

Degree in Building Construction Technology**1. General Education Requirements (15 SHC)** C-L-SHC

MAT 121	Algebra/Trigonometry I	2-2-3
	Humanities/Fine Arts Elective	3-0-3
	Social/Behavioral Science Elective	3-0-3
	English; Take one course:	
ENG 110	Freshman Composition	3-0-3
ENG 111	Writing & Inquiry	3-0-3
	Communications; Take one course:	
ENG 112	Writing/Research in the Disc	3-0-3
ENG 114	Prof Research & Reporting	3-0-3
COM 120	Intro Interpersonal Com	3-0-3

2. Major Requirements (24 SHC)

BPR 130	Print Reading Construction	3-0-3
CMT 120	Codes & Inspections	3-0-3
CST 241	Planning & Estimating I	2-2-3
SST 140	Green Building & Design Concepts	3-0-3
CST 111	Construction I	3-3-4
CST 112	Construction II	3-3-4
CST 221	Statics/Structures	3-3-4

3. Other Major Requirements (28 SHC)

ARC 111	Intro to Architecture	1-6-3
CST 113	Construction III	3-3-4
CST 131	OSHA/Safety/Certification	2-2-3
CST 150	Building Science	2-2-3
CST 211	Construction Surveying	2-3-3
ELC 113	Residential Wiring	2-6-4
MAS 140	Intro to Masonry	1-2-2
PLU 111	Intro to Plumbing	1-3-2
SST 120	Energy Use Analysis	2-2-3
WBL 111	Work-based Learning I	0-10-1

4. Other Requirements (1 SHC)

Take one course:

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

Total Semester Hours Credit Required for Graduation: 68

Building Construction Technology
Credential: Building Construction Technology
Diploma
D35140

1. General Education Requirements (6 SHC)

MAT 121	Algebra/Trigonometry I	2-2-3
	English; Take one Course:	
ENG 110	Freshman Composition	3-0-3
ENG 111	Writing & Inquiry	3-0-3

2. Major Requirements (20 SHC)

BPR 130	Print Reading Construction	3-0-3
CMT 120	Codes and Inspections	3-0-3
CST 111	Construction I	3-3-4
CST 112	Construction II	3-3-4

CST 241	Planning and Estimating I	2-2-3
SST 140	Green Building & Design Concepts	3-0-3

3. Other Major Requirements (15 SHC)

CST 113	Construction III	3-3-4
CST 131	OSHA/Safety/Certification	2-2-3
ELC 113	Residential Wiring	2-6-4
MAS 140	Intro to Masonry	1-2-2
PLU 111	Intro to Plumbing	1-3-2

Total Semester Hours Credit Required for Graduation: 41

Building Construction Technology
Credential: Building Construction Technology
Certificate
C35140

Course requirements for Building Construction Technology Certificate**1. Major Requirements (8 SHC)** C-L-SHC

CST 111	Construction I	3-3-4
CST 112	Construction II	3-3-4

2. Other Major Requirements (7 SHC)

CST 113	Construction III	3-3-4
CST 131	OSHA/Safety/Certification	2-2-3

Total Semester Hours Required: 15

Engineering Technologies

Computer Engineering Technology
Credential: Associate in Applied Science
Degree in Computer Engineering Technology
A40160

The Computer Engineering Technology curriculum provides the skills required to install, service, and maintain computers, peripherals, networks, and microprocessor and computer controlled equipment. It includes training in both hardware and software, emphasizing operating systems concepts to provide a unified view of computer systems.

Coursework includes mathematics, physics, electronics, digital circuits, and programming with emphasis on the operation, use, and interfacing of memory and devices to the CPU. Additional topics may include communications, networks, operating systems, programming languages, Internet configuration and design, and industrial applications.

Graduates will qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas requiring a knowledge of electronic and computer systems. Graduates will also qualify for certification in electronics, computers, or networks.

Program Length: 5 semesters
 Career Pathway Options: Associate of Applied Science
 Degree in Computer Engineering Technology
 Program Sites: Lee Main Campus - Day

Course Requirements for Computer Engineering Technology Degree

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

ENG 111	Writing and Inquiry	3-0-3
Mathematics; take one course:		
MAT 121	Algebra/Trigonometry I	2-2-3
MAT 171	Precalculus Algebra	3-2-4
Humanities/Fine Arts Elective		
Social/Behavioral Science Elective		
Communications; Take one course		
ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
COM 231	Public Speaking	3-0-3

