

# PROGRAM DESCRIPTIONS TECHNICAL AND INDUSTRIAL

TOM FEAGLE, DEAN OF ACADEMIC AFFAIRS

## ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAMS

Air Conditioning Technology – ACT3  
Electrical/Computer Engineering Technology – EEI3  
Industrial Systems Technology – IS13  
Machine Tool Technology – MT13  
Telecommunications & Security Technology - TAS3

## DIPLOMA PROGRAMS

Air Conditioning Technology – ACT2  
Automotive Collision Repair – ACR2  
Automotive Fundamentals – AF12  
Automotive Technology – AT14  
Electrical Systems Technology – ES12  
Industrial Systems Technology – IST4  
Machine Tool Technology – MTT2  
Telecommunications & Security Technology – TES2  
Welding and Joining Technology – WAJ2

## TECHNICAL CERTIFICATES

### Automotive Collision Repair Technology:

Advanced Auto Sheet Metal Custom Fabrication  
Technician – AA31  
Auto Collision Repair Assistant I - AB51  
Auto Collision Repair Assistant II - AZ51

### Automotive Technology:

Automotive Chassis Technician Specialist – ASG1  
Automotive Engine Performance Technician – AE51  
Automotive Transmission/Transaxle Technician  
Specialist - AA71

### Electrical Systems Technology:

Electrical Technician – ET51

### Industrial Systems Technology:

Electrical Maintenance Technician – EM81  
General Maintenance Mechanic – GM41

### Machine Tool Technology:

CNC Specialist – CS51

### Telecommunications:

Cable Installation Specialist – CIS1  
Power and Infrastructure Specialist - PAII

### Welding and Joining Technology:

Advanced Shielded Metal Arc Welder – OSM1  
Gas Tungsten Arc Welder – GTA1

# Air Conditioning Technology

## AIR CONDITIONING TECHNOLOGY - ACT3

### ASSOCIATE OF APPLIED SCIENCE

Minimum Length of Program (based on full-time enrollment)..... 5 Term(s)  
Minimum Credit Hours for Graduation..... 69  
High School Diploma or GED® Required: Yes

#### PROGRAM DESCRIPTION:

The Air Conditioning Technology program is a sequence of courses that prepares students for careers in the air conditioning industry. Learning opportunities develop academic, occupational, and professional knowledge and skill required for job acquisition, retention, and advancement. The program emphasizes a combination of theory and practical application necessary for successful employment

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test score

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 64
English:	ACCUPLACER 70
Math:	ACCUPLACER 0
Algebra:	ACCUPLACER 57

#### GENERAL EDUCATION CORE

##### **Area I - Language Arts/Communication**

ENGL 1101 - Composition and Rhetoric.....3

##### **Area II - Social/Behavioral Sciences**

XXXX xxxx - Social Sciences/Behavioral Sciences Elective .....3

##### **Area III - Natural Sciences/Mathematics (Choose one of the following)**

MATH 1100 - Quantitative Skills and Reasoning..... (3)

MATH 1101 - Mathematical Modeling..... (3)

MATH 1111 - College Algebra..... (3)

##### **Area IV - Humanities/Fine Arts**

XXXX xxxx - Humanities/Fine Arts Elective.....3

##### **Additional General Education Core Requirement**

XXXX xxxx - General Education Core Elective .....3

#### OCCUPATIONAL COURSES

AIRC 1005 - Refrigeration Fundamentals.....4

AIRC 1010 - Refrigeration Principles and Practices.....4

AIRC 1020 - Refrigeration Systems Components.....4

AIRC 1030 - HVACR Electrical Fundamentals.....4

AIRC 1040 - HVACR Electrical Motors.....4

AIRC 1050 - HVACR Electrical Components and Controls.....4

AIRC 1060 - Air Conditioning Systems Application and Installation.....4

AIRC 1070 - Gas Heat.....4

AIRC 1080 - Heat Pumps and Related Systems.....4

AIRC 1090 - Troubleshooting Air Conditioning Systems.....4

**Required Electives**

AIRC 2070 – Commercial Refrigeration Design .....4

AIRC 2080 – Commercial Refrigeration Applications.....4

AIRC 2090 – Troubleshooting and Servicing Commercial Refrigeration.....4

**OCCUPATIONAL ELECTIVES (MINIMUM OF 3 HOURS)**

**Choose one of the following**

COMP 2000 – Introduction to Technology and Computer Applications ..... (3)

COLL 1010 – College and Career Success Skills..... (3)

ELTR 1020 - Electrical Systems Basics I..... (3)

ELTR 1060 - Electrical Prints, Schematics, and Symbols ..... (2)

ELTR 1110 – Electric Motors..... (4)

ELTR 1205 - Residential Wiring I..... (4)

IDFC 1007 – Industrial Safety Procedures ..... (2)

IDFC 1011 – Direct Current I ..... (3)

IDFC 1012 - Alternating Current I..... (3)

IDSY 1101 - DC Circuit Analysis..... (3)

IDSY 1105 - AC Circuit Analysis..... (3)

**AIR CONDITIONING TECHNOLOGY - ACT2**

**DIPLOMA**

Minimum Length of Program (based on full-time enrollment..... 4 Term(s)

Minimum Credit Hours for Graduation..... 51

High School Diploma or GED® Required: Yes

**PROGRAM DESCRIPTION:**

The Air Conditioning Technology Diploma program is a sequence of courses that prepares students for careers in the air conditioning industry. Learning opportunities develop academic, occupational, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of air conditioning theory and practical application necessary for successful employment. Program graduates receive an Air Conditioning Technology diploma and have the qualification of an air conditioning technician.

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

**MINIMUM TEST SCORES**

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

**GENERAL EDUCATION CORE**

MATH 1012 - Foundations of Mathematics .....3

ENGL 1010 - Fundamentals of English I.....3

EMPL 1000 - Interpersonal Relations and Professional Development.....2

**OCCUPATIONAL COURSES**

AIRC 1005 - Refrigeration Fundamentals .....4

AIRC 1010 - Refrigeration Principles and Practices .....4

AIRC 1020 - Refrigeration Systems Components.....4

AIRC 1030 - HVACR Electrical Fundamentals.....	4
AIRC 1040 - HVACR Electrical Motors.....	4
AIRC 1050 - HVACR Electrical Components and Controls.....	4
AIRC 1060 - Air Conditioning Systems Application and Installation.....	4
AIRC 1070 - Gas Heat.....	4
AIRC 1080 - Heat Pumps and Related Systems.....	4
AIRC 1090 - Troubleshooting Air Conditioning Systems.....	4

