

Industrial Technologies

Computer Aided Drafting Technology Credential: Associate in Applied Science Degree in Computer-Aided Drafting Technology A50150

The Computer Aided Drafting Technology curriculum prepares graduates for employment as drafters or designers in a wide range of fields including mechanical and manufacturing engineering. Computer aided drafters and designers assist in the design and development of manufactured products.

This course-of-study prepares students to apply technical skills and advanced computer software and hardware to develop plans and related documentation, and manage the hardware and software of a CAD system. It includes instruction in architectural drafting, computer-aided-drafting (CAD), creating and managing two and three-dimensional models, and linking CAD documents to other software applications and operating systems.

In addition to coursework in computer aided drafting, students will study computer applications, machining, design, planning and problem solving, as well as oral and written communication.

Graduates of the curriculum should qualify for CAD jobs in architectural and engineering consulting firms and industrial design businesses.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Computer-Aided Drafting Technology

Program Sites: Lee Main Campus - Day Program

Course Requirements for the Computer-Aided Drafting Technology Degree

1. General Education Requirements (19 SHC) C-L-SHC

MAT 121	Algebra and Trigonometry	2-2-3
PHY 110	Conceptual Physics	3-0-3
PHY 110A	Conceptual Physics Lab	0-2-1
	Humanities/Fine Arts Elective	3-0-3
	Social/Behavioral Science Elective	3-0-3
	English, Take one course:	
ENG 111	Writing and Inquiry	3-0-3
ENG 110	Freshman Composition	3-0-3
	Communications, take 3 SHC from:	
ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
ENG 115	Oral Communication	3-0-3
ENG 116	Technical Report Writing	3-0-3
COM 110	Introduction to Communication	3-0-3
COM 120	Intro to Interpersonal Communication	3-0-3
COM 231	Public Speaking	3-0-3

2. Major Requirements (25 SHC)

DDF 211	Design Process I	1-6-4
DDF 212	Design Process II	1-6-4

DFT 111	Technical Drafting I	1-3-2
DFT 151	CAD I	2-3-3
DFT 152	CAD II	2-3-3
DFT 153	CAD III	2-3-3
DFT 154	Intro to Solid Modeling	2-3-3
DFT 254	Intermed Solid Model/Render	2-3-3

3. Other Major Requirements (25 SHC)

ARC 114	Architectural CAD	1-3-2
ARC 114A	Architectural CAD Lab	0-3-1
BPR 111	Print Reading	1-2-2
BPR 121	Blueprint Reading: Mechanical	1-2-2
CIS 110	Introduction to Computers	2-2-3
DFT 211	Gears, Cams & Pulleys	1-3-2
DFT 259	CAD Project	1-4-3
DDF 252	Advanced Solid Modeling	2-2-3
MEC 161	Manufacturing Processes I	3-0-3
MEC 161A	Manufacturing Processes I Lab	0-3-1
MEC 180	Engineering Materials	2-3-3

4. Other Requirements (1 SHC)

Take one course:

ACA 111	College Student Success	1-0-1
ACA 115	Success and Study Skills	0-2-1
ACA 122	College Transfer Success	1-0-1

Total Semester Hours Credit required for graduation: 70

Computer Aided Drafting Technology Credential: Diploma in Computer-Aided Drafting Technology D50150

The Computer Aided Drafting Technology curriculum prepares graduates for employment as drafters or designers in a wide range of fields including architecture and manufacturing engineering. Computer aided drafters and designers assist in the design and development of manufactured products.

This course-of-study prepares students to apply technical skills and advanced computer software and hardware to develop plans and related documentation, and manage the hardware and software of a CAD system. It includes instruction in architectural drafting, computer-aided-drafting (CAD), creating and managing two and three-dimensional models, and linking CAD documents to other software applications and operating systems.

In addition to coursework in computer aided drafting, students will study computer applications, machining, design, planning and problem solving, as well as oral and written communication.

