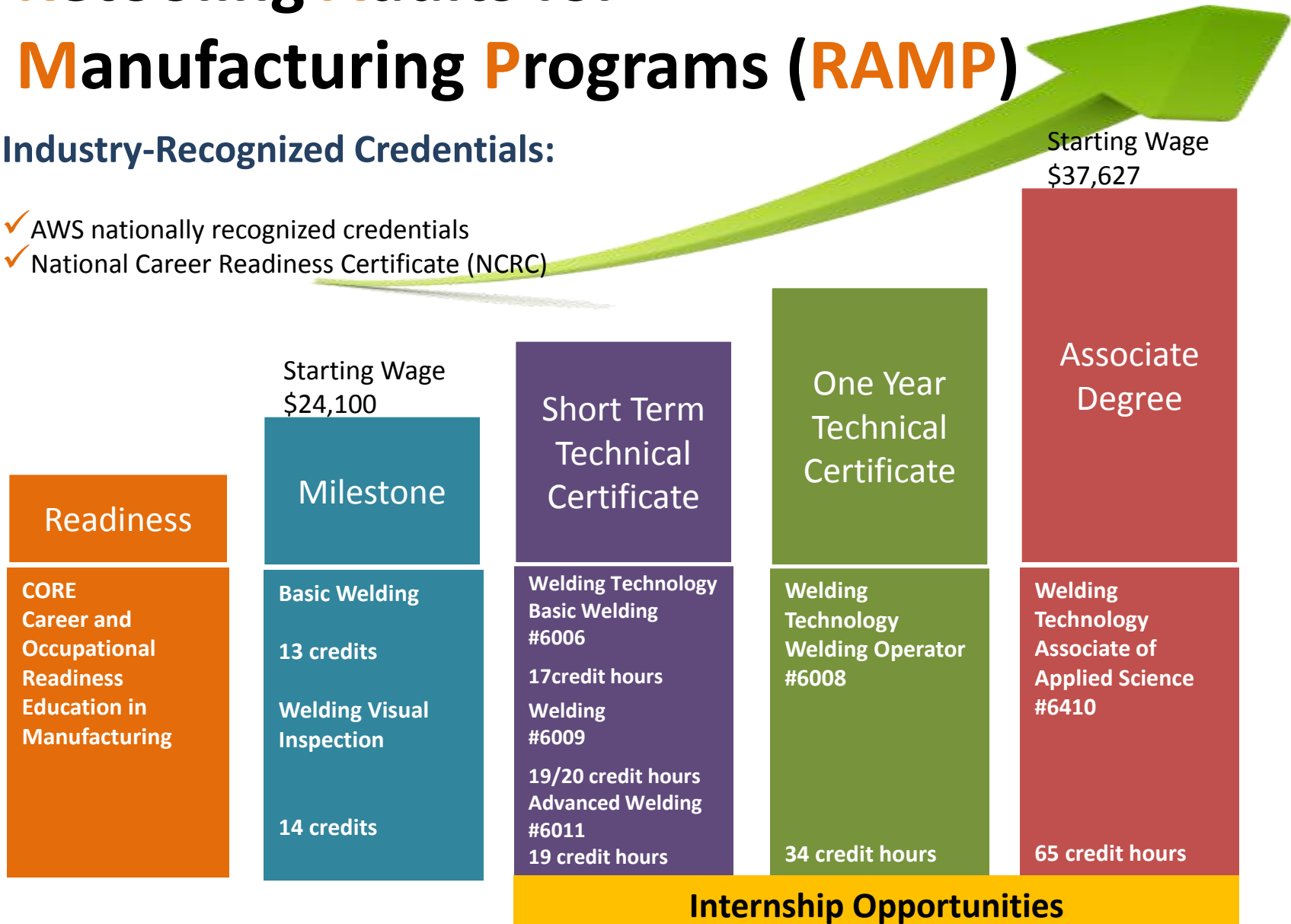


Welding Non-Destructive Testing

Retooling Adults for Manufacturing Programs (RAMP)

Industry-Recognized Credentials:

- ✓ AWS nationally recognized credentials
- ✓ National Career Readiness Certificate (NCRC)



Milestone

Program Overview:

Welding has two milestones available:

Basic Welding offers individuals who are entering into welding the opportunity to make good money and is for those that like field work.

Non-Destructive Testing is quality control for welding. This program is great for those that are detailed-oriented or someone who has welding experience.