**OCCUPATIONAL ELECTIVES (MINIMUM OF 3 HOURS)**

AIRC 2070 - Commercial Refrigeration Design.....	(4)
AIRC 2080 - Commercial Refrigeration Applications.....	(4)
AIRC 2090 - Troubleshooting and Servicing Commercial Refrigeration.....	(4)
COMP 2000 – Introduction to Technology and Computer Applications.....	(3)
COLL 1010 – College and Career Success Skills.....	(3)
ELTR 1020 - Electrical Systems Basics I.....	(3)
ELTR 1060 - Electrical Prints, Schematics, and Symbols.....	(2)
ELTR 1110 – Electric Motors.....	(4)
ELTR 1205 - Residential Wiring I.....	(4)
IDFC 1007 – Industrial Safety Procedures.....	(2)
IDFC 1011 – Direct Current I.....	(3)
IDFC 1012 - Alternating Current I.....	(3)
IDSY 1101 - DC Circuit Analysis.....	(3)
IDSY 1105 - AC Circuit Analysis.....	(3)

# Automotive Collision Repair Technology

## AUTOMOTIVE COLLISION REPAIR - ACR2

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	3 Term(s)
Minimum Credit Hours for Graduation. ....	49
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Automotive Collision Repair Program is a sequence of courses designed to prepare students for careers in the automotive collision repair profession. Learning opportunities develop academic, technical and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes either major automotive collision repair or automotive painting and refinishing depending on the specialization area a student chooses to complete. Program graduates receive an Automotive Collision Repair diploma which qualifies them as major collision repair technicians or painting and refinishing technicians.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### GENERAL EDUCATION CORE

ENGL 1010 – Fundamentals of English I .....	3
MATH 1012 – Foundations of Mathematics .....	3
EMPL 1000 – Interpersonal Relations and Professional Development .....	3

### OCCUPATIONAL COURSES

#### **Choose one of the following**

COMP 2000 – Introduction to Technology and Computer Applications .....	(3)
COLL 1010 – College and Career Success Skills .....	(3)
ACRP 1000 - Introduction to Auto Collision Repair .....	4
ACRP 1005 – Automobile Component Repair and Replacement .....	4
ACRP 1010 – Foundations of Collision Repair .....	5
ACRP 1015 – Fundamentals of Automotive Welding .....	4
ACRP 1017 – Mechanical and Electrical Systems I .....	4
ACPR 1019 – Mechanical and Electrical Systems I .....	5

### CHOOSE ONE OF THE FOLLOWING SPECIALIZATIONS

#### REFINISHING SPECIALIZATION - 8RS2

ACRP 2001 – Introduction to Auto Painting and Refinishing .....	5
ACRP 2002 – Painting and Refinishing Techniques .....	5
ACRP 2009 – Refinishing Internship .....	2

### MAJOR COLLISION REPAIR SPECIALIZATION - 8MC2

ACRP 2010 - Major Collision Repair. . . . .	5
ACRP 2015 - Major Collision Replacements . . . . .	5
ACRP 2019 - Major Collision Repair Internship . . . . .	2

## ADVANCED AUTO SHEET METAL CUSTOM FABRICATION TECH - AA31

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) . . . . .	3 Term(s)
Minimum Credit Hours for Graduation. . . . .	36
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Advanced Auto Sheet Metal Custom Fabrication Technician course provides the student with the knowledge and skills needed in a body shop that routinely repairs vehicles for which repair or replacement panels are no longer available. The fabricator/technician will learn how to fabricate replacement body panels, using equipment specifically designed for sheet metal forming and shaping, to a high degree of quality. The technician/fabricator will also be capable of various advanced sheet metal repairs.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 18 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores;
- Students must have a minimum of 3 years industry experience or completion of the Automotive Collision Repair technical certificates.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

#### OCCUPATIONAL COURSES

ACRP 1000 - Introduction to Auto Collision Repair. . . . .	4
ACRP 1005 - Automobile Component Repair and Replacement . . . . .	4
ACRP 1010 - Foundations of Collision Repair . . . . .	5
ACRP 1015 - Fundamentals of Automotive Welding . . . . .	4
ACRP 2270 - Introduction to the Advanced Sheet Metal Repair Industry. . . . .	2
ACRP 2272 - Bends, Curves, and Weld-On Panels . . . . .	2
ACRP 2274 - Body Construction. . . . .	3
ACRP 2276 - Chopping Tops . . . . .	3
ACRP 2278 - Fuel Tanks. . . . .	2
ACRP 2280 - Frenching . . . . .	3
ACRP 2282 - Sectioning, Pancaking, and Channeling . . . . .	4

## AUTO COLLISION REPAIR ASSISTANT I – AB51

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment. . . . .	2 Term(s)
Minimum Credit Hours for Graduation. . . . .	21
High School Diploma or GED® Required: Yes	

**PROGRAM DESCRIPTION:**

The Automotive Collision Repair Assistant I certificate program prepares students for employment as assistants to lead and master technicians in an automotive collision repair shop. Topics covered include work safety, hand and power tools, basic component replacement, automotive welding techniques, and mechanical and electrical systems

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

**MINIMUM TEST SCORES:**

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

**OCCUPATIONAL COURSES:**

ACRP 1000 - Introduction to Auto Collision Repair .....	4
ACRP 1005 – Automobile Component Repair and Replacement .....	4
ACRP 1015 – Fundamentals of Automotive Welding .....	4
ACRP 1017 – Mechanical and Electrical Systems I .....	4
ACPR 1019 – Mechanical and Electrical Systems I .....	5

**AUTOMOTIVE COLLISION REPAIR ASSISTANT II – AZ51**

**TECHNICAL CERTIFICATE OF CREDIT**

Minimum Length of Program (based on full-time enrollment.....)	1 Term(s)
Minimum Credit Hours for Graduation.....	15
High School Diploma or GED® Required:	Yes

**PROGRAM DESCRIPTION:**

The Automotive Collision Repair Assistant II certificate program is an advanced certificate option a student can complete after finishing the Automotive Collision Repair Assistant I program. Topics covered include collision repair tools and equipment, hydraulic systems, damage analysis and estimations, frame straightening, and conventional/unibody structural panel repairs and replacement

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

**MINIMUM TEST SCORES:**

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

**OCCUPATIONAL COURSES:**

ACRP 1010 – Fundamentals of Collision Repair .....5  
ACRP 2010 – Major Collision Repair .....5  
ACRP 2015 – Major Collision Replacements .....5



# Automotive Technology

## AUTOMOTIVE TECHNOLOGY - AT14

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	4 Term(s)
Minimum Credit Hours for Graduation. ....	48
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Automotive Technology diploma program is a sequence of courses designed to prepare students for careers in the automotive service and repair profession. Learning opportunities enable students to develop academic, technical and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of automotive mechanics theory and practical application necessary for successful employment by offering advanced level courses in engine repair, whereas the Automotive Fundamentals diploma program offers training in these skills areas at the entry level technician only. Program graduates receive an Auto Technology diploma that qualifies them as well rounded entry-level technicians.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### GENERAL EDUCATION CORE

