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The pages in this addendum are replacement pages in the original 2017-2018 catalog.

Page 1 – Construction Engineering Technology (AAS) replaces

Page 98 – Engineering Technology (AAS) Construction Management and Civil Applications Option

Page 2 – Process and Controls Engineering Technology (AAS) replaces

Page 101 – Engineering Technology (AAS) Process and Controls Option

Page 3 – Welding Engineering Technology (AAS) replaces

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Page 4 – Welding Fabrication Specialist (One-Year Certificate) replaces on

Page 105 Manufacturing Welding (One-Year Certificate)

Changes are in program titles only, course grid remains the same.

### **Construction Engineering Technology (AAS)**

Degree Type: Associate of Applied Science Degree Contact: Dr. Dan Lauder dlauder@trcc.edu

Purpose: Career and Technical Education. This option in the Engineering Technology program focuses on computer-aided drafting, surveying, construction management, and other civil- and construction-related areas. This degree option prepares students for entry-level employment and provides a foundation for future advancement in civil engineering, construction, or surveying, as well as entry into a university-level technology program. The option includes an internship for on-the-job training with area companies.

#### **FIRST YEAR**

F	Fall Semester H				
	CIVL	117	Construction Print Reading	3	
	CIVL	118	Materials and Methods I	3	
	CIVL	219	Estimating I	3	
	ENGL	111	College Writing	3	
	ENGR	106	Technical Math I <sup>(1)</sup>	3	
			TOTAL HOURS	15	

S	Spring Semester F				
	CIVL	116	Surveying I	3	
	CIVL	229	Estimating II	3	
	ENGR	107	Technical Math II <sup>(1)</sup>	3	
	ENGR	110	Engineering Graphics	3	
	PHYS	100	Survey of Physics	3	
			TOTAL HOURS	15	

S	Summer Term			Hours	
	ENGR	297	Internship <sup>(2)</sup>	6	
			TOTAL HOURS	6	

#### Recommended Elective(s)

CIVL	215	Building Design	4	
CIVL	216	Surveying II	3	
CIVL	226	Legal Principles of Surveying	3	
CIVL	227	Materials and Methods II	3	
CIVL	235	Construction Planning & Scheduling	3	
CIVL	236	Computers in Surveying	4	
CIVL	248	Water and Wastewater Systems	3	
GIS	120	Intro to Geographic Information Systems	3	

#### **SECOND YEAR**

F	all Semes	Hours			
	CIVL	225	Construction Management	3	
	CIVL	228	Civil Drafting	3	
	SCOM	125	Communication in the Workplace	3	
			CIVL Elective or approved Technical class	3	
			CIVL Elective or approved Technical class	3	
			TOTAL HOURS	15	

S	pring Sen	Hours			
	ENGR	198	Workplace Readiness	3	
	GOVT	121	National and State Government	3	
			CIVL Elective or approved Technical class	3-4	
			CIVL Elective or approved Technical class	3	
			TOTAL HOURS	12-13	



<sup>(1)</sup> Students planning to transfer to a 4-year institution should substitute MATH 163, MATH 164 or MATH 171.

Please see individual course descriptions for prerequisites, corequisites, and/or other requirements.

<sup>(2)</sup> Students with extensive full-time industry experience and instructor approval may substitute six credit hours of approved coursework.

### Process and Controls Engineering Technology (AAS)

Degree Type: Associate of Applied Science Degree Contact: Dr. Dan Lauder dlauder@trcc.edu

Purpose: Career and Technical Education. This option in the Engineering Technology program focuses on the knowledge and skills necessary for success in the installation and maintenance of commercial and industrial systems. This degree option prepares students for entry-level employment and provides a foundation for future advancement in the industrial technology and manufacturing sectors, as well as entry into university-level technology programs.

#### **FIRST YEAR**

F	all Semes	Hours			
	ELEC	115	Applied DC & AC Circuits	3	
	ENGL	111	College Writing	3	
	ENGR MATH	106 103/153	Technical Math I (1) -or- Intermediate Algebra (or higher)	3-4	
	ENGR MEDR	110 135	Engineering Graphics –or- Blueprint Reading and Gauging	3	
	SCOM	110	Public Speaking	3	
			TOTAL HOURS	15-16	

S	Spring Semester H				
	ELEC	117	Industrial Electrical Controls	3	
	ENGR MATH	107 163	Technical Math II <sup>(1)</sup> -or- College Algebra (or higher level Math course)	3	
	ENGR	198	Workplace Readiness	3	
	MAFT	228	Quality Assurance Fundamentals	3	
	MAFT	229	Introduction to Safety & Health Programs	3	
	MAFT	255	Hydraulics & Pneumatics	3	
			TOTAL HOURS	18	