Graduates of the curriculum should qualify for CAD jobs in architectural and engineering consulting firms and industrial design businesses.

Program Length: 4 semesters

Career Pathway Options: Associate in Applied Science in

Computer-Aided Drafting Technology, Diploma in
Computer-Aided Drafting Technology
Program Sites: Lee Main Campus - Day Program

Course Requirements for the Computer-Aided Drafting Technology Diploma

1. General Education Requirement (6 SHC)		C-L-SHC
MAT 121	Algebra and Trigonometry	2-2-3
English; Take one course:		
ENG 111	Writing and inquiry	3-0-3
ENG 110	Freshman Composition	3-0-3
2. Major Requirements (21 SHC)		
DDF 211	Design Process I	1-6-4
DFT 151	CAD I	2-3-3
DFT 152	CAD II	2-3-3
DFT 153	CAD III	2-3-3
DFT 154	Intro to Solid Modeling	2-3-3
DFT 111	Technical Drafting I	1-3-2
DFT 254	Intermed Solid Model/Render	2-3-3
3. Other Major Requirements (13 SHC)		
BPR 111	Print Reading	1-2-2
BPR 121	Blueprint Reading: Mechanical	1-2-2
CIS 110	Introduction to Computers	2-2-3
DFT 211	Gears, Cams & Pulleys	1-3-2
MEC 161	Manufacturing Processes I	3-0-3
MEC 161A	Manufacturing Proc I Lab	0-3-1

Total Semester Hours Credit required for graduation: 40

Computer Aided Drafting Technology Credential: Certificate in Computer-Aided Drafting Technology C50150C

The Computer Aided Drafting Technology curriculum prepares graduates for employment as drafters or designers in a wide range of fields including architecture and manufacturing engineering. Computer aided drafters and designers assist in the design and development of manufactured products.

This course-of-study prepares students to apply technical skills and advanced computer software and hardware to develop plans and related documentation, and manage the hardware and software of a CAD system. It includes instruction in computer-aided-drafting (CAD), creating and managing two and three-dimensional models.

Graduates of the curriculum should qualify for CAD jobs in architectural and engineering consulting firms and industrial design businesses.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Computer-Aided Drafting Technology (Higher entrance standards required), Diploma Computer-Aided Drafting

Technology (Higher entrance standards required), Certificate in Computer-Aided Drafting Technology, Certificate in Computer-Aided Drafting with an Emphasis in Solid Modeling

Program Sites: Lee Main Campus - Day Program

Course Requirements for the Computer-Aided Drafting Technology Certificate

1. Major Requirements (6 SHC)		C-L-SHC
DFT 151	CAD I	2-3-3
DFT 152	CAD II	2-3-3
2. Other Major Requirements (7 SHC)		
CIS 110	Intro to Computers	2-2-3
BPR 111	Print Reading	1-2-2
BPR 121	Blueprint Reading: Mechanical	1-2-2

Total Semester Hours Credit required for graduation: 13

Computer Aided Drafting Technology Credential: Certificate in Computer-Aided Drafting Technology with an Emphasis in Solid Modeling C50150S

The Computer Aided Drafting Technology with an Emphasis in Solid Modeling curriculum prepares graduates for employment as drafters or designers in a wide range of fields including architecture and manufacturing engineering. Computer aided drafters and designers assist in the design and development of manufactured products.

This course-of-study prepares students to apply technical skills and advanced computer software and hardware to develop plans and related documentation, and manage the hardware and software of a CAD system. It includes instruction in mechanical drafting, computer-aided-drafting (CAD), creating and managing two and three-dimensional models while emphasizing solid modeling and rendering.