Program prepares students to earn AWS (American Welding Society) endorsed skills credentials:

Industry-Recognized Credentials:

- ✓ AWS nationally recognized credentials
- ✓ National Career Readiness Certificate (NCRC)

Occupational Title

- Welding, Soldering, Brazing Machine Setter Operators/Tenders
- Welder, Cutter, Solderer and Brazer

Starting Wage:

\$24,100

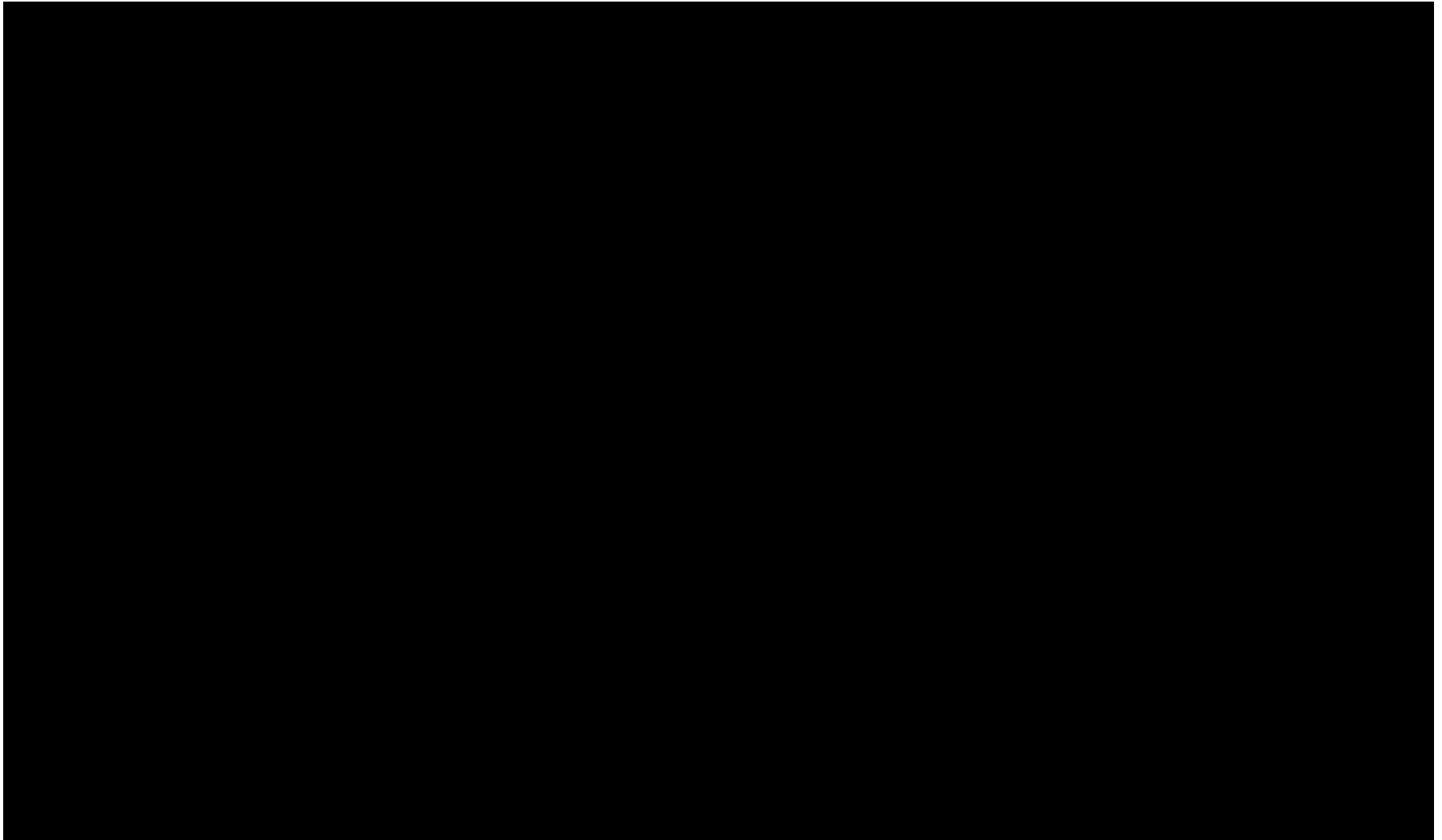
\$26,850

Annual Job Openings

249

399

Welding Non-Destructive Testing



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Readiness	Milestone
CORE Career and Occupational Readiness Education in Manufacturing	Basic Welding 13 credits
	Welding Visual Inspection 14 credits

Milestone

Basic Welding Milestone

The milestone denotes industry recognized skills and knowledge necessary for an entry level position. Students successfully completing the specified Milestone for the Welding Associate of Applied Science Degree (Curriculum Code 6410) will be eligible to participate in a Work-Based Learning experience.

