2016/2017 Lenoir Community College Catalog Addendum
July 27, 2016

On pages 196, remove statement "Program Under Review-Students Are Not Currently Being Accepted".

Mechanical Engineering Technology A40320

The Mechanical Engineering Technology curriculum prepares graduates for employment as technicians in the diversified mechanical and manufacturing engineering fields. Mechanical Engineering technicians assist in design, development, testing, process design and improvement, and troubleshooting and repair of engineered systems. Emphasis is placed on the integration of theory and hands-on application of engineering principles.

In addition to course work in engineering graphics, engineering fundamentals, materials and manufacturing processes, mathematics, and physics, students will study 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.

Mechanical Engineering Technology

Associate in Applied Science Degree A40320
(Revised 2014*03) Course and Hour Requirements

Title		Hours Class	Lab	Work Exp.	Credits
I. General Education: 15 Hours					
A. English: 6 Hours					
	ENG 111 Writing and Inquiry	3	0	0	3
and	ENG 112 Writing/Research in the Disc	3	0	0	3
or	ENG 113 Literature-Based Research	3	0	0	3
or	ENG 114 Prof Research & Reporting	3	0	0	3
B. Social/Behavioral Sciences: 3 Hours					
	Selected from the list of social/behavioral sciences electives for the Associate in Applied Science degree appearing in the current catalog.				
C. Humanities/Fine Arts Elective: 3 Hours					
	Selected from the list of humanities/fine arts electives for the Associate in Applied Science degree appearing in the current catalog.				
D. Natural Sciences/Math: 3 Hours selected from the following:					
	MAT 121 Algebra & Trigonometry	2	2	0	3
	MAT 171 Precalculus Algebra	3	2	0	4
II. Major Hours: 49 hours					
A. Core: 21 Hours					
	ATR 112 Intro to Automation	2	3	0	3
	DFT 119 Basic CAD	1	2	0	2
	ELC 131 Circuit Analysis I	4	3	0	5
	MAC 114 Intro to Metrology	2	0	0	2
	MEC 111 Machine Processes I	1	4	0	3
	MEC 161 Mfg Processes I 3	0	0	3	
	MEC 265 Fluid Mechanics	2	2	0	3
B. Other Major Hours: 28 hours					
1. Required Courses: 24 Hours					
	ATR 212 Industrial Robots	2	3	0	3
	DFT 120 Advanced CAD	1	2	0	2
	ELC 128 Intro to PLC	2	3	0	3
	ELN 231 Industrial Controls	2	3	0	3
	ISC 112 Industrial Safety	2	0	0	2
	MEC 112 Machine Processes II	2	3	0	3
	MEC 128 CNC Machining Processes	2	4	0	4
	MEC 181 Introduction to CIM	2	0	0	2
	WLD 112 Basic Welding Processes	1	3	0	2

2. Select 4 Hours from the following:				
ATR 282 Robotics and CIM	3	2	0	4
CET 111 Computer Upgrade/Repair I	2	3	0	3
MAC 121 Intro to CNC	2	0	0	2
MEC 130 Mechanisms	2	2	0	3
ISC 131 Quality Management	3	0	0	3
ISC 225 Facility Layout	3	2	0	4
ISC 221 Statistical Quality Control	3	0	0	3
WBL 111-112 Work-Based Learning I	0	0	10-20	1-2
WBL 121-122 Work-Based Learning II	0	0	10-20	1-2
WBL 131-132 Work-Based Learning III	0	0	10-20	1-2
III. Other Required Hours: 1 Hour				
ACA 111 College Student Success	1	0	0	1
Total Credits				**65**