Graduates of the curriculum should qualify for CAD jobs in architectural and engineering consulting firms and industrial design businesses.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Computer-Aided Drafting Technology (Higher entrance standards required), Diploma Computer-Aided Drafting Technology (Higher entrance standards required), Certificate in Computer-Aided Drafting Technology, Certificate in Computer-Aided Drafting with an Emphasis in Solid Modeling

Program Sites: Lee Main Campus - Day Program

Course Requirements for the Computer-Aided Drafting Technology with an Emphasis in Solid Modeling Certificate

C-L-SHC

1. Major Requirements (6 SHC)

DFT 154	Intro to Solid Modeling	2-3-3
DFT 254	Intermediate Solid Modeling/Render	2-3-3

2. Other Major Requirements (7 SHC)

CIS 110	Intro to Computers	2-2-3
BPR 111	Print Reading	1-2-2
BPR 121	Blueprint Reading: Mechanical	1-2-2

Total Semester Hours Credit required for graduation: 13

**Computer Integrated Machining
Credential: Associate in Applied Science
Degree in Computer-Integrated Machining with
an Emphasis in Tool, Die and Mold Making
A50210**

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining. Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

This Program has an emphasis on Tool, Die and Mold Making.

Program Length: 6 semesters

Career Pathway Options: Associate in Applied Science in Computer-Integrated Machining with an Emphasis in Tool, Die and Mold Making

Program Sites: Lee Main Campus - Day Program

Course Requirements for Computer-Integrated Machining Technology with an emphasis in Tool, Die and Mold Making

I. General Education Requirements (15 SHC) C-L-SHC

Humanities/Fine Arts Elective	3-0-3
Social/Behavioral Science Elective	3-0-3

English; Take one course:

ENG 111	Writing and Inquiry	3-0-3
ENG 110	Freshman Composition Communications. Take one course:	3-0-3
ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
ENG 115	Oral Communication	3-0-3
ENG 116	Technical Report Writing	3-0-3
COM 110	Introduction to Communication	3-0-3
COM 120	Intro to Interpersonal Communication	3-0-3
COM 231	Public Speaking	3-0-3
Mathematics; Take one course:		
MAT 110	Math Measurement & Literacy	2-2-3
MAT 121	Algebra /Trigonometry I	2-2-3

2. Major Requirements (16 SHC)

BPR 111	Print Reading	1-2-2
MAC 111	Machining Technology I	2-12-6
MAC 112	Machining Technology II	2-12-6
MAC 124	CNC Milling	1-3-2

3. Other Major Requirements (45 SHC)

BPR 121	Print Reading: Mechanical	1-2-2
CIS 111	Basic PC Literacy	1-2-2
MAC 113	Machining Technology III	2-12-6
MAC 122	CNC Turning	1-3-2
MAC 151	Machining Calculations	1-2-2
MAC 153	Compound Angles	1-2-2
MAC 171	Measure/Material & Safety	0-2-1
MAC 224	Advanced CNC Milling	1-3-2
MAC 226	CNC EDM Machining	1-3-2
MAC 241	Jigs and Fixtures I	2-6-4
MAC 243	Die Making I	2-6-4
MAC 244	Die Making II	1-9-4
MAC 245	Mold Construction I	2-6-4
MAC 246	Mold Construction II	1-9-4
MEC 110	Introduction to CAD/CAM	1-2-2
MEC 142	Physical Metallurgy	1-2-2

Total Semester Hours Credit required for graduation: 76

**Computer-Integrated Machining
Credential: Diploma in Computer-Integrated
Machining
D50210**

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC)

equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Computer-Integrated Machining with an Emphasis in Tool, Die and Mold Making (Higher entrance standards required); Diploma in Computer-Integrated Machining Technology
Program Sites: Lee Main Campus – Day/Evening Program; Harnett Main Campus – Day/Evening Program

Course Requirements for Computer-Integrated Machining Technology Diploma

1. General Education Requirements (9 SHC) C-L-SHC

Humanities/Fine Arts Elective	3-0-3
English; Take one course:	
ENG 102 Applied Communication II	3-0-3
ENG 110 Freshman Composition	3-0-3
Mathematics; Take one course:	
MAT 110 Mathematical Measurement & Literacy	2-2-3
MAT 121 Algebra/Trigonometry I	2-2-3