MATH 1012 - Foundations of Mathematics .....	3
ENGL 1010 - Fundamentals of English I. ....	3
EMPL 1000 - Interpersonal Relations and Professional Development .....	2

### OCCUPATIONAL COURSES

#### **Choose one of the following**

COMP 2000 – Introduction to Technology and Computer Applications .....	(3)
COLL 1010 – College and Career Success Skills .....	(3)

AUTT 1010 - Automotive Technology Introduction .....	2
AUTT 1030 - Automotive Brake Systems .....	4
AUTT 1050 - Automotive Suspension and Steering Systems .....	4
AUTT 1060 - Automotive Climate Control Systems .....	5
AUTT 2020 - Automotive Manual Drive Train and Axles .....	4
AUTT 2030 – Automotive Automatic Transmissions and Transaxles .....	5

#### **Auto Electrical Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1020 - Automotive Electrical Systems .....	(7)
AUTT 1021 - Automotive Electrical Systems I .....	(4)
AUTT 1022 - Automotive Electrical Systems II .....	(3)

#### **Auto Engine Performance Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1040 - Automotive Engine Performance .....	(7)
AUTT 1041 - Automotive Engine Performance I .....	(3)
AUTT 1042 - Automotive Engine Performance II .....	(4)

**Auto Engine Repair Course Option (Choose Minimum 6 Credit Hours)**

AUTT 2010 - Automotive Engine Repair .....	(6)
AUTT 2011 - Automotive Engine Repair I .....	(3)
AUTT 2012 - Automotive Engine Repair II .....	(3)
AUTT 1070 - Automotive Technology Internship .....	.4

## AUTOMOTIVE FUNDAMENTALS - AF12

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	3 Term(s)
Minimum Credit Hours for Graduation .....	40
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Automotive Fundamentals Diploma program is a sequence of courses designed to prepare students for careers in the automotive service and repair profession. Learning opportunities enable students to develop academic, technical and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of automotive mechanics theory and practical application necessary for successful employment. Program graduates receive an Automotive Fundamentals diploma that qualifies them as entry-level technicians.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores;

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

#### GENERAL EDUCATION CORE

MATH 1012 - Foundations of Mathematics .....	.3
ENGL 1010 - Fundamentals of English I .....	.3
EMPL 1000 - Interpersonal Relations and Professional Development .....	.2

#### OCCUPATIONAL COURSES

**Choose one of the following**

COMP 2000 – Introduction to Technology and Computer Applications .....	(3)
COLL 1010 – College and Career Success Skills .....	(3)
AUTT 1010 - Automotive Technology Introduction .....	.2
AUTT 1030 - Automotive Brake Systems .....	.4
AUTT 1050 - Automotive Suspension and Steering Systems .....	.4
AUTT 1060 - Automotive Climate Control Systems .....	.5

**Auto Electrical Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1020 - Automotive Electrical Systems .....	(7)
AUTT 1021 - Automotive Electrical Systems I .....	(4)
AUTT 1022 - Automotive Electrical Systems II .....	(3)

**Auto Engine Performance Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1040 - Automotive Engine Performance .....	(7)
AUTT 1041 - Automotive Engine Performance I .....	(3)
AUTT 1042 - Automotive Engine Performance II.....	(4)

## AUTOMOTIVE CHASSIS TECHNICIAN SPECIALIST - ASG1

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....	2 Term(s)
Minimum Credit Hours for Graduation.....	17
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Automotive Chassis Technician Specialist certificate program provides students with skills needed to enter the automotive industry as an entry level chassis technician. Topics covered include: shop safety, basic electrical/electronic theory and diagnosis, chassis components and types, steering system components and service, alignment theory and procedures, and brake system operation, diagnosis and repair.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

#### OCCUPATIONAL COURSES

AUTT 1010 - Automotive Technology Introduction .....	2
AUTT 1030 - Automotive Brake Systems.....	4
AUTT 1050 - Automotive Suspension and Steering Systems .....	4

#### **Auto Electrical Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1020 - Automotive Electrical Systems .....	(7)
AUTT 1021 - Automotive Electrical Systems I .....	(4)
AUTT 1022 - Automotive Electrical Systems II .....	(3)

## AUTOMOTIVE ENGINE PERFORMANCE TECHNICIAN - AE51

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....2 Term(s)  
Minimum Credit Hours for Graduation..... 16  
High School Diploma or GED® Required: Yes

#### PROGRAM DESCRIPTION:

The Automotive Engine Performance Technician certificate program introduces students to the knowledge and skills they will need as entry-level automotive engine performance technicians. Topics covered include: shop safety, electrical/electronics diagnosis, and diagnosis and service of fuel, ignition, emission and electronic engine controls.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores;

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

#### OCCUPATIONAL COURSES

AUTT 1010 - Automotive Technology Introduction .....2

#### **Auto Electrical Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1020 - Automotive Electrical Systems ..... (7)  
AUTT 1021 - Automotive Electrical Systems I ..... (4)  
AUTT 1022 - Automotive Electrical Systems II ..... (3)

#### **Auto Engine Performance Course Option (Choose Minimum 7 Credit Hours)**

AUTT 1040 - Automotive Engine Performance ..... (7)  
AUTT 1041 - Automotive Engine Performance I ..... (3)  
AUTT 1042 - Automotive Engine Performance II..... (4)

## AUTOMOTIVE TRANSMISSION/TRANSAXLE TECHNICIAN SPECIALIST – AA71

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....2 Term(s)  
Minimum Credit Hours for Graduation..... 18  
High School Diploma or GED® Required: Yes

#### PROGRAM DESCRIPTION:

The Automotive Transmission/Transaxle Tech Specialist certificate program provides students with the skills to enter the automotive industry as an entry level transmission, transaxle, and drive line technician. Topics covered include: shop safety, basic electrical/electronic theory and diagnosis, manual transmission/transaxle operation and diagnosis, automatic transmission/transaxle operation and diagnosis, axles operation and diagnosis, differentials operation and diagnosis, and 4WD/AWD systems operation and diagnosis

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;

- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores

**MINIMUM TEST SCORES**

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

**OCCUPATIONAL COURSES**

AUTT 1010 - Automotive Technology Introduction .....	.2
AUTT 1020 - Automotive Electrical Systems .....	(7)
AUTT 2020 - Automotive Manual Drive Train and Axles .....	.4
AUTT 2030 – Automotive Automatic Transmissions and Transaxles .....	.5