Mechanical Engineering Technology

Diploma D40320

(Revised 2014*03) Course and Hour Requirements

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education: 6 Hours				
A. English: 3 Hours				
ENG 111 Writing and Inquiry	3	0	0	3
B. Natural Sciences/Math: 3 Hours selected from the following:				
MAT 121 Algebra & Trigonometry	2	2	0	3
MAT 171 Precalculus Algebra	3	2	0	4
II. Major Hours: 34 hours				
A. Core: 21 Hours				
ATR 112 Intro to Automation	2	3	0	3
DFT 119 Basic CAD	1	2	0	2
ELC 131 Circuit Analysis I	4	3	0	5
MAC 114 Intro to Metrology	2	0	0	2
MEC 111 Machine Processes I	1	4	0	3
MEC 161 Mfg Processes I 3	0	0	3	
MEC 265 Fluid Mechanics	2	2	0	3
B. Other Major Hours: 13 hours				
1. Required Courses: 8 Hours				
ATR 212 Industrial Robots	2	3	0	3
ELC 128 Intro to PLC	2	3	0	3
MEC 181 Introduction to CIM	2	0	0	2
2. Select 5 Hours from the following:				
ATR 282 Robotics and CIM	3	2	0	4
CET 111 Computer Upgrade/Repair I	2	3	0	3
MAC 121 Intro to CNC	2	0	0	2
MEC 130 Mechanisms	2	2	0	3
ISC 225 Facility Layout	3	2	0	4
ISC 221 Statistical Quality Control	3	0	0	3
WBL 111-112 Work-Based Learning I	0	0	10-20	1-2
WBL 121-122 Work-Based Learning II	0	0	10-20	1-2
WBL 131-132 Work-Based Learning III	0	0	10-20	1-2
WLD 112 Basic Welding Processes	1	3	0	2
III. Other Required Hours: 1 Hour				
ACA 111 College Student Success	1	0	0	1
Total Credits				**41**

Mechanical Engineering Technology

Robotics Skills Certificate C40320K

(Revised 2012*03) Course and Hour Requirements

Title		Hours Class	Lab	Work Exp.	Credits
I. General Education: 0 Hours					
II. Major Hours: 13 hours					
A. Core: 6 Hours					
ATR 112 Intro to Automation		2	3	0	3
MEC 161 Mfg Processes I	3	0	0	3	
B. Other Major Hours: 7 hours					
ATR 212 Industrial Robots		2	3	0	3
ATR 282 Robotics and CIM		3	2	0	4
Total Credits					**13**

Mechanical Engineering Technology

Electrical/Hydraulic Skills Certificate C40320K1

(Revised 2012*03) Course and Hour Requirements

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education: 0 Hours				
II. Major Hours: 14 hours				
A. Core: 8 Hours				
ELC 131 Circuit Analysis I	4	3	0	5
MEC 265 Fluid Mechanics	2	2	0	3
B. Other Major Hours: 6 hours				
ELC 128 Intro to PLC	2	3	0	3
ELN 231 Industrial Controls	2	3	0	3
Total Credits				**14**

Mechanical Engineering Technology

Mechanical Skills Certificate C40320K2

(Revised 2012*03) Course and Hour Requirements

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education: 0 Hours				
II. Major Hours: 12 hours				
A. Core: 2 Hours				
MAC 114 Intro to Metrology	2	0	0	2
B. Other Major Hours: 10 hours				
MAC 121 Intro to CNC	2	0	0	2
MEC 111 Machine Processes I	1	4	0	3
MEC 112 Machine Processes II	2	3	0	3
MEC 128 CNC Machining Processes	2	4	0	4
Total Credits				**14**

Mechanical Engineering Technology

Industrial & Design Skills Certificate C40320K3

(Revised 2012*03) Course and Hour Requirements

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education: 0 Hours				
II. Major Hours: 14 hours				
A. Core: 2 Hours				
DFT 119 Basic CAD	1	2	0	2
B. Other Major Hours: 12 hours				
DFT 120 Advanced CAD	1	2	0	2
ISC 131 Quality Management	1	2	0	2

ISC 225 Facility Layout	3	2	0	4
ISC 221 Statistical Quality Control	3	0	0	3
Total Credits				**14**

On pages 94, add the statement "Program Under Review-Students Are Not Currently Being Accepted".

AEROSTRUCTURE MANUFACTURING & REPAIR TECHNOLOGY A50450

Program Under Review-Students Are Not Currently Being Accepted

The Aerostructure Manufacturing & Repair Technology curriculum prepares individuals to fabricate, manufacture, assemble, repair, inspect, test, and manage the construction of aerostructures in an industrial setting. Students will learn about materials, production procedures, planning, costing, plant layout, software, quality control, aviation standards, and aerostructure assemblies. Emphasis will be placed on aerostructure construction techniques, manufacturing processes, composite manufacturing and repair, and Computerized Numerical Control (CNC) machining processes. Employment opportunities for graduates may be found in aerostructure manufacturing and other similar industries as project assembly and repair technicians, quality testers and inspectors, tooling technicians, composites specialist, fabricators, CNC machinists, project managers, and CAD technicians.