2. Major Requirements (25 SHC)

ELC 131	Circuit Analysis I	3-3-4
ELN 131	Analog Electronics I	3-3-4
ELN 133	Digital Electronics	3-3-4
CTS 120	Hardware/Software Support	2-3-3
ELN 232	Introduction to Microprocessors	3-3-4
NOS 130	Windows Single User	2-2-3
Programming Elective; Take one course:		
CSC 134	C++ Programming	2-3-3
CSC 139	Visual BASIC Programming	2-3-3
CSC 151	JAVA Programming	2-3-3

III. Other Major Requirements (31 SHC)

CET 225	Digital Signal Processing	2-2-3
CTI 120	Network and SEC Foundation	2-2-3
CTS 220	Adv. Hardware Software Support	2-3-3
EGR 131	Intro to Electronics Tech	1-2-2
ELC 131A	Circuit Analysis I Lab	0-3-1
ELN 132	Analog Electronics II	3-3-4
ELN 275	Troubleshooting	1-3-2
PCI 170	DAQ and Control	3-3-4

Take one PHY course from:

PHY 131	Physics-Mechanics	3-2-4
PHY 151	College Physics I	3-2-4

Take one MAT course from:

MAT 122	Algebra/Trigonometry II	2-2-3
MAT 172	Precalculus Trigonometry	3-2-4

Technical Elective; Take one course:

CIS 110	Introduction to Computers	2-2-3
CSC 134	C++ Programming	2-3-3
CSC 139	Visual BASIC Programming	2-3-3
CSC 151	JAVA Programming	2-3-3
ELN 234	Communication Systems	3-3-4
ELN 247	Electronics Application Project	1-3-2
NET 125	Networking Basics	1-4-3
NET 126	Routing Basics	1-4-3
NOS 120	Linux/UNIX Single User	2-2-3

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: 72

Electronics Engineering Technology Credential: Associate in Applied Science Degree in Electronics Engineering Technology A40200

This curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, telecommunication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts and microprocessors ensures the student will master the competencies necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to think, analyze, and troubleshoot.

Graduates will qualify for employment as engineering assistants or electronic technicians with job titles including electronic engineering associate, electronic engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Program Length: 5 semesters
 Career Pathway Options: Associate in Applied Science
 Degree in Electronics Engineering Technology
 Program Sites: Lee Main Campus - Day Program

Course Requirements for Electronics Engineering Technology Degree

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

ENG 111	Writing and Inquiry	3-0-3
Mathematics; take one course:		
MAT 121	Algebra/Trigonometry I	2-2-3
MAT 171	Precalculus Algebra	3-2-4
Humanities/Fine Arts Elective		
Social/Behavioral Science Elective		
Communications; Take one course:		
ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
COM 231	Public Speaking	3-0-3

2. Major Requirements (24 SHC)

ELC 131	Circuit Analysis I	3-3-4
ELN 131	Analog Electronics I	3-3-4
ELN 133	Digital Electronics	3-3-4
ELN 132	Analog Electronics II	3-3-4
ELN 232	Introduction to Microprocessors	3-3-4

ELN 234 Communication Systems 3-3-4

3. Other Major Requirements (34 SHC)

CET 225	Digital Signal Processing	2-2-3
CIS 110	Introduction to Computers	2-2-3
EGR 131	Introduction to Electronics Tech.	1-2-2
ELC 131A	Circuit Analysis I Lab	0-3-1
ELN 247	Electronic Applications Project	1-3-2
ELN 275	Troubleshooting	1-3-2
ISC 221	Statistical Quality Control	3-0-3
PCI 170	DAQ and Control	3-3-4
Take two PHY course from:		
PHY 131	Physics-Mechanics	3-2-4
PHY 151	College Physics I	3-2-4
PHY 133	Physics-Sound & Light	3-2-4
PHY 152	College Physics II	3-2-4
Take one MAT course from:		
MAT 122	Algebra/Trigonometry II	2-2-3
MAT 172	Precalculus Trigonometry	3-2-4

Technical Elective; Take 3 SHC:3

CSC 134	C++ Programming	2-3-3
CSC 151	JAVA Programming	2-3-3
CTI 120	Network and SEC Foundations	2-2-3
CTS 120	Hardware/Software Support	2-3-3
DFT 151	CAD I	2-3-3
ELC 128	Introduction to PLCs	2-3-3
LEO 111	Lasers and Applications	1-3-2
NOS 130	Windows Single User	2-2-3

4. Other Required Hours (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: 74

Electronics Engineering Technology Credential: Certificate in Electronics Technology C40200