2. Major Requirements (16 SHC)

BPR 111 Print Reading	1-2-2
MAC 111 Machining Technology I	2-12-6
MAC 112 Machining Technology II	2-12-6
MAC 124 CNC Milling	1-3-2

3. Other Major Requirements (15 SHC)

BPR 121 Print Reading: Mechanical	1-2-2
CIS 111 Basic PC Literacy	1-2-2
MAC 113 Machining Technology III	2-12-6
MAC 151 Machining Calculations	1-2-2
MAC 171 Measure/Material & Safety	0-2-1
MEC 142 Physical Metallurgy	1-2-2

Total Semester Hours Credit required for graduation: 40

Computer-Integrated Machining Credential: Certificate in Computer-Integrated Machining C50210

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

Program Length: 2 semesters

Career Pathway Options: Associate in Applied Science in Computer-Integrated Machining with an Emphasis in Tool, Die and Mold Making (Higher entrance standards required); Diploma Computer Integrated-Machining (Higher entrance standards required); Certificate in Computer-Integrated Machining .
Program Sites: Lee Main Campus –Day/ Evening Program; Harnett Main Campus –Day/ Evening Program

Course Requirements for Computer-Integrated Machining Technology Certificate

1. Major Requirements (10 SHC)

BPR 111 Print Reading	1-2-2
MAC 111 Machining Technology I	2-12-6
MAC 124 CNC Milling	1-3-2

2. Other Major Requirements (7 SHC)

BPR 121 Print Reading: Mechanical	1-2-2
MAC 151 Machining Calculations	1-2-2
MAC 171 Measure/Material & Safety	0-2-1
MEC 142 Physical Metallurgy	1-2-2

Total Semester Hours Credit required for graduation: 17

Industrial Systems Technology Credential: Associate in Applied Science Degree in Industrial Systems Technology A50240

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair and install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems. Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, as well as various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced coursework may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Industrial Systems Technology

Program Sites: Lee Main Campus - Day Program

Course Requirements for Industrial Systems Technology

1. General Education Requirements (15/16 SHC) C-L-SHC

Humanities/Fine Arts Elective 3-0-3

Social/Behavioral Science Elective 3-0-3

English: Take one course:

ENG 111 Writing and Inquiry 3-0-3

ENG 110 Freshman Composition 3-0-3

Communications, Take one course:

ENG 112 Writing/Research in the Disciplines 3-0-3

ENG 114 Professional Research and Reporting 3-0-3

ENG 115 Oral Communication 3-0-3

ENG 116 Technical Report Writing 3-0-3

COM 110 Introduction to Communication 3-0-3

COM 120 Intro to Interpersonal Communication 3-0-3

COM 231 Public Speaking 3-0-3

Mathematics; Take one course:

PHY 121 Applied Physics I 3-2-4

MAT 110 Math Measurement & literacy 2-2-3

2. Major Requirements (18 SHC)

BPR 111 Print Reading 1-2-2

ELC 112 DC/AC Electricity 3-6-5

HYD 110 Hydraulics/Pneumatics I 2-3-3

ISC 110 Workplace Safety 1-0-1

MEC 111 Machine Processes I 1-4-3

MNT 110 Introduction to Maintenance Procedures 1-3-2

WLD 112 Basic Welding Processes 1-3-2

3. Concentration Requirements (13 SHC)

BPR 115 Electric/Fluid Power Diagrams 1-2-2

ELC 117 Motors and Controls 2-6-4

ELC 128 Introduction to PLC 2-3-3

ELC 228 PLC Applications 2-6-4

4. Other Major Requirements (29 SHC)

AHR 120 HVACR Maintenance 1-3-2

CIS 111 Basic PC Literacy 1-2-2

ELN 231 Industrial Controls 2-3-3

ELN 260 Prog. Logic Controllers 3-3-4

MNT 111 Maintenance Practices 2-2-3

MNT 230 Pumps and Piping Systems 1-3-2

MNT 240 Industrial Equipment Troubleshooting 1-3-2

Technical Electives (Take 1 Group):

