CENTRAL CAROLINA COMMUNITY COLLEGE

Program Planning Guide
Welding Technology Diploma (D50420)

Program length: 4 semesters
Career Pathway Options: Diploma in Welding Technology
Program Sites: Lee Main Campus-Day Program

Suggested Course Schedule:		HOURS Class	Lab	Credit	Grade	Semester	Notes
1st Semester (Fall)							
BPR 111	Print Reading	1	2	2			
ISC 110	Workplace Safety	1	0	1			
MAT 110	Mathematical Measurement & Literacy	2	2	3			
WLD 110	Cutting Processes	1	3	2			
WLD 115	SMAW (Stick) Plate	2	9	5			
		7	16	13			
2nd Semester (Spring)							
English requirement- select one:		3	0	3			
ENG 110	Freshman Composition						
ENG 111	Writing & Inquiry						
WLD 121	GMAW (MIG) FCAW/Plate	2	6	4			
WLD 131	GTAW (TIG) Plate	2	6	4			
WLD 141	Symbols & Specifications	2	2	3			
		9	14	14			
3rd Semester (Summer)							
WLD 116	SMAW (Stick) Plate/Pipe	1	9	4			
4th Semester (Fall)							
WLD 151	Fabrication I	2	6	4			
WLD 262	Inspections and Testing	2	2	3			
WLD 265	Automated Welding/Cutting	2	6	4			
		6	14	11			

Total Semester Hours Credit: 42

Course Descriptions:

BPR 111 Print Reading 1-2-2
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.

ENG 110 Freshman Composition 3-0-3
Prerequisites: DRE 097;or appropriate placement test scores
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.

ENG 111 Writing and Inquiry 3-0-3
Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, DRE 098, or appropriate placement test scores; or Multiple Measures waiver.
This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in English Composition.

ISC 110 Workplace Safety 1-0-1
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 2-2-3
Prerequisite: Take one set: ***Set 1:*** *DMA 010, DMA 020, and DMA 030* ***Set 2:*** *MAT 060 and MAT 070* ***Set 3:*** *MAT 060 and MAT 080* ***Set 4:*** *MAT 060 and MAT 090* ***Set 5:*** *MAT 095 or appropriate placement scores.*
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.

WLD 110 Cutting Processes 1-3-2
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.

WLD 115 SMAW (Stick) Plate 2-9-5
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 121 GMAW (MIG) FCAW/Plate 2-6-4
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 2-6-4
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 141 Symbols and Specifications 2-2-3
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 2-6-4
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 262 Inspection and testing 2-2-3
This course introduces destructive an non-destructive testing methods. Emphasis is placed on safety, types and 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 an non-destructive processes.

WLD 265 Automated Welding/Cutting 2-6-4
Prerequisites: Take 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.