This curriculum prepares individuals to work as skilled assemblers, inspectors, or testers in consumer or industrial electronics environments. Work tasks include mounting, soldering, and wiring of electronics components, assembling sub-units, and final assembly and inspection of complete systems. Coursework includes basic electricity, mathematics, solid-state electronics, and basic assembly skills. Graduates should qualify for employment as an electronics assembler, electronics tester, or electronics inspector.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science Degree in Electronics Engineering Technology, Certificate in Electronics Technology

Program Sites: Lee Main Campus - Day Program; Harnett

Main Campus – Day Program

Course Requirements for Electronics Technology Certificate

1. General Education Requirements (3 SHC) C-L-SHC

Mathematics; take one:

MAT 121	Algebra/Trigonometry I	2-2-3
MAT 171	Precalculus Algebra	3-2-4

2. Major Requirements (12 SHC)

ELC 131	Circuit Analysis I	3-3-4
ELN 131	Analog Electronics I	3-3-4
ELN 132	Analog Electronics II	3-3-4

3. Other Major Requirements (3 SHC)

EGR 131	Introduction To Electronics Technology	1-2-2
ELC 131A	Circuit Analysis I Lab	0-3-1

Total Semester Hours Credit Required for Graduation: 18

Laser and Photonics Technology Credential: Associate in Applied Science Degree in Laser and Photonics Technology A40280

The Laser and Photonics Technology curriculum is designed to develop the practical knowledge and skills required to be a successful technician in business and industry. Coursework includes mathematics, science, communication, electronics and optics courses. An in-depth sequence of laboratory learning experiences develops the hands-on skills needed for specifying, operating and maintaining laser and photonics-based systems.

Current and emerging job opportunities exist in the areas of fiber optic communications, materials processing, laser surgery, research and a variety of related areas. Program graduates often begin work as technicians in product testing, field service, product development or sales.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Laser and Photonics Technology

Program Sites: Harnett Main Campus - Day Program

Course Requirements for Laser and Photonics Technology Degree

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

ENG 111	Writing and Inquiry	3-0-3
Mathematics; take one course:		
MAT 121	Algebra/Trigonometry I	2-2-3

Humanities/Fine Arts Elective 3-0-3

Social/Behavioral Science Elective 3-0-3

Communication; Take one course:

ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3

COM 231 Public Speaking 3-0-3

2. Major Requirements (25 SHC)

ELC 131 Circuit Analysis I 3-3-4
 ELN 131 Analog Electronics I 3-3-4
 ELN 133 Digital Electronics 3-3-4
 LEO 111 Lasers and Applications 1-3-2
 LEO 211 Photonics Technology 5-6-7
 LEO 212 Photonics Applications 3-3-4

3. Other Major Requirements (34 SHC)

CIS 110 Introduction to Computers 2-2-3
 EGR 131 Introduction to Electronics Tech. 1-2-2
 ELC 127 Software for Technicians 1-3-2
 ELC 131A Circuit Analysis I Lab 0-3-1
 ELN 132 Analog Electronics II 3-3-4
 ELN 232 Intro to Microprocessors 3-3-4
 ELN 275 Troubleshooting 1-3-2
 ISC 221 Statistical Quality Control 3-0-3
 LEO 213 Advanced Photonics Applications 3-3-4
 Take one PHY course from:
 PHY 131 Physics-Mechanics 3-2-4
 PHY 151 College Physics I 3-2-4
 Take one MAT course from:
 MAT 122 Algebra/Trigonometry II 2-2-3
 MAT 172 Precalculus Trigonometry 3-2-4

Technical Elective, take 2 SHC from:

WBL 111 Work-Based Learning I 0-10-1
 WBL 121 Work-Based Learning II 0-10-1
 WBL 122 Work-Based Learning II 0-20-2
 LEO 222 Photonics Applications Project 1-3-2

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: 75

**Mechanical Engineering Technology
 Credential: Associate in Applied Science in
 Mechanical Engineering Technology
 A40320**

A course of study that prepares the students to use basic engineering principles and technical skills to design, develop, test, and troubleshoot projects involving mechanical systems. Includes instruction in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, computer applications, critical thinking, planning and problem solving, and oral and written communications. Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians

may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

Program Length: 5 semesters
 Program Location: Lee Main Campus, Day

**Course Requirements for Mechanical Engineering
 Technology Degree:**

1. General Education (15 SHC) C-L-SHC
 ENG 111 Writing & Inquiry 3-0-3
 Communications – Take one course:
 COM-110 Introduction to Communications 3-0-3
 COM 120 Intro Interpersonal Com 3-0-3
 COM 231 Public Speaking 3-0-3
 ENG 112 Writing/Research in the Disc 3-0-3
 ENG 114 Prof Research & Reporting 3-0-3
 ENG 115 Oral Communication 3-0-3
 Mathematics – Take one course:
 MAT 121 Algebra/Trigonometry I 2-2-3
 MAT 171 Precalculus Algebra 3-2-4
 Humanities/Fine Arts requirement 3-0-3
 Social/Behavioral Science Requirement 3-0-3