# Electrical/Computer Engineering Technology

## ELECTRICAL/COMPUTER ENGINEERING TECHNOLOGY – EE13

### ASSOCIATE OF APPLIED SCIENCE

Minimum Length of Program (based on full-time enrollment).....	5 Term(s)
Minimum Credit Hours for Graduation.....	64
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Electrical and Computer Engineering Technology program is a planned sequence of carefully developed college level courses designed to prepare students to work in the field of electronics and computer engineering technology. The program of study emphasizes the application of scientific, mathematic, and engineering knowledge and methods combined with technical skills in support of engineering activities. Program graduates will receive an Electronics and Computer Engineering Technology Associate of Applied Science degree, qualifying them as engineering technicians with a specialization in computer engineering technology, electronics engineering technology, instrumentation and control technology, or telecommunications engineering technology.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES:

Reading:	ACCUPLACER	64
English:	ACCUPLACER	70
Math:	ACCUPLACER	0
Algebra:	ACCUPLACER	57

### GENERAL EDUCATION CORE:

#### **Area I – Language Arts/Communication**

ENGL 1101 – Composition and Rhetoric.....	3
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#### **Area II – Social/Behavioral Sciences**

XXXX xxxx – Social Behavioral Sciences Elective .....	3
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#### **Area III – Natural Sciences/Mathematics**

MATH 1111 – College Algebra.....	3
PHYS 1111/1111L – Introductory Physics I and Lab.....	4

#### **Area IV – Humanities/Fine Arts**

XXXX xxxx – Humanities/Fine Arts Elective .....	3
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#### **Additional General Education Core Requirement**

MATH 1113 – Precalculus .....	3
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### OCCUPATIONAL COURSES:

ENGT 1000 – Introductions to Engineering Technology .....	3
ECET 1101 – Circuit Analysis I .....	4
ECET 1110 – Digital Systems I .....	4
ECET 1191 – Computer Programming Fundamentals .....	3
ECET 2101 – Circuit Analysis II.....	4
XXXX xxxx – Occupational Electives .....	10

## CHOOSE ONE OF THE FOLLOWING SPECIALIZATIONS

### COMPUTER ENGINEERING TECHNOLOGY – 8C13

Choose One of the Following:

ECET 1210 – Networking Systems I.....	(4)
CIST 1401 – Computer Networking Fundamentals.....	(4)
ECET 2110 – Digital Systems II .....	4
ECET 2120 – Electronic Circuits I .....	4
ECET 2120 – Networking Systems II .....	4
ENGT 2300 – Capstone Project .....	1

### ELECTRONICS ENGINEERING TECHNOLOGY – 8EE3

ECET 1210 – Networking Systems I.....	4
ECET 2110 – Digital Systems II.....	4
ECET 2120 – Electronic Circuits I .....	4
ECET 2220 – Electronic Circuits II.....	4
ENGT 2300 – Capstone Project .....	1

### INSTRUMENTATION AND CONTROL ENGINEERING TECHNOLOGY – 8IA3

ICET 2010 – Electromechanical Devices .....	3
ICET 2020 – Instrumentation and Process Management .....	4
ICET 2030 – Programmable Logic Controllers .....	4
ICET 2050 – Process Control .....	4
ENGT 2300 – Capstone Project .....	1

### TELECOMMUNICATIONS ENGINEERING TECHNOLOGY – 8T13

ECET 1210 – Networking Systems I.....	4
TELE 1000 – Introduction to Telecommunications.....	4
TELE 1210 – Communications Transmission Concepts .....	4
TELE 2210 – Data Communications .....	4
TELE 2230 – Fiber Optics .....	4
ENGT 2300 – Capstone Project .....	1

# Electrical Systems Technology

## ELECTRICAL SYSTEMS TECHNOLOGY - ES12

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	4 Term(s)
Minimum Credit Hours for Graduation. ....	43
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Electrical Systems Technology program provides instruction in the inspection, maintenance, installation, and repair of electrical systems in the residential, commercial, and industrial industries. A combination of theory and practical application is emphasized to develop academic, technical, and professional knowledge and skills. Program graduates receive a diploma in Electrical Systems Technology with a specialization in residential or industrial applications.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 18 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### GENERAL EDUCATION CORE

ENGL 1010 - Fundamentals of English I .....	3
MATH 1012 - Foundations of Mathematics .....	3
EMPL 1000 - Interpersonal Relations and Professional Development .....	2

### OCCUPATIONAL COURSES

IDFC 1007 – Industrial Safety Procedures .....	2
ELTR 1060 – Electrical Prints, Schematics, and Symbols.....	2
ELTR 1080 – Commercial Wiring I .....	4
ELTR 1090 – Commercial Wiring II.....	4
ELTR 1180 – Electrical Controls.....	4

#### **Choose one of the following**

IDFC 1011 – Direct Current I .....	(3)
IDSY 1101 – DC Circuit Analysis I .....	(3)

#### **Choose one of the following**

ELTR 1020 – Electrical Systems Basics I .....	(3)
IDFC 1012 – Alternating Current I .....	(3)
IDSY 1105 – AC Circuit Analysis I .....	(3)

### OCCUPATIONAL ELECTIVES (3 CREDIT HOURS)

AIRC 1005 – Refrigeration Fundamentals .....	4
AIRC 1030 – HVACR Fundamentals.....	4
AIRC 1050 – HVACR Components and Control.....	4
CIST 1001 – Computer Concepts.....	4
CIST 1101 – Working with Microsoft Windows .....	3
CIST 1122 – Hardware Installation & Maintenance .....	4
CIST 1130 – Operating Systems Concepts .....	3
CIST 1305 – Program Design and Development .....	3





English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

### GENERAL EDUCATION CORE

**Choose one of the following**

MATH 1012 - Foundations of Mathematics .....	(3)
MATH 1013 - Algebraic Concepts .....	(3)

### OCCUPATIONAL COURSES

IDFC 1007 - Industrial Safety Procedures .....	2
ELTR 1060 - Electrical Prints, Schematics, and Symbols .....	2
ELTR 1205 - Residential Wiring I .....	4
ELTR 1210 - Residential Wiring II .....	4

**Choose one of the following**

IDFC 1011 - Direct Current I .....	(3)
ELTR 1020 - Electrical Systems Basics I .....	(3)
IDSY 1100 - Basic Circuit Analysis .....	(5)

# General Maintenance Mechanic

## GENERAL MAINTENANCE MECHANIC TECHNOLOGY – GM41

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment).....	2 Term(s)
Minimum Credit Hours for Graduation.....	22
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The General Maintenance Mechanic Technical Certificate of Credit prepares students for careers in building and facilities and maintenance entry level positions. Topics include refrigeration fundamentals, plumbing fundamentals, commercial wiring practices, structural maintenance, and electrical and electrical motor fundamentals