Aerostructure Manufacturing & Repair Technology

Associate in Applied Science Degree A50450

(Revised 2014*03) Course and Hour Requirements

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education Course: 15 Hours				
A. English: 6 Hours				
ENG 111 Writing and Inquiry	3	0	0	3
and ENG 112 Writing/Research in the Disc 3	0	0	3	
or ENG 114 Prof Research & Reporting	3	0	0	3
B. Social/Behavioral Science: 3 Hours				
PSY 150 General Psychology	3	0	0	3
or SOC 210 Introduction to Sociology	3	0	0	3
C. Humanities/Fine Arts: 3 Hours				
Selected from the list of humanities and fine arts electives for the Associate in Applied Science Degree appearing in the college catalog.				
D. Math/Natural Science: 3 Hours				
MAT 121 Algebra/Trigonometry I	2	2	0	3
or MAT 171 Precalculus Algebra	3	2	0	4
II. Major Courses: 53 Hours				
A. Core: 32 Hours				
ASM 110 Aerostructure Shop Prac	2	2	0	3
ASM 111 Aero Industry Standards	3	0	0	3
ASM 112 Aero Assembly Methods I	1	3	0	2
ASM 113 Aero Assembly Methods II	1	3	0	2
ASM 114 Aerostructure Composites	3	0	0	3
ASM 115 Composite Repair Proced	2	6	0	4
ASM 116 Composite Material Test	2	3	0	3
ASM 210 Computer-Aided 3D Appl	2	3	0	3
ASM 212 Aerostructure Join Mthds	2	3	0	3
ISC 112 Industrial Safety	2	0	0	2
MEC 128 CNC Machining Processes	2	4	0	4
B. Other Major Course: 21 Hours				
1. Required Courses: 12 Hours				
ASM 215 Aero Sheet Metal Structures	1	8	0	5
BPR 111 Print Reading	1	2	0	2
MEC 172 Intro to Metallurgy	2	2	0	3
MEC 181 Introduction to CIM	2	0	0	2

2. 9 Hours selected from the following				
BPR 121 Blue Print Reading: Mech	1	2	0	2
CIS 110 Introduction to Computers	2	2	0	3
CTS 130 Spreadsheet	2	2	0	3
ISC 170 Problem-Solving Skills	3	0	0	3
ISC 225 Facility Layout	3	2	0	4
PHY 131 Physics-Mechanics	3	0	0	3
WBL 111-112 Work-Based Learning I	0	0	10-20	1-2
WBL 121-122 Work-Based Learning II	0	0	10-20	1-2
WBL 131-132 Work-Based Learning III	0	0	10-20	1-2
III. Other Required Courses: 1 Hour				
ACA 111 College Student Success	1	0	0	1
Total Credits				**69**

Aerostructure Manufacturing & Repair Technology

Diploma D50450D

(Revised 2014*03) Course and Hour Requirements

Title	Hours Class	Lab	Exp.	Work Credits
I. General Education Courses: 6 Hours				
A. English: 3 Hours				
ENG 111 Writing and Inquiry	3	0	0	3
B. Math/Natural Science: 3 Hours				
MAT 121 Algebra/Trigonometry I	2	2	0	3
or MAT 171 Precalculus Algebra	3	2	0	4
II. Major Courses: 30 Hours				
A. Core:16 Hours				
ASM 110 Aerostructure Shop Prac	2	2	0	3
ASM 111 Aero Industry Standards	3	0	0	3
ASM 112 Aero Assembly Methods I	1	3	0	2
ASM 113 Aero Assembly Methods II	1	3	0	2
ISC 112 Industrial Safety	2	0	0	2
MEC 128 CNC Machining Processes	2	4	0	4
B. Other Major Courses:16 Hours				
ASM 114 Aerostructure Composites	3	0	0	3
ASM 115 Composite Repair Proced	2	6	0	4
ASM 116 Composite Material Test	2	3	0	3
ASM 210 Computer-Aided 3D Appl	2	3	0	3
ASM 212 Aerostructure Join Mthds	2	3	0	3
III. Other Required Courses: 1 Hour				
ACA 111 College Student Success	1	0	0	1
Total Credits				**39**

Aerostructure Manufacturing & Repair Technology

Composites Specialist Certificate C50450C1

2012*03 Course and Hour Requirements

Title	Hours Class	Lab	Exp.	Work Credits
I. General Education Courses: 0 Hours				
II. Major Courses: 13 Hours				
ASM 110 Aerostructure Shop Prac	2	2	0	3
ASM 114 Aerostructure Composites	3	0	0	3
ASM 115 Composite Repair Proced	2	6	0	4
ASM 116 Composite Material Test	2	3	0	3
Total Credits				**13**