General IST Emphasis

ELC 229 Applications Project 1-3-2

HYD 121 Hydraulics/Pneumatics II 1-3-2

WLD 117 Industrial SMAW 1-4-3

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

5. Other Requirements (1 SHC)

Take one course:

ACA 111 College Student Success 1-0-1

ACA 115 Success and Study Skills 0-2-1

ACA 122 College Transfer Success 1-0-1

Total Semester Hours Credit required for graduation: 76/77

Industrial Systems Technology

Credential: Diploma in Industrial Systems

Technology

D50240

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair and install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems. Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, as well as various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced coursework may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair, and maintain industrial process and support equipment. Students are encouraged to develop life-long learning skills.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Industrial Systems Technology (Higher entrance standards required); Diploma in Industrial Systems Maintenance Technology

Program Sites: Lee Main Campus - Day Program

Course Requirements for Industrial Systems Technology Diploma

1. General Education Requirements (9/10 SHC) C-L-SHC

Humanities/Fine Arts elective 3-0-3

English; Take one course:

ENG 111 Writing and Inquiry 3-0-3

ENG 110 Freshman Composition 3-0-3

Mathematics: Take one course:

MAT 110 Math Measurement & Literacy 2-2-3

PHY 121 Applied Physics I 3-2-4

2. Major Requirements (18 SHC)

BPR 111 Print Reading 1-2-2

ELC 112 DC/AC Electricity 3-6-5

HYD 110 Hydraulics/Pneumatics I 2-3-3

ISC 110 Workplace Safety 1-0-1

MEC 111 Machine Processes I 1-4-3

MNT 110	Introduction to Maintenance Procedures	1-3-2
WLD 112	Basic Welding Processes	1-3-2

3. Other Major Requirements (10 SHC)

AHR 120	HVACR Maintenance	1-3-2
CIS 111	Basic PC Literacy	1-2-2
MNT 111	Maintenance Practices	2-2-3
WLD 117	Industrial SMAW	1-4-3

4. Concentration Requirements (5 SHC)

BPR 115	Electric/Fluid Power Diagrams	1-2-2
ELC 128	Introduction to PLC	2-3-3

Total Semester Hours Credit required for graduation: 42/43

Industrial Systems Technology**Credential: Certificate in Electrical Controls
C5024010**

This curriculum will provide students with knowledge of electricity and electrical controls. Students will learn AC/DC electricity, pilot devices, control relays, motor starters, and electromechanical devices. Upon completion, students will have the flexibility of pursuing a Diploma or an Associate in Applied Science Degree in Industrial Systems Maintenance Technology.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Industrial Systems Technology (Higher entrance standards required); Diploma in Industrial Systems Technology (Higher entrance standards required); Certificate in Electrical Controls

Program Sites: Lee Main Campus - Evening Program

Course Requirements for Electrical Controls Certificate**1. Major Requirements (10 SHC)**

ELC 112	DC/AC Electricity	3-6-5
ELC 117	Motors and Controls	2-6-4
ISC 110	Workplace Safety	1-0-1

2. Concentration Requirements (3 SHC)

ELC 128	Introduction to PLC	2-3-3
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3. Other Major Requirements (3 SHC)

ELN 231	Industrial Controls	2-3-3
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Total Semester Hours Credit required for graduation: 16

Industrial Systems Technology**Credential: Certificate in Industrial Hydraulics
C5024020**

This curriculum will provide students with knowledge of hydraulics and pneumatics. Students will learn hydraulic and pneumatic blueprint reading, how to repair valves and pumps, and how to measure and troubleshoot systems. Upon completion, students will have the flexibility of pursuing a Diploma or an Associate in Applied Science Degree in Industrial Systems Technology.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science in Industrial Systems Technology (Higher entrance standards required); Diploma in Industrial Systems Maintenance Technology (Higher entrance standards required); Certificate in Industrial Hydraulics

