

Cuyahoga County Community College & Lorain County Community College

ADVISOR ASSISTANCE SHEETS



Advanced Manufacturing Apprenticeship Program Course Descriptions



Lorain County
Community College

<u>Course Number</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Contact Hours</u>
TECN 115-LCCC	Blueprint Reading	2	45
This course is an introduction to the skills required to read and understand industrial blueprints. The reading of blueprints is emphasized rather than the drawing of blueprints. Freehand sketching is included. Laboratory required. (A special fee will be assessed.)			
ATMT 1100-TRI-C	Manufacturing Skills Math	3	48
This course develops fundamental shop math skills related to the trades. The applied math of fractions, decimals percentages, geometry and trigonometry.			
CADD 111-LCCC	Intro to Computer Aided Drafting	2	88
This course introduces the student to the fundamental concepts used in creating computer-generated drawings using AutoCAD software. Topics include construction, text insertion, editing techniques, display control, inquiry techniques, dimensioning and use of part libraries in the creation of two-dimensional drawings. Laboratory required. (A special fee will be assessed.)			
Fee: 45.00			
ATMT 1200-TRI-C	Machine Tool Theory	4	64
This introductory course will require the student to understand shop safety practices, job planning, feeds and speeds, layout tools and procedures, hand tools and bench work, metal cutting saws, drilling machines, the engine lathe, milling machines, surface grinders and abrasives.			
CAMM 111-LCCC	Intro to Computer Numerical Control	3	88
This introductory course covers manual CNC programming techniques for 3-axis milling machines and 2-axis turning centers. Basics of job planning, tooling, tool path graphics and verification are included. Course focuses on Fanuc-compatible controllers using late model CND equipment. Laboratory required. (A special fee will be assessed.)			
Fee: \$60.00			

Course Number**Course Name****Credit Hours****Contact Hours**

ATMT 1300-TRI-C	Manufacturing Procedures-Dies	2	32
This course presents a foundation for the principles of blanking and piercing dies, bending and drawing, screw and dowel holes, die life, punches, pilots, die block construction, strippers and stock guides, shredders and knockouts, nesting fixtures, pushers, die stops, stock utilization, stock strip layouts, and die sets. This will include the techniques and theory of building stamping dies, including the topics of cutting and forming operations, primary die components, and the internal parts of a complete die.			

TECN 132-LCCC	Manufacturing Processes II	3	90
This course covers advanced techniques of manufacturing processes using lathes, mills, surface grinders and electro-discharge machines (EDM). Fixture and tool design will be studied. Laboratory required. (A special fee will be assessed.)			
Fee: \$60.00			

ATMT 1500-TRI-C	Manufacturing Tech Skills I Intermediate Blueprint	4	64
This course covers intermediate blueprint reading including section views, surface texture special views, geometric dimensioning and tolerances, threaded fasteners, castings and pipe threads.			

CAMM 215-LCCC	Advanced CNC Milling	3	90
Covers advanced CNC programming techniques for mills or machining centers. Topics include set-up, operation and maintenance of the machines; as well as 4 th –axis programming and introduction to Computer-Aided Machining (CAM) techniques for machining centers. Laboratory required. (A special fee will be assessed.)			
Fee: \$70.00			

ATMT 2500-CCC	Manufacturing Tech. Skills II	4	64
This course presents a study of the relationship of engineering drawings to applications of manufacturing parts for CNC machines, screw machines, mold, and die components. Topics include dimension and tolerance; form tolerances; calculation of tolerance using equations; calculation of tolerances using standard shop formulas; profile and run out tolerances; location tolerances; geometric dimensioning; geometric applications; transferring engineering drawings using computer graphics and development of engineering drawings with the computer.			

CAMM 225-LCCC	Advanced CNC Lathes	3	75
This course covers advanced CNC programming techniques for lathes or turning centers. Topics include set-up, operation, and maintenance of the machines as well as parametric programming techniques and introductory Computer-Aided Machining (CAM) for turning centers. Laboratory required. (A special fee will be assessed.)			
Fee: \$70.00			

Course Number**Course Name****Credit Hours****Contact Hours**

ATMT 2420-TRI-C	Advanced Diemaking	2	32
Provides a study of important advanced elements of die function and performance. Course will act as a resource for apprentices, tool designers, and others who need a working reference on design, construction, and use of stamping dies.			

Total Credit Hours	35
Contact Hours	LCCC - 476 TRI-C – 304
Total Contact Hours	COMBINED – 780
Total OJT Hours	8000

LCCC TUITION RATES:	TRI-C TUITION RATES:
LORAIN COUNTY RESIDENT:	CUYAHOGA COUNTY RESIDENT:
Cost Per Credit Hour: \$124.04	Cost Per Credit Hour: \$104.54
OUTSIDE LORAIN COUNTY RESIDENT:	OUTSIDE CUYAHOGA COUNTY RESIDENT:
Cost Per Credit Hour: \$147.19	Cost Per Credit Hour: \$131.77
	*Institutional Fees will be applied each semester automatically at time of registration and is based on the credit hours charged. The fees range from \$10.00 – \$70.00.

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