2. Major Requirements (24 SHC)

DFT 151 CAD I 2-3-3
 DFT 154 Intro to Solid Modeling 2-3-3
 EGR 250 Statics/Strength of Mater 4-3-5
 HYD 110 Hydraulics/Pneumatics I 2-3-3
 MEC 161 Manufacturing Processes I 3-0-3
 MEC 180 Engineering Materials 2-3-3
 Physics – Take one course:
 PHY 131 Physics-Mechanics 3-2-4
 PHY 151 College Physics I 3-2-4

3. Other Major Requirements (31 SHC)

CIS 110 Introduction to Computers 2-2-3
 DDF 211 Design Process I 1-6-4
 DDF 212 Design Process II 1-6-4
 DFT 152 CAD II 2-3-3
 DFT 153 CAD III 2-3-3
 DFT 254 Intermed Solid Model/Render 2-3-3
 EGR 285 Design Project 0-4-2
 MEC 111 Machine Processes I 1-4-3
 MEC 275 Engineering Mechanisms 2-2-3
 Mathematics – Take one course:
 MAT 122 Algebra/Trigonometry II 2-2-3
 MAT 172 Precalculus Trigonometry 3-2-4

4. Other Requirements (1 SHC)

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

Total Semester Hours Credit required for graduation: 71

**Mechanical Engineering Technology
 Credential: Certificate in Mechanical
 Engineering Technology**

C40320

A course of study that prepares the students to use basic engineering principles and technical skills to design, develop, test, and troubleshoot projects involving mechanical systems. Includes instruction in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, computer applications, critical thinking, planning and problem solving, and oral and written communications. Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

Program Length: 2 semesters

Program Location: Lee Main Campus

Course Requirements for Mechanical Engineering Technology Certificate:**1. General Education (0 SHC)****2. Major Requirements (6 SHC)**

DFT-151	CAD I	2-3-3
DFT-154	Intro to Solid Modeling	2-3-3

3. Other Major Requirements (10 SHC)

DDF-211	Design Process I	1-6-4
MEC-111	Machine Processes I	1-4-3
DFT-152	CAD II	2-3-3

Total Semester Hours Credit required for graduation: 16

**Mechanical Engineering Technology
Credential: Certificate in Mechanical
Engineering Technology, Engineering Graphics
C40320EG**

A course of study that prepares the students to use basic engineering principles and technical skills to design, develop, test, and troubleshoot projects involving mechanical systems. Includes instruction in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, computer applications, critical thinking, planning and problem solving, and oral and written communications. Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

Program Length: 4 semesters

Program Location: Lee Main Campus

**Course Requirements for Mechanical Engineering
Technology, Engineering Graphics Certificate:****1. General Education (0 SHC)****2. Major Requirements (3 SHC)**

DFT-154	Intro to Solid Modeling	2-3-3
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3. Other Major Requirements (10 SHC)

DFT-153	CAD III	2-3-3
DDF-211	Design Process I	1-6-4
DFT-254	Intermed Solid Model/Render	2-3-3

Total Semester Hours Credit required for graduation: 13

Sustainability Technologies**Credential: Associate in Applied Science
Degree in Sustainability Technologies
A40370**

The Sustainability Technologies curriculum is designed to prepare individuals for employment in environmental, construction, alternative energy, manufacturing, or related industries, where key emphasis is placed on energy production and waste reduction along with sustainable technologies.

Course work may include alternative energy, environmental engineering technology, sustainable manufacturing and green building technology. Additional topics may include sustainability, energy management, waste reduction, renewable energy, site assessment, and environmental responsibility.

Graduates should qualify for positions within the alternative energy, construction, environmental, and/or manufacturing industries. Employment opportunities exist in both the government and private industry sectors where graduates may function as manufacturing technicians, sustainability consultants, environmental technicians, or green building supervisors.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Sustainability Technologies

Program sites: Chatham Main Campus

**Course Requirements for Sustainability Technologies
Degree****1. General Education Requirements (15 SHC) C-L-SHC**

ENG 111	Writing and Inquiry	3-0-3
	Humanities/Fine Arts Elective	3-0-3
	Social/Behavioral Science Elective	3-0-3
	Communications - Take one course:	
ENG 112	Writing/Research in the Disc	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
COM 110	Introduction to Communication	3-0-3
	Mathematics; Take one course:	