Program Sites: Lee Main Campus - Evening Program

**Course Requirements for Industrial Hydraulics
Certificate****C-L-SHC****1. Major Requirements (5 SHC)**

HYD 110	Hydraulics/Pneumatics I	2-3-3
MNT 110	Introduction to Maintenance Procedures	1-3-2

2. Concentration Requirements (5 SHC)

BPR 115	Electric/Fluid Power Diagrams	1-2-2
ELC 128	Introduction to PLC	2-3-3

3. Other Major Requirements (7 SHC)

HYD 121	Hydraulics/Pneumatics II	1-3-2
MNT 111	Maintenance Practices	2-2-3
MNT 230	Pumps and Piping Systems	1-3-2

Total Semester Hours Credit: 17

Industrial Systems Technology**Credential: Certificate in Programmable Logic
Controllers (PLC)
C5024030**

This curriculum will provide students with knowledge of PLC's and PLC applications. In addition, students will become proficient in the use of PLC software, hardware, maintenance and troubleshooting, and programming. Upon completion, students will have the flexibility of pursuing a Diploma or an Associate in Applied Science Degree in Industrial Systems Technology.

Program Length: 4 semesters

Career Pathway Options: Associate in Applied Science in Industrial Systems Technology (Higher entrance standards required); Diploma in Industrial Systems Technology (Higher entrance standards required); Certificate in Programmable Logic Controllers

Program Sites: Lee Main Campus - Evening Program

Course Requirements for Programmable Logic Controller Certificate

C-L-SHC

1. Major Requirements (6 SHC)

ELC 112	DC/AC Electricity	3-6-5
ISC 110	Workplace Safety	1-0-1

2. Concentration Requirements (7 SHC)

ELC 128	Introduction to PLC	2-3-3
ELC 228	PLC Applications	2-6-4

3. Other Major Requirements (4 SHC)

ELN 260	Prog. Logic Controllers	3-3-4
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Total Semester Hours Credit required for graduation: 17

Welding Technology

Credential: Associate in Applied Science Degree in Welding Technology A50420

The Associate in Applied Science Degree in Welding Technology provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metalworking industry.

Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses may include math, print reading, metallurgy, welding inspection, and destructive and non-destructive testing providing the student with industry-standard skills developed through classroom training and practical application.

Graduates of the Welding Technology curriculum may be employed as entry-level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Welding Technology

Program Sites:

Lee Main Campus - Day Program

Course Requirements for Paralegal Technology Degree

1. General Education Requirements (15/16 SHC) C-L-SHC

Humanities/Fine Arts Elective	3-0-3
Social/Behavioral Science Elective	3-0-3
English; Take one course:	
ENG 111 Writing and Inquiry	3-0-3
ENG 110 Freshman Composition	3-0-3
Communications; Take one course:	
ENG 112 Writing/Research in the Disciplines	3-0-3
ENG 114 Professional Research and Reporting	3-0-3
ENG 115 Oral Communication	3-0-3

ENG 116	Technical Report Writing	3-0-3
COM 110	Introduction to Communication	3-0-3
COM 120	Intro to Interpersonal Communication	3-0-3
COM 231	Public Speaking	3-0-3
Mathematics; Take one course:		
MAT 110	Math Measurement & Literacy	2-2-3
PHY 121	Applied Physics	3-2-4

2. Major Requirements (18 SHC)

WLD 110	Cutting Processes	1-3-2
WLD 115	SMAW (Stick) Plate	2-9-5
WLD 121	GMAW (MIG) FCAW/Plate	2-6-4
WLD 131	GTAW (TIG) Plate	2-6-4
WLD 141	Symbols & Specifications	2-2-3