Required Courses			Credit Hours
Δ★ SDEV	101	College 101	1
Δ* WTEC	108	OXY-Fuel Welding and Cutting	2
Δ WTEC	111	Welding Specifications & Print Reading	2
Δ> WTEC	112	Welding Codes and Standards	2
Δ* WTEC	116	Basic Shielded Metal Arc Welding	3
Δ> WTEC	216	Wire Fed Processes	3
			<hr/>
			13

Notes

1. * Indicates that this course requires a prerequisite or may be taken concurrently.
2. Δ Program Milestone course.
3. ★ A student must register for the orientation course when enrolling for more than six credit hours per semester **or** any course that would result in an accumulation of thirteen or more credit hours.

Milestone

Welding Visual Inspection Milestone

The milestone denotes industry recognized skills and knowledge necessary for an entry level position. Students successfully completing the specified Milestone for the Welding Associate of Applied Science Degree (Curriculum Code 6410) will be eligible to participate in a Work-Based Learning experience.

Required Courses				Credit Hours
Δ	EMCH	112	Engineering Materials	3
Δ	☆ SDEV	101	Strategies for Creating College Success	1
Δ	WTEC	111	Welding Specifications and Print Reading	2
Δ *	WTEC	112	Welding Codes and Standards	2
Δ *	WTEC	116	Basic Shielded Metal Arc Welding	3
Δ *	WTEC	221	Weld Quality Inspection	3
				<hr/>
				14

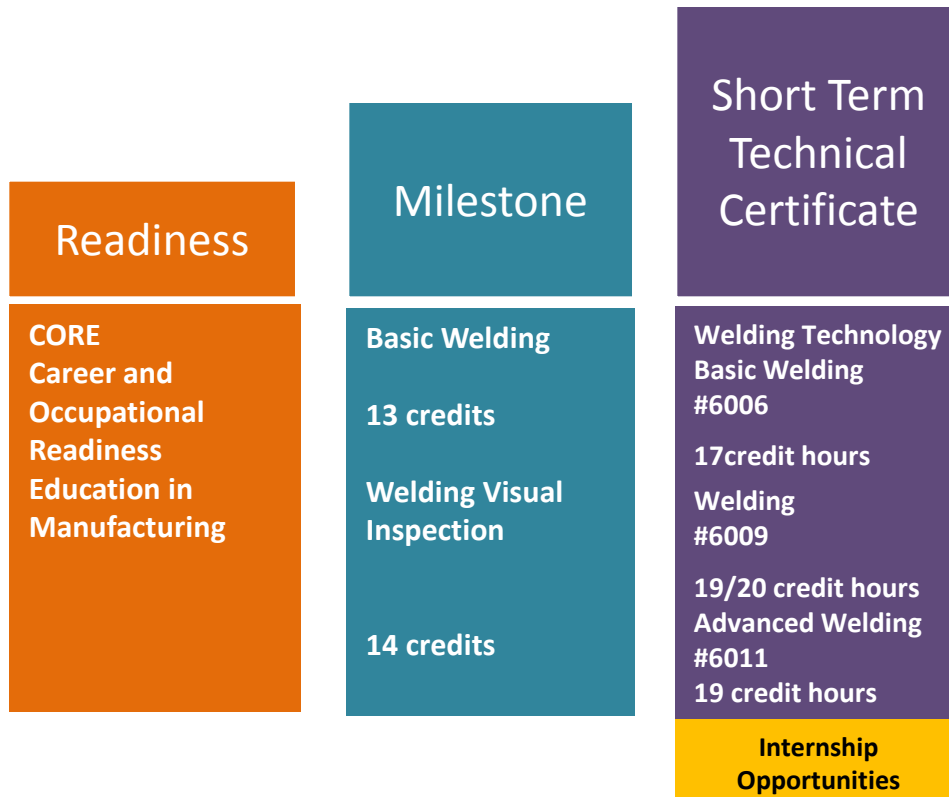
Notes

1. * Indicates that this course requires a prerequisite or may be taken concurrently.
2. Δ Program Milestone course.
3. ☆ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of thirteen or more credit hours.

Retooling Adults for Manufacturing Programs (RAMP)

Industry-Recognized Credentials:

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- ✓ National Career Readiness Certificate (NCRC)



Short-Term Technical Certificate

Lorain County Community College Welding Technology

Basic Welding

Engineering Technologies Division

Short-Term Technical Certificate - Curriculum Code 6006

The Welding Short Term Technical Certificate recognizes the student who has completed a core group of welding courses. This collection of courses will provide the student with specialized knowledge and skills to be prepared for entry-level employment in a variety of industries that utilize welding. Lorain County Community College has articulation agreements with colleges and universities including programs offered by LCCC's University Partnership.