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or GED® transcript, if applicable;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES:

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### OCCUPATIONAL COURSES:

#### OCCUPATIONAL COURSES

AIRC 1005 – Refrigeration Fundamentals .....	4
AIRC 1030 – HVACR Electrical Fundamentals .....	4
BFMT 1030 – Fundamentals of Structural Maintenance .....	4
BFMT 1050 – Fundamentals of Plumbing .....	2

#### **Choose one of the following**

ELTR 1080 – Commercial Wiring .....	(4)
IDSY1130 – Industrial Wiring .....	(4)

#### **Choose one of the following**

AIRC 1040 – HVARC Electrical Motors .....	(4)
IDSY 1110 – Industrial Motor Controls I. ....	(4)

# Industrial Systems Technology

## INDUSTRIAL SYSTEMS TECHNOLOGY – IS13

### ASSOCIATE OF APPLIED SCIENCE

Minimum Length of Program (based on full-time enrollment) .....	4 Term(s)
Minimum Credit Hours for Graduation. ....	63
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Industrial Systems Technology Degree program is designed for the student who wishes to prepare for a career as an Industrial Systems technician/electrician. The program provides learning opportunities that introduce, develop and reinforce academic and technical knowledge, skill, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skill. The Degree program teaches skills in Industrial Systems Technology providing background skills in several areas of industrial maintenance including electronics, industrial wiring, motors, controls, plcs, instrumentation, fluid power, mechanical, pumps and piping, and computers. Graduates of the program receive an Industrial Systems technology Degree that qualifies them for employment as industrial electricians or industrial systems technicians.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES:

Reading:	ACCUPLACER	64
English:	ACCUPLACER	70
Math:	ACCUPLACER	0
Algebra:	ACCUPLACER	57

#### GENERAL EDUCATION CORE:

##### **Area I – Language Arts/Communication**

ENGL 1101 – Composition and Rhetoric .....	3
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##### **Area II – Social/Behavioral Sciences**

XXXX xxxx – Social Behavioral Sciences Elective .....	3
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##### **Area III – Natural Sciences/Mathematics (Choose one of the following)**

MATH 1100 – Quantitive Skills and Reasoning .....	(3)
MATH 1101 – Mathematical Modeling .....	(3)
MATH 1111 – College Algebra .....	(3)

##### **Area IV – Humanities/Fine Arts**

XXXX xxxx – Humanities/Fine Arts Elective .....	3
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##### **Program Specific Core Elective**

XXXX xxxx – Program Specific Core Elective .....	3
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#### OCCUPATIONAL COURSES:

IDSY 1170 – Industrial Mechanics .....	4
IDSY 1120 – Basic Industrial PLC .....	4
IDSY 1130 – Industrial Wiring .....	4
IDSY 1190 – Fluid Power and Piping Systems .....	4
XXXX xxxx – Occupational Electives .....	11
IDSY 1195 – Pumps and Piping Systems .....	3
IDSY 1110 – Industrial Motor Controls I .....	4

IDSY 1210 – Industrial Motor Controls II .....	4
IDSY 1220 – Intermediate Industrial PLCs.....	4

**Choose one of the following (Direct Current Option):**

IDFC 1011 – Direct Current I .....	3
IDSY 1101 – DC Circuit Analysis .....	3

**Choose one of the following (Alternate Current Option):**

ELCR 1020 – Electrical Systems Basics I.....	3
IDFC 1012 – Alternate Current I .....	3
IDSY 1105 – AC Circuit Analysis .....	3

## INDUSTRIAL SYSTEMS TECHNOLOGY - IST4

### DIPLOMA

Minimum Length of Program (based on full-time enrollment.....)	4 Term(s)
Minimum Credit Hours for Graduation.....	46
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Industrial Systems Technology Diploma program is designed for the student who wishes to prepare for a career as an Industrial Systems technician/electrician. The program provides learning opportunities that introduce, develop and reinforce academic and technical knowledge, skill, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skill. The diploma program teaches skills in Industrial Systems Technology providing background skills in several areas of industrial maintenance including electronics, industrial wiring, motors, controls, instrumentation, fluidpower, mechanical, pumps and piping, and computers. Graduates of the program receive an Industrial Systems technology diploma that qualifies them for employment as industrial electricians or industrial systems technicians.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 28*

\* If Completing Math 1013

#### GENERAL EDUCATION CORE

ENGL 1010 - Fundamentals of English I.....	3
EMPL 1000 - Interpersonal Relations and Professional Development.....	2

**Choose one of the following**

MATH 1012 – Foundations of Mathematics.....	(3)
MATH 1013 - Algebraic Concepts .....	(3)

#### OCCUPATIONAL COURSES

IDSY 1170 – Industrial Mechanics .....	4
IDSY 1120 – Basic Industrial PLC.....	4
IDSY 1130 – Industrial Wiring .....	4
IDSY 1190 – Fluid Power and Piping Systems.....	4
XXXX xxxx – Occupational Electives.....	9
IDSY 1195 – Pumps and Piping Systems.....	3

IDSY 1110 – Industrial Motor Controls I .....	4
<b>Choose one of the following (Direct Current Option):</b>	
IDFC 1011 – Direct Current I .....	3
IDSY 1101 – DC Circuit Analysis.....	3
<b>Choose one of the following (Alternate Current Option):</b>	
ELCR 1020 – Electrical Systems Basics I .....	3
IDFC 1012 – Alternate Current I .....	3
IDSY 1105 – AC Circuit Analysis .....	3

## ELECTRICAL MAINTENANCE TECHNICIAN - EM81

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....	2 Term(s)
Minimum Credit Hours for Graduation.....	18
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Electrical Maintenance Technician Technical Certificate of Credit provides instruction in industrial systems electrical inspection, maintenance, service, and repair. Topics include DC and AC fundamentals, motor controls, magnetic starters and braking systems, PLCs, and industrial wiring procedures.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

#### OCCUPATIONAL COURSES

##### Choose One of the Following:

IDFC 1011 –Direct Current I .....	3
IDSY 1101 –DC Circuit Analysis.....	3

##### Choose One of the Following:

ELTR 1020 –Electrical Systems Basic I.....	3
IDFC 1012 – Alternating Current I .....	3
IDSY 1105 – AC Circuit Analysis .....	3

IDSY 1110 – Industrial Motor Controls I .....	4
IDSY 1120 – Basic Industrial PLCs.....	4
IDSY 1130 – Industrial Wiring .....	4