Aerostructure Manufacturing & Repair Technology

Assembly Specialist Certificate C50450C2

(Revised 2013*03) Course and Hour Requirements

Title	Hours Class	Lab	Exp.	Work Credits
I. General Education Courses: 0 Hours				
II. Major Courses: 13 Hours				
ASM 110 Aerostructure Shop Prac	2	2	0	3
ASM 111 Aero Industry Standards	3	0	0	3
ASM 112 Aero Assembly Methods I	1	3	0	2
ASM 113 Aero Assembly Methods II	1	3	0	2
ASM 212 Aerostructure Join Mthds	2	3	0	3
Total Credits				**13**

Aerostructure Manufacturing & Repair Technology

Sheet Metal Specialist Certificate C50450C3

Course and Hour Requirements

Title	Hours Class	Lab	Exp.	Work Credits
I. General Education Courses: 0 Hours				
II. Major Courses: 13 Hours				
A. Core:8 Hours				
ASM 110 Aerostructure Shop Prac	2	2	0	3
ASM 111 Aero Industry Standards	2	3	0	3
ASM 112 Aero Assembly Methods I	1	3	0	2
B. Other Major Courses: 5 Hours				
ASM 215 Aero Sheet Metal Structures	1	8	0	5
Total Credits				**13**

On pages 231, add the statement "Program Under Review-Students Are Not Currently Being Accepted".

SUSTAINABILITY TECHNOLOGIES A40370

Pathway: Engineering and Technology

Program Under Review-Students Are Not Currently Being Accepted

The Sustainability Technologies curriculum is designed to prepare individuals for employment in environmental, construction, renewable energy, or related industries, where key emphasis is placed on energy production and waste reduction along with sustainable technologies. Course work may include renewable energy, green building technology, and environmental technologies. Additional topics may include sustainability, energy management, waste reduction, renewable energy, site assessment, and environmental responsibility. Graduates should qualify for positions within the renewable energy, construction, and/or environmental industries. Employment opportunities exist in both the government and private industry sectors where graduates may function as renewable energy technicians, sustainability consultants, environmental technicians, or green building supervisors.

Sustainability Technologies

Associate in Applied Science Degree A40370

Revised 2015*03 (Course and Hour Requirements)

Title	Hours Class	Lab	Work Exp.	Credits
I. General Education: 15 Hours				
A. English: 7 Hours				
ENG 111 Writing and Inquiry	3	0	0	3
ENG 112 Writing/Research in the Disc	3	0	0	3
B. Social/Behavioral Science: 3 Hours				
3 SHC Selected from the list of social/behavioral science electives for the Associate in Applied Science Degree appearing in the college catalog.				
C. Humanities/Fine Arts: 3 Hours				
3 SHC Selected from the list of humanities and fine arts electives for the Associate in Applied Science Degree appearing in the college catalog.				
D. Math/Natural Science: 3 Hours selected from the following:				
MAT 121 Algebra/Trigonometry I	2	2	0	3
or MAT 171 Precalculus Algebra	3	2	0	4
II. Major Courses: 55 Hours				
A. Core: 25 Hours				
Technical Core: 12 Hours				
BIO 140 Environmental Biology	3	0	0	3
SST 110 Intro to Sustainablity	3	0	0	3
SST 120 Energy Use Analysis	2	2	0	3
SST 210 Issues in Sustainablity	3	0	0	3
Track Requirement: 13 Hours				
CMT 120 Codes and Inspections	3	0	0	3
CST 111 Construction I	3	3	0	4
CST 150 Building Science	2	2	0	3
SST 140 Green Building Concepts	3	0	0	3
B. Other Major Courses: 30 Hours				
1. Required Courses: 24 Hours				
ALT 120 Renewable Energy Tech	2	2	0	3
ALT 250 Thermal Systems	2	2	0	3
BIO 140A Environmental Biology Lab	0	3	0	1
BPR 130 Print-Reading Construction	3	0	0	3
CST 112 Construction II	3	3	0	4
CST 131 OSHA/Safety/Certification	2	2	0	3
ELC 113 Residential Wiring	2	6	0	4
ELC 220 Photovoltaic Sys Tech	2	3	0	3
2. Required Electives: 6 Hours selected from the following:				
AHR 211 Residential System Design	2	2	0	3
CIS 110 Introduction to Computers	2	2	0	3

	CMT 210 Construction Management Fund	3	0	0	3
	CST 211 Construction Surveying	2	3	0	3
	CST 241 Planning/Estimating I	