Course	Course Title	Credits	Contact Hrs.	Lec Hrs.	Lab Hrs.
Required Courses					
^ SDEV 102	Strategies for Creating College Success	3	3	3	0
SDEV 104	Job Search Strategies	1	1	1	0
TECN 111	Technical Problem Solving	3	5	2	3
WTEC 111	Welding Specifications & Print Reading	2	2	2	0
> WTEC 112	Welding Codes and Standards	2	2	2	0
* WTEC 116	Basic Shielded Metal Arc Welding	3	5	2	3
> WTEC 216	Wire Fed Processes	3	5	2	3
		17			
Total Semester Credit Hours		17			

Established	April 13
Revised	
Effective	May 13

Notes

1. > Indicates that this course requires a prerequisite.
2. * Indicates that this course requires a prerequisite or may be taken concurrently.
3. ☆ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of thirteen or more credit hours.

Short-Term Technical Certificate

Lorain County Community College
Welding Technology
Welding
Engineering Technologies Division
Short Term Technical Certificate - Curriculum Code 6009

The Short Term Technical Certificate recognizes the student who has completed a core group of welding courses. This collection of courses will provide the student with specialized knowledge and skills to be prepared for entry-level employment in a variety of industries that utilize welding. Lorain County Community College has articulation agreements with colleges and universities including programs offered by LCCC's University Partnership.

Course	Course Title	Credits	Contact Hrs.	Lec Hrs.	Lab Hrs.
Fall Semester					
☆ SDEV 101	College 101	1	1	1	0
TECN 111	Technical Problem Solving	3	5	2	3
* WTEC 108	OXY-Fuel Welding and Cutting	2	4	1	3
WTEC 111	Welding Specifications & Print Reading	2	2	2	0
* WTEC 116	Basic Shielded Metal Arc Welding	3	5	2	3
		11			
Spring Semester					
> WTEC 216	Wire Fed Processes	3	5	2	3
> WTEC 217	Gas Tungsten Arc Welding <u>OR</u>	3	5	2	3
> WTEC 212	Welding Fabrication, Layout and Design	4	6	2	4
		6/7			
Summer Semester					
> WTEC 112	Welding Codes and Standards	2	2	2	0
		2			
Total Semester Credit Hours		19 / 20			

Established	Apr-08
Revised	Mar 14
Effective	Aug 14

Notes

1. > Indicates that this course requires a prerequisite.
2. * Indicates that this course requires a prerequisite or may be taken concurrently.
3. ☆ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of thirteen or more credit hours.

Welding Non-Destructive Testing

Retooling Adults for Manufacturing Programs (RAMP)

Industry-Recognized Credentials:

- ✓ AWS nationally recognized credentials
- ✓ National Career Readiness Certificate (NCRC)



One-Year Technical Certificate

Lorain County Community College
Welding Technology
Welding Operator
 Engineering Technologies Division
 One Year Technical Certificate - Curriculum Code 6008

The Welding Certificate Program is designed to provide students with the knowledge, skills, and behaviors necessary for the competent performance as an entry level welding technician. The welding technician is the liaison between the welding engineer and the welder. The program is based on the occupational analyses and needs of the maintenance and fabrication welding industries. Employment opportunities exist in a variety of industries such as steel, construction, fabrication, pipe lines, and others. Students who excel in the program may be qualified to take certain welding certification tests. Lorain County Community College has articulation agreements with colleges and universities including programs offered by LCCC's University Partnership.

Course	Course Title	Credits	Contact Hrs.	Lec Hrs.	Lab Hrs.
Fall Semester					
AETC 111	Robotics & Automated Manufacturing	3	5	2	3
MTHM 121	Technical Mathematics I	4	4	4	0
☆ SDEV 101	College 101	1	1	1	0
TECN 111	Technical Problem Solving	3	5	2	3
* WTEC 108	OXY-Fuel Welding and Cutting	2	4	1	3
WTEC 111	Welding Specifications & Print Reading	2	2	2	0
* WTEC 116	Basic Shielded Metal Arc Welding	3	5	2	3
		18			
Spring Semester					
* CADD 111	Introduction to Computer Aided Drafting	2	4	1	3
ENGL 161	College Composition I	3	3	3	0
> WTEC 216	Wire Fed Processes	3	5	2	3
> WTEC 217	Gas Tungsten Arc Welding	3	5	2	3
	Arts and Humanities Elective ** OR	3			
	Social Sciences Elective ***	3			
		14			
Summer Semester					
> WTEC 112	Welding Codes and Standards	2	2	2	0
		2			
Total Semester Credit Hours		34	48		