# Machine Tool Technology

## MACHINE TOOL TECHNOLOGY - MT13

### ASSOCIATE OF APPLIED SCIENCE

Minimum Length of Program (based on full-time enrollment) .....	4 Term(s)
Minimum Credit Hours for Graduation. ....	60
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Machine Tool Technology Degree/Diploma program is a sequence of courses that prepares students for careers in the machine tool technology field. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of machine tool theory and practical application necessary for successful employment. Program graduates receive a Machine Tool Technology Degree/Diploma and have the qualification of a machine tool technician.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES

Reading:	ACCUPLACER 64
English:	ACCUPLACER 70
Math:	ACCUPLACER 0
Algebra:	ACCUPLACER 57

### GENERAL EDUCATION CORE

#### Area I - Language Arts/Communication

ENGL 1101 - Composition and Rhetoric .....	3
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#### Area II - Social/Behavioral Sciences

XXXX xxxx - Social Sciences/Behavioral Sciences Elective .....	3
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#### Area III - Natural Sciences/Mathematics

##### Choose one of the following

MATH 1100 - Quantitative Skills and Reasoning.....	(3)
MATH 1101 - Mathematical Modeling .....	(3)
MATH 1111 - College Algebra .....	(3)

#### Area IV - Humanities/Fine Arts

XXXX xxxx - Humanities/Fine Arts Elective.....	3
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### OCCUPATIONAL COURSES

XXXX xxxx- Additional General Education Core Electives .....	3
MCHT 1011 - Introduction to Machine Tool.....	4
MCHT 1012 - Blueprint for Machine Tool .....	3
MCHT 1020 - Heat Treatment and Surface Grinding .....	3
MCHT 1119 - Lathe Operations I.....	4
MCHT 1120 - Mill Operations I .....	4
MCHT 1219 - Lathe Operations II.....	4
MCHT 1220 - Mill Operations II.....	4
AMCA 2110 - CNC Fundamentals .....	3
AMCA 2130 - CNC Mill Manual Programming.....	5
AMCA 2150 - CNC Lathe Manual Programming.....	5

AMCA 2190 - CAD/CAM Programming .....	4
XXXX xxxx - Occupational Elective .....	3

**Choose one of the following options**

MCHT 1013 - Machine Tool Math.....	(3)
MATH 1112 - College Trigonometry .....	(3)

## MACHINE TOOL TECHNOLOGY - MTT2

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	3 Term(s)
Minimum Credit Hours for Graduation.....	42
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Machine Tool Technology Diploma program is a sequence of courses that prepares students for careers in the machine tool technology field. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of machine tool theory and practical application necessary for successful employment. Program graduates receive a Machine Tool Technology Diploma and have the qualification of a machine tool technician.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 28*

\* If Completing Math 1013

#### GENERAL EDUCATION CORE

MATH 1012 - Foundations of Mathematics .....	3
ENGL 1010 - Fundamentals of English I.....	3
EMPL 1000 - Interpersonal Relations and Professional Development.....	2

#### OCCUPATIONAL COURSES

MCHT 1011 - Introduction to Machine Tool.....	4
MCHT 1012 - Blueprint for Machine Tool .....	3
MCHT 1020 - Heat Treatment and Surface Grinding .....	3
MCHT 1119 - Lathe Operations I.....	4
MCHT 1120 - Mill Operations I .....	4
AMCA 2110 - CNC Fundamentals .....	3
MCHT 1219 - Lathe Operations II.....	4
MCHT 1220 - Mill Operations II.....	4
XXXX xxxx - Occupational Elective .....	6

**Choose one of the following options**

MCHT 1013 - Machine Tool Math.....	(3)
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**OR**

MATH 1013 - Algebraic Concepts .....	(3)
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**AND**

MATH 1015 - Geometry and Trigonometry .....	(3)
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**TECHNICAL CERTIFICATE OF CREDIT**

Minimum Length of Program (based on full-time enrollment) ..... 1 Term(s)  
 Minimum Credit Hours for Graduation..... 20  
 High School Diploma or GED® Required: Yes

**PROGRAM DESCRIPTION:**

The CNC Specialist Technical Certificate of Credit program provides training for graduates to gain employment as CNC machine tool technicians. Topics include CNC Fundamentals, mill and lathe manual programming, CNC practical applications, and CAD/CAM programming. The program emphasizes a combination of CNC theory and practical application necessary for successful employment.

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores;
- A candidate for the CNC Specialist TCC must be a graduate of the Machine Tool Technology Diploma or Degree program.

**MINIMUM TEST SCORES**

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

**OCCUPATIONAL COURSES**

AMCA 2110 - CNC Fundamentals .....	3
AMCA 2130 - CNC Mill Manual Programming.....	5
AMCA 2150 - CNC Lathe Manual Programming.....	5
AMCA 2170 - CNC Practical Applications .....	3
AMCA 2190 - CAD/CAM Programming .....	4

# Power and Infrastructure

## POWER AND INFRASTRUCTURE SPECIALIST – PAI1

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment).....	1 Term(s)
Minimum Credit Hours for Graduation.....	18
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Power and Infrastructure Specialist program is a multi-faceted program that serves several disciplines including the following industries: broadband mobile, industrial, and power distribution. The program has content that is common and/or closely related to all these industries and will cover topics including safety, AC/DC circuits and power, grounding and bonding, and other occupational electives that offer the flexibility to serve the various industries. These unique needs range from power distribution, industrial applications, networking, and regulatory issues to management and project management.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES:

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### OCCUPATIONAL COURSES:

#### Choose one of the following:

ECET 1101 – Circuit Analysis I .....	4
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OR

IDSY 1105 – AC Circuit Analysis .....	3
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IDSY 1101 – DC Circuit Analysis .....	3
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#### Choose one of the following:

ELTR 1520 – Grounding and Bonding .....	2
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OR

WLET 1110 – Power and Grounding Systems in a Mobile Environment .....	3
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### CHOOSE ONE OF THE FOLLOWING SPECIALIZATIONS

#### ELECTRICAL/INDUSTRIAL SYSTEMS – 8ES1

#### Choose Minimum of 12 Credits from the Following

ELCR 1800 – Electrical Lineworker Organization Principles.....	3
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ELCR 1820 – Electrical Lineworker Workplace Skills .....	2
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ELCR 1840 – Electrical Lineworker Automation Skills .....	2
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ELCR 1860 – Electrical Lineworker Occupational Skills .....	5
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ELTR 1220 – Industrial PLC's.....	4
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ELTR 1260 – Transformers .....	3
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ELTR 1510 – Electrical Worker .....	3
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ELTR 1525 – Photovoltaic Systems .....	5
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ELUT 1101 – Introduction to Electrical Utility Industry .....	3
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IDFC 1007 – Industrial Safety Procedures .....	2
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IDSY 1110 – Industrial Motor Controls I .....	5
IDSY 1120 – Basic Industrial PLC's .....	5
IDSY 1130 – Industrial Wiring .....	5
IDSY 1170 – Industrial Mechanic .....	5

