Millwright and Shop Safety	5
APR 151 Millwright Machine Theory and Trade Calculations	5
APR 152 Millwright: Power Trains/Boilers and Steam	5
APR 250 Millwright: Industrial Print Reading, Schematics, Estimating	5
APR 251 Millwright: Pneumatics and Lubrications	5
APR 252 Hydraulics for Millwrights	5
APR 253 Millwright Piping Systems	5
MTH 085 Applied Geometry for Technicians	4
APR 185 Shielded Metal Arc Welding 1	2
APR 186 Wire Drive Welding 1	2
Program Electives to complete 90 credits for degree:	
APR 101 Trade Skills Fundamentals	4
APR 190 Electrical Theory	4
CS 120 Concepts of Computing	4
DRF 167 CAD 1	4
HE 252 First Aid	3
MFG 201 CNC Mill	1-6
MFG 202 CNC Lathe	1-6
MTH 112 Trigonometry	4
RTEC 105 Introduction to Advanced Technology	3
WLD 122 Shielded Metal Arc Welding 2	1-4
WLD 139 Welding Lab	1-6
WLD 140 Welder Qualification (Certification) Wire	3
WLD 141 Welder Qualification (Certification) SMAW	3
WLD 142 Pipe Welding Lab: Carbon Steel	3
WLD 151 Fundamentals of Metallurgy	1-3
WLD 154 Wire Drive Welding 2	1-4

Industrial Mechanics and Maintenance Technology Apprenticeship

Offered by the Advanced Technology Division, 541.463.5380

One-Year Certificate of Completion

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Purpose Students may earn a Certificate of Completion in Industrial Mechanics and Maintenance Technology Apprenticeship by successfully completing 43 core related training credits with a 'C' grade or better in all courses, and completing related instruction in communications, computation, and human relations.

Learning Outcomes Graduates will:

- perform the duties and responsibilities of the millwright trade.
- identify mechanical and/or electrical industrial systems.

Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements

1. Prerequisites are required for some courses. See course descriptions.
2. WR 115W and MTH 060 must be passed with a grade of Pass or 'C-' or better to satisfy program requirements.
3. Human Relations course choices are listed on the Associate of Applied Science degree page.
4. To earn the certificate, student must:
   - complete State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion, 8000-Hour BOLI-ATD Trade: Industrial Millwright.
   - complete related instruction credits (communication, computation, human relations). 10 credits
   - complete core-related training credits. 43 credits

Related Instruction requirements

WR 115W Intro to College Writing: Workplace Emphasis or higher-level writing	3
Human Relations	3
MTH 060 Beginning Algebra (or higher)	4

Core-Related Training (43 credits)

APR 150 The Millwright and Shop Safety	5
APR 151 Millwright Machine Theory and Trade Calculations	5
APR 152 Millwright: Power Transmissions and Boilers-Steam	5
APR 250 Millwright: Industrial Print Reading, Schematics, and Estimating	5
APR 251 Pneumatics and Lubrications	5
APR 252 Hydraulics for Millwrights	5
APR 253 Millwright Piping Systems	5
APR 185 Shielded Metal Arc Welding 1	5
APR 186 Wire Drive Welding 1	5
MTH 085 Applied Geometry for Technicians	5