Established	Apr-10
Revised	Sep-12
Effective	Aug-13

Notes

1. > Indicates that this course requires a prerequisite.
2. OR. Indicates that a student may select either course which may have an effect on the total credit hours.
3. * Indicates that this course requires a prerequisite or may be taken concurrently.
4. ** Courses selected from the following list: ARTS 243, 244, 245, 246, 254; ENGL 251, 252, 253, 254, 255, 257, ENGL 259, 261, 262, 265, 266, 269; HUMS 151, 161, 261, 262, 271, 274; MUSC 262; PHLY 165, 262; RELG 181, 261, 262; THTR 151.
5. *** Course selected from the following list: HSTR 151, 152, 161, 162, 171, 252, 267; PLSC 156; PSYH 151; SOCY 151.
6. ☆ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of thirteen or more credit hours.

Welding Non-Destructive Testing

Retooling Adults for Manufacturing Programs (RAMP)

Industry-Recognized Credentials:

- ✓ AWS nationally recognized credentials
- ✓ National Career Readiness Certificate (NCRC)



Associate of Applied Science

Lorain County Community College

Welding Technology

Engineering Technologies Division

Associate of Applied Science - Curriculum Code 6410

The Welding Technology Program is designed to provide students with the knowledge, skills, and behaviors necessary for the competent performance as a welding technician. The welding technician is the liaison between the welding engineer and the welder. The program is based on the occupational analyses and needs of the maintenance and fabrication welding industries. Employment opportunities exist in a variety of industries such as steel, construction, fabrication, pipelines, and others. Students who excel in the program may be qualified to take certain welding certification tests. Lorain County Community College has articulation agreements with colleges and universities including programs offered by Lorain County Community College's University Partnership.

Course	Course Title	Credits	Contact Hrs.	Lec Hrs	Lab Hrs
First Year					
Fall Semester					
> MTHM 121	Technical Mathematics I	4	4	4	0
☆ SDEV 101	College 101	1	1	1	0
TECN 111	Technical Problem Solving	3	5	2	3
* WTEC 108	Oxy-Fuel Welding and Cutting	2	4	1	3
WTEC 111	Welding Specifications and Print Reading	2	2	2	0
* WTEC 116	Basic Shielded Metal Arc Welding (SMAW)	3	5	2	3
		15			
Spring Semester					
* CADD 111	Introduction to Computer Aided Drafting	2	4	1	3
EMCH 112	Engineering Materials	3	4	2	2
ELCT 111	Electrical Circuits I	3	5	2	3
ENGL 161	College Composition I	3	3	3	0
> MTHM 122	Technical Mathematics II	3	3	3	0
* TECN 131	Manufacturing Processes I	3	6	2	4
		17			
Summer Semester					
> WTEC 112	Welding Codes and Standards	2	2	2	0
> WTEC 212	Welding Fabrication, Layout and Design	4	6	2	4
		6			
Second Year					
Fall Semester					
AETC 111	Robotics and Automated Manufacturing	3	5	2	3
> ENGL 164	College Composition II with Technical Topics	3	3	3	0
> PHYC 150	General Physics I	4	6	3	3
		3			
		13			
Spring Semester					
> WTEC 216	Wire Fed Processes	3	5	2	3
> WTEC 217	Gas Tungsten Arc Welding (GTAW)	3	5	2	3
> WTEC 218	Advanced Arc Welding***	2	4	1	3
> WTEC 221	Weld Quality Inspection***	3	5	2	3
		3			
		14			
Total Semester Credit Hours		65			

Established	May-01
Revised	Sept-15
Effective	May-16

Notes

- > Indicates that this course requires a prerequisite.
- * Indicates that this course requires a prerequisite or may be taken concurrently.
- ^ Course selected from the following list: ARTS 243, 244, 245, 246, 254; ENGL 251, 252, 253, 254, 255, 257; ENGL 259, 261, 262, 265, 266, 269; HUMS 151, 161, 261, 262, 271, 274; MUSC 262; PHLX 165, 262; RELG 181, 261, 262; THTR 151.
- ^^ Course selected from the following list: HSTR 151, 152, 161, 162, 171, 252, 267; PLSC 156; PSYH 151; SOCY 151.
- *** Indicates that a student may substitute Work-Based Learning (WTEC 287, 288, and/or 289) for the equivalent number of credit hours for this course.
- ☆ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of thirteen or more credit hours.