### ENGINEERING/ELECTROMECHANICAL – 8E1

**Choose Minimum of 12 Credits from the Following**

ECET 1101 – Circuit Analysis I .....	4
ECET 1210 – Networking Systems I .....	4
ECET 2101 – Circuit Analysis II .....	4
ENGT 1000 – Introduction to Engineering Technology .....	3
ICET 2010 – Electromechanical Devices .....	4
ICET 2020 – Instrumentation and Process Management .....	4

### MANAGEMENT – 8M21

**Choose Minimum of 12 Credits from the Following**

MGMT 1100 – Principles of Management .....	3
MGMT 1115 – Leadership .....	3
MGMT 2125 – Performance Management .....	3
MGMT 2210 – Project Management .....	3

### TELECOMMUNICATION – 8T11

**Choose Minimum of 12 Credits from the Following**

ELCR 2660 – Security System Installation and Testing .....	4
ELCR 2670 – Fire Alarm Installation .....	4
TELE 1090 – Troubleshooting and Repair .....	3
TELE 1160 – Fiber Optics Transmission Systems .....	4
TELE 2020 – BICSI Level 1 Cabling Installation .....	4
TELE 2090 – Voice Over IP Fundamentals .....	3
TELE 2110 – Communication Platforms .....	3

# Telecommunication & Security

## TELECOMMUNICATIONS AND SECURITY TECHNOLOGY– TAS3

### ASSOCIATE OF APPLIED SCIENCE

Minimum Length of Program (based on full-time enrollment) .....	5 Term(s)
Minimum Credit Hours for Graduation. ....	63
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Associate of Applied Science Degree in Telecommunications and Security Technology is designed to give students the knowledge and skills to work in diverse fields associated with the telecommunications industry. Course topics range from broadband to wire line technologies, as well as other low voltage type systems. In addition to the technical aspects of the program, management and leadership courses are included to better prepare students to deal with management, accounting, planning issues, and other skill sets related to being a manager or supervisor in this area.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES:

Reading:	ACCUPLACER	64
English:	ACCUPLACER	70
Math:	ACCUPLACER	0
Algebra:	ACCUPLACER	57

#### GENERAL EDUCATION CORE:

<b>Area I – Language Arts/Communication</b>	
ENGL 1101 – Composition and Rhetoric .....	3
<b>Area II – Social/Behavioral Sciences</b>	
XXXX xxxx – Social Behavioral Sciences Elective .....	3
<b>Area III – Natural Sciences/Mathematics</b>	
MATH 1111 – College Algebra.....	3
<b>Area IV – Humanities/Fine Arts</b>	
XXXX xxxx – Humanities/Fine Arts Elective .....	3
<b>Additional General Education Core Requirement</b>	
XXXX xxxx – General Education Elective .....	3

#### OCCUPATIONAL COURSES:

<b>Choose one of the following</b>	
COMP 2000 – Introduction to Technology and Computer Applications .....	(3)
COLL 1010 – College and Career Success Skills.....	(3)
ELCR 1003 – Introduction to Electrical and Electronics Theory .....	3
ELCR 2170 – Computer Hardware .....	5
ELCR 2190 – Networking I .....	3
TELE 1160 – Fiber Optics Transmission Systems.....	4
TELE 1090 – Troubleshooting and Repair.....	3
MGMT 1100 – Principles of Management.....	
MGMT 2210 – Project Management.....	3
XXXX xxxx – Occupational Electives .....	6

**CABLING OPTION (CHOOSE ONE OF THE FOLLOWING):**

TELE 1020 – Premise Cabling and Installation (U-Verse Broadband) .....3  
TELE 2020 – Communications Cabling Installation.....4  
ELCR 2600 – Telecommunication and Data Cabling .....3

**CHOOSE ONE OF THE FOLLOWING SPECIALIZATIONS**

**BROADBAND CATV – 8BC3**

TELE 1690 – CATV Fundamentals .....3  
TELE 1700 – Broadband Cable Installation.....3  
TELE 1720 – Broadband System Installation .....3  
XXXX xxxx – Occupational Electives.....3

**CONVERGENT VOICE – 8CV3**

TELE 2090 – Voice Over IP Fundamentals .....3  
TELE 2110 – Communication Platform .....3  
XXXX xxxx – Occupational Electives .....6

**ELECTRONIC SAFETY AND SECURITY – 8E23**

ELCR 2660 – Security System Installation and Testing.....4  
ELCR 2680 – Access Control and CCTV Installation.....2  
XXXX xxxx – Occupational Electives .....6

**TELECOMMUNICATIONS AND SECURITY TECHNOLOGY - TES2**

**DIPLOMA**

Minimum Length of Program (based on full-time enrollment) .....4 Term(s)  
Minimum Credit Hours for Graduation..... 46  
High School Diploma or GED® Required: Yes

**PROGRAM DESCRIPTION:**

The purpose of the Telecommunications and Security Technology diploma program is to train technicians in this field to plan and estimate materials requirements and installation procedures for telecommunications and security systems; install cabling and equipment used in transmitting messages and television programming, including security systems, alarm devices, and other related components; and troubleshoot telecommunications systems to locate and repair faults and malfunctions.

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores;

**MINIMUM TEST SCORES**

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

**GENERAL EDUCATION CORE**

ENGL 1010 – Fundamentals of English I .....3  
MATH 1012 – Foundations of Mathematics.....3  
EMPL 1000 – Interpersonal Relations and Professional Development .....2

**OCCUPATIONAL COURSES**

**Choose one of the following**

COMP 2000 – Introduction to Technology and Computer Applications ..... (3)  
 COLL 1010 – College and Career Success Skills..... (3)

ELCR 1003 – Introduction to Electrical and Electronics Theory .....3  
 ELCR 2170 – Computer Hardware .....5  
 ELCR 2190 – Networking I .....3  
 TELE 1160 – Fiber Optics Transmission Systems.....4  
 TELE 1090 – Troubleshooting and Repair.....3  
 XXXX xxxx – Occupational Electives .....6

**CABLING OPTION (CHOOSE ONE OF THE FOLLOWING):**

TELE 1020 – Premise Cabling and Installation (U-Verse Broadband) .....3  
 TELE 2020 – Communications Cabling Installation.....4  
 ELCR 2600 – Telecommunication and Data Cabling .....3

**CHOOSE ONE OF THE FOLLOWING SPECIALIZATIONS**

**Broadband CATV – 8BC2**

TELE 1690 – CATV Fundamentals .....3  
 TELE 1700 – Broadband Cable Installation.....3  
 TELE 1720 – Broadband System Installaion.....  
 XXXX xxxx – Occupational Electives .....3