3. Other Major Requirements (35 SHC)

BPR 111	Print Reading	1-2-2
*CIS 111	Basic PC Literacy	1-2-2
ISC 110	Workplace Safety	1-0-1
MEC 111	Machine Processes	1-4-3
WLD 116	SMAW (Stick) Plate/Pipe	1-9-4
WLD 132	GTAW (TIG) Plate/Pipe	1-6-3
WLD 151	Fabrication I	2-6-4
WLD 215	SMAW (Stick) Pipe	1-9-4
WLD 251	Fabrication II	1-6-3
WLD 261	Certification Practices	1-3-2
WLD 262	Inspections and Testing	2-2-3
WLD 265	Automated Welding/Cutting	2-6-4

4. Other Requirements (1 SHC)

Take one course:

ACA 111	College Student Success	1-0-1
ACA 115	Success and Study Skills	0-2-1
ACA 122	College Transfer Success	1-0-1

*Students may substitute CIS 110.

Total Semester Hours Credit required for graduation: 69/70

Welding Technology

Credential: Diploma in Welding Technology D50420

The Diploma in Welding Technology provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metalworking industry.

Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses may include math, print reading, metallurgy, welding inspection, and destructive and non-destructive testing providing the student with industry-standard skills developed through classroom training and practical application.

Graduates of the Welding Technology curriculum may be employed as entry-level technicians in welding and metalworking industries. Career opportunities also exist in

construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Program Length: 4 semesters

Career Pathway Options: Diploma in Welding Technology

Program Sites:

Lee Campus - Day Program

Course Requirements for the Welding Technology Diploma

1. General Education Requirements (6 SHC) C-L-SHC

MAT 110 Mathematical Measurement and Literacy 2-2-3

English; Take one course:

ENG 111 Writing and Inquiry 3-0-3

ENG 110 Freshman Composition 3-0-3

2. Major Requirements (18 SHC)

WLD 110 Cutting Processes 1-3-2

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

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

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

WLD 141 Symbols & Specifications 2-2-3

3. Other Major Requirements (18 SHC)

BPR 111 Print Reading 1-2-2

ISC 110 Workplace Safety 1-0-1

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

WLD 151 Fabrication I 2-6-4

WLD 262 Inspection and Testing 2-2-3

WLD 265 Automated Welding/Cutting 2-6-4

Total Semester Hours Credit required for graduation: 42

Welding Technology

Credential: Certificate in Welding Technology C50420

The Certificate in Welding Technology provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metalworking industry.

Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses may include math, print reading, metallurgy, welding inspection, and destructive and non-destructive testing providing the student with industry-standard skills developed through classroom training and practical application.

Graduates of the Welding Technology curriculum may be employed as entry-level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Program Length: 2 semesters, Day; 3 semesters, Evening
Career Pathway Options: Diploma in Welding Technology (Higher entrance standards required), Certificate in Welding

Technology

Program Sites: Lee Main Campus - Day Program

Course Requirements for the Welding Technology Certificate

1. Major Hours (18 SHC)

WLD 110 Cutting Processes 1-3-2

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

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

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

2. Other Major Requirements (3 SHC)

BPR 111 Print Reading 1-2-2

ISC 110 Workplace Safety 1-0-1

Total Semester Hours Credit required for graduation: 18

Welding Technology

Credential: Certificate in Robotic Welding Technology C50420R

The Certificate in Robotic Welding Technology provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metalworking industry.

Instruction includes consumable welding and cutting processes. Courses may include safety, print reading, automated welding/cutting processes, metallurgy, welding inspection, and destructive and non-destructive testing providing the student with industry-standard skills developed through classroom training and practical application.

Graduates of the Robotics Certificate curriculum may be employed as entry-level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Program Length: 3 semesters

Career Pathway Options: Diploma in Welding Technology (Higher entrance standards required), Certificate in Welding Technology

Program Sites: Lee Main Campus - Day Program

Course Requirements for the Welding Technology Certificate

WLD 110 Cutting Processes 1-3-2

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

2. Other Major Requirements (7 SHC)

BPR 111 Print Reading 1-2-2

ISC 110 Workplace Safety 1-0-1

WLD 265 Automated Welding/Cutting 2-6-4

Total Semester Hours Credit required for graduation: 13