#### **SECOND YEAR**

Fall Se	Fall Semester Ho			Hours	
EL	.EC	207	Industrial Electronics Applications	3	
EL	.EC	216	Programmable Controller Systems	3	
EL	.EC	218	Electrical Codes & Standards for Manufacturing	2	
GO	TVC	121	National and State Government	3	
MA	AFT	119	Robotics I	3	
	IYS IYS	100 101	Survey of Physics <i>-or-</i> Physical Science	3 5	
			TOTAL HOURS	17-19	

S	Spring Semester Ho			lours	
	ENGR	297	Internship <sup>(2)</sup>	6	
	MAFT	215	Mechatronics Capstone	3	
	MAFT	219	Robotics II	3	
	MEDR	246	Computer Aided Machining I	3	
			TOTAL HOURS	15	

Please see individual course descriptions for prerequisites, corequisites, and/or other requirements.

<sup>(1)</sup>Students planning to transfer to a four-year institution should substitute MATH 163, MATH 164 or MATH 171.

<sup>(2)</sup> Students with extensive full-time industry experience and instructor approval may substitute six credit hours of approved coursework.

## Welding Engineering Technology (AAS)

**Degree Type**: Associate of Applied Science Degree Contact: Derek Joplin djoplin@trcc.edu

Purpose: Career and Technical Education. This option in the Engineering Technology Welding option program focuses on the knowledge and skills necessary for success in the welding manufacturing and welding maintenance aspect of industry. This degree option prepares students for entry-level employment and provides a foundation for future advancement in the industrial technology and manufacturing sectors.

#### **FIRST YEAR**

F	Fall Semester Ho				
	ENGL	111	College Writing	3	
	ENGR MATH	106 103/153	Technical Math I <i>-or-</i> Intermediate Algebra ( <i>or higher level Math course</i> )	3-4	
	IST	100	Computer Applications	3	
	WELD	158	Introduction to GMAW (Gas Metal Arc Welding)	4	
			TOTAL HOURS	13-14	

S	Spring Semester H			Hours	
	ENGR MATH	107 163	Technical Math II -or- College Algebra (or higher level Math course)	3	
	MAFT	228	Quality Assurance Fundamentals	3	
	MAFT	229	Introduction to Safety & Health Programs	3	
	SCOM	110	Public Speaking	3	
	WELD	156	Introduction to SMAW (Shielded Metal Arc Welding)	4	
			TOTAL HOURS	16	

#### **SECOND YEAR**

F	Hours				
	GOVT	121	National and State Government	3	
	PHYS	100	Survey of Physics	3	
	WELD	157	Introduction to TIG (Tungsten Inert Gas) Welding	4	
	WELD	159	Introduction to FCAW (Flux Cored Arc Welding)	4	
			TOTAL HOURS	14	

S	Hours				
	ENGR	198	Workplace Readiness	3	
	WELD	165	Welding Blueprint Reading	3	
	WELD	255	Advanced GMAW (Gas Metal Arc Welding)	4	
	WELD	256	Advanced SMAW (Shielded Metal Arc Welding)	4	
	WELD	265	Welding Fabrication	3	
			TOTAL HOURS	17	

Please see individual course descriptions for prerequisites, corequisites, and/or other requirements.

### **Welding Fabrication Specialist** (One-Year Certificate)

Certificate Type: One-Year

djoplin@trcc.edu Contact: Derek Joplin

Purpose: Career and Technical Education. This program builds knowledge and skills in operating welding equipment and performing basic welding operations. Students will receive hands-on instruction in cutting processes; gas metal arc, gas tungsten arc, and shielded metal arc welding; shop safety; fabrication; oxy/acetylene fusion welding; quality assurance, and using blueprints. This certificate could be built upon in seeking industry certification, and the skills developed will prepare the student for such certification. The student can choose to take any course in steps that can be stacked one at a time or in multiples. The certificate could aid the student in securing employment in the manufacturing workplace.

Courses	lours			
ENGR ENGR	106 107	Technical Math I - or – Technical Math II	3	
MAFT	229	Introduction to Safety and Health Programs	3	
WELD	156	Introduction to SMAW (Shielded Metal Arc Welding)	4	
WELD	157	Introduction to TIG (Tungsten Inert Gas) Welding	4	
WELD	159	Introduction to FCAW (Flux Cored Arc Welding)	4	
WELD	165	Welding Blueprint Reading	3	
WELD	255	Advanced GMAW (Gas Metal Arc Welding)	4	
WELD	265	Welding Fabrication	3	
		TOTAL HOURS	28	

Please see individual course descriptions for prerequisites, corequisites, and/or other requirements.

**Gainful Employment Disclosure** 

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