**Convergent Voice – 8CV2**

TELE 2090 – Voice Over IP Fundamentals .....3  
 TELE 2110 – Communication Platform .....3  
 XXXX xxxx – Occupational Electives .....6

**Electronic Safety and Security – 8EE2**

ELCR 2660 – Security System Installation and Testing.....4  
 ELCR 2680 – Access Control and CCTV Installation.....2  
 XXXX xxxx – Occupational Electives .....6

**CABLE INSTALLATION SPECIALIST – CIS1**

**TECHNICAL CERTIFICATE**

Minimum Length of Program (based on full-time enrollment) ..... 1 Term(s)  
 Minimum Credit Hours for Graduation..... 13  
 High School Diploma or GED® Required: Yes

**PROGRAM DESCRIPTION:**

The purpose of the Cable Installation Specialist technical certificate of credit is to provide training opportunities for persons to gain entry level employment in installing cabling, including fiber optics, for telecommunications systems. Courses in the technical certificate provide both classroom and hands-on learning in the areas of safety, cable installation, fiber optics systems, and electrical circuitry.

**ADMISSION REQUIREMENTS:**

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

**MINIMUM TEST SCORES:**

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

**OCCUPATIONAL COURSES:**

ELCR 1003 – Introduction to Electrical and Electronics Theory .....	3
TELE 1160 – Fiber Optics Transmission Systems.....	4
TELE 2020 – Communication Cabling Installation.....	4

# Welding & Joining Technology

## WELDING AND JOINING TECHNOLOGY - WAJ2

### DIPLOMA

Minimum Length of Program (based on full-time enrollment) .....	3 Term(s)
Minimum Credit Hours for Graduation. ....	50
High School Diploma or GED® Required: Yes	

### PROGRAM DESCRIPTION:

The Welding and Joining Technology diploma is designed to prepare students for careers in the welding industry. Program learning opportunities develop academic, technical, professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes welding theory and practical application necessary for successful employment. Program graduates receive a Welding and Joining Technology diploma, have the qualifications of a welding and joining technician, and are prepared to take qualification tests.

### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

### MINIMUM TEST SCORES

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

### GENERAL EDUCATION CORE

MATH 1012 - Foundations of Mathematics .....	3
ENGL 1010 - Fundamentals of English I .....	3
EMPL 1000 - Interpersonal Relations and Professional Development .....	2

### OCCUPATIONAL COURSES

WELD 1000 - Introduction to Welding Technology .....	3
WELD 1010 - Oxyfuel Cutting .....	3
WELD 1030 - Blueprint Reading for Welding Technology .....	3
WELD 1040 - Flat Shielded Metal Arc Welding .....	4
WELD 1070 - Overhead Shielded Metal Arc Welding .....	4
WELD 1050 - Horizontal Shielded Metal Arc Welding .....	4
WELD 1060 - Vertical Shielded Metal Arc Welding .....	4
WELD 1090 - Gas Metal Arc Welding .....	4
WELD 1110 - Gas Tungsten Arc Welding .....	4
WELD 1120 - Preparation for Industrial Qualification .....	3

### Choose Two of the Following Courses:

WELD 1150 - Advanced Gas Tungsten Arc Welding .....	(3)
WELD 1151 - Fabrication Processes .....	(3)
WELD 1152 - Pipe Welding .....	(3)
WELD 1153 - Flux Cored Arc Welding .....	(4)
WELD 1154 - Plasma Cutting .....	(3)
COMP 2000 – Introduction to Technology and Computer Applications .....	(3)
COLL 1010 – College and Career Success Skills .....	(3)



## GAS TUNGSTEN ARC WELDER - GTA1

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....	1 Term(s)
Minimum Credit Hours for Graduation .....	13
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Gas Tungsten Arc Welder Technical Certificate of Credit provides instruction in TIG welding techniques. Topics include understanding the nature and culture of the welding industry, oxyfuel cutting techniques, and TIG welding processes.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or GED® transcript, if applicable;
- Submit official college transcripts, if applicable;
- Present acceptable SAT and/or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

#### MINIMUM TEST SCORES

Reading:	ACCUPLACER 55
English:	ACCUPLACER 60
Math:	ACCUPLACER 34
Algebra:	ACCUPLACER 0

#### OCCUPATIONAL COURSES

WELD 1000 - Introduction to Welding Technology .....	3
WELD 1010 - Oxyfuel Cutting .....	3
WELD 1110 - Gas Tungsten Arc Welding .....	4

#### Choose one of the following courses:

WELD 1150 - Advanced Gas Tungsten Arc Welding .....	(3)
WELD 1151 - Fabrication Processes .....	(3)
WELD 1152 - Pipe Welding .....	(3)
WELD 1153 - Flux Cored Arc Welding .....	(4)
WELD 1154 - Plasma Cutting .....	(3)
WELD 1156 - Ornamental Iron Works .....	(3)
WELD 1030 - Blueprint Reading for Welding Technology .....	(3)
WELD 1040 - Flat Shielded Metal Arc Welding .....	(4)

## ADVANCED SHIELDED METAL ARC WELDER – OSM1

### TECHNICAL CERTIFICATE OF CREDIT

Minimum Length of Program (based on full-time enrollment) .....	2 Term(s)
Minimum Credit Hours for Graduation .....	16
High School Diploma or GED® Required: Yes	

#### PROGRAM DESCRIPTION:

The Advanced Shielded Metal Arc Welder Technical Certificate of Credit is a continuation of the basic certificate. The Advanced program provides instruction in shielded metal arc welding in the overhead, horizontal, and vertical positions.

#### ADMISSION REQUIREMENTS:

- Submit a completed application and application fee;
- Be at least 16 years of age;
- Submit official high school transcript or High School Equivalency Transcript;
- Submit official college transcripts, if applicable;

- Present acceptable SAT or ACT scores taken within the last 60 months, or acceptable ACCUPLACER scores taken within the last 60 months. Documentation on a college transcript of successful completion of appropriate courses from a regionally accredited college or university may be accepted in lieu of test scores.

**MINIMUM TEST SCORES:**

Reading:	ACCUPLACER	55
English:	ACCUPLACER	60
Math:	ACCUPLACER	34
Algebra:	ACCUPLACER	0

**PROGRAM REQUIRED PRE/CO-REQUISITE:**

WELD 1040 – Flat Shielded Metal Arc Welding .....4

**OCCUPATIONAL COURSES:**

WELD 1050 – Horizon Shielded Metal Arc Welding .....4

WELD 1060 – Vertical Shielded Metal Arc Welding.....4

WELD 1070 – Overhead Shielded Metal Arc Welding .....4