



Program Planning Guide

Associates in Applied Science Degree, Welding Technology, A50420

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science, Welding Technology

Program Site/s: Lee Main Campus

Suggested Course Schedule:

		Hours				Notes:
		Class	Lab	Clinical	Credit	
1st Semester (Fall)						
BPR 111	Print Reading	1	2	0	2	
ISC 110	Workplace Safety	1	0	0	1	
WLD 110	Cutting Processes	1	3	0	2	
WLD 115	SMAW (Stick) Plate	2	9	0	5	
ACA 122	College Transfer Success	0	2	0	1	
CIS 111	Basic PC Literacy	1	2	0	2	
MAT 110	Math Measurement and Literacy	2	2	0	3	
		8	20	0	16	
2nd Semester (Spring)						
ENG 110	Freshman Composition	3	0	0	3	
WLD 121	GMAW (MIG) FCAW/Plate	2	6	0	4	
WLD 131	GTAW (TIG) Plate	2	6	0	4	
WLD 141	Symbols & Specifications	2	2	0	3	
		9	14	0	14	
3rd Semester (Summer)						
HUM 110	Technology and Society	3	0	0	3	Online
WLD 116	SMAW (Stick) Plate/Pipe	1	9	0	4	
		4	9	0	7	
4th Semester (Fall)						
COM 231	Public Speaking	3	0	0	3	
WLD 151	Fabrication I	2	6	0	4	
WLD 261	Certification Practices	1	3	0	2	
WLD 262	Inspections and Testing	2	2	0	3	
WLD 265	Automated Welding/Cutting	2	6	0	4	
		10	17	0	16	
5th Semester (Spring)						
MEC 111	Machine Processes	1	4	0	3	
PSY 150	General Psychology	3	0	0	3	
WLD 215	SMAW (Stick) Pipe	1	9	0	4	
WLD 132	GTAW (TIG) Plate/Pipe	1	6	0	3	
WLD 251	Fabrication II	1	6	0	3	
		7	25	0	16	

Total Semester Hours Required for Graduation: 69

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Course Descriptions

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ACA 122 College Transfer Success 0-2-0-1

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions.

BPR 111 Print Reading 1-2-0-2

This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

CIS 110 Basic PC Literacy 1-2-2

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

COM 231 Public Speaking 3-0-0-3

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved for transfer under the CAA as a general education course in English Composition. This course has been approved for transfer under the ICAA as a general education course in English Composition.*

ENG 110 Freshman Composition 3-0-0-3

Prerequisite: ENG 002

This course is designed to develop informative and business writing skills. Emphasis is placed on logical organization of writing, including effective introductions and conclusions, precise use of grammar, and appropriate selection and use of sources. Upon completion, students should be able to produce clear, concise, well-organized short papers.

HUM 110 Technology and Society 3-0-0-3

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. *This course has been approved for transfer under the CAA as a general education course in Humanities/Fine Arts. This course has been approved for transfer under the ICAA as a general education course in Humanities/Fine Arts.*

ISC 110 Workplace Safety 1-0-0-1

This course introduces the basic concepts of workplace safety. Topics include fire, ladders, lifting, lock-out/tag-out, personal protective devices, and other workplace safety issues related to OSHA compliance. Upon completion, students should be able to demonstrate an understanding of the components of a safe workplace.

MAT 110 Math Measurement & Literacy 2-2-0-3

Prerequisite: Take DMA-010 DMA-020 DMA-030

This course provides an activity-based approach that develops measurement skills and mathematical literacy using technology to solve problems for non-math intensive programs. Topics include unit conversions and estimation within a variety of measurement systems; ratio and proportion; basic geometric concepts; financial literacy; and statistics including measures of central tendency, dispersion, and charting of data. Upon completion, students should be able to demonstrate the use of mathematics and technology to solve practical problems, and to analyze and communicate results.

MEC 111 Machine Processes I 1-4-0-3

This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to manufacture simple parts to specified tolerance.

PSY 150 General Psychology 3-0-0-3

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. *This course has been approved for transfer under the CAA as a general education course in Social/Behavioral Sciences. This course has been approved for transfer under the ICAA as a general education course in Social/Behavioral Sciences.*

WLD 110 Cutting Processes 1-3-0-2

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

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WLD 115 SMAW (Stick) Plate 2-9-0-5

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

WLD 116 SMAW (Stick) Plate/Pipe 1-9-0-4

Prerequisite: Take WLD 115

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions.

WLD 121 GMAW (MIG) FCAW/Plate 2-6-0-4

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

WLD 131 GTAW (TIG) Plate 2-6-0-4

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

WLD 132 GRAW (TIG) Plate/Pipe 1-6-0-3

Prerequisite: Take WLD 131

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

WLD 141 Symbols & Specifications 2-2-0-3

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 151 Fabrication I 2-6-0-4

Local Prerequisite: Take WLD-110 and one of the following: WLD-115, WLD-121, WLD-131

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, cutting, joining techniques, and the use of fabrication tools and

equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

WLD 215 SMAW (stick) Pipe 1-9-0-4

Prerequisite: Take one: WLD-115 or WLD-116

This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions.

WLD 251 Fabrication II 1-6-0-3

Prerequisite: Take WLD-151

This course covers advanced fabrication skills. Topics include advanced layout and assembly methods with emphasis on the safe and correct use of fabrication tools and equipment. Upon completion, students should be able to fabricate projects from working drawings.

WLD 261 Certification Practices 1-3-0-2

Prerequisite: Take all: WLD-115, WLD-121, and WLD-131

This course covers certification requirements for industrial welding processes. Topics include techniques and certification requirements for prequalified joint geometry. Upon completion, students should be able to perform welds on carbon steel plate and/or pipe according to applicable codes.

WLD 262 Inspection & Testing 2-2-0-3

This course introduces destructive and non-destructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and non-destructive testing processes.

WLD 265 Automated Welding/Cutting 2-6-0-4

Prerequisite: Take all: WLD-110 and WLD-121

This course introduces automated welding equipment and processes. Topics include setup, programming, and operation of automated welding and cutting equipment. Upon completion, students should be able to set up, program, and operate automated welding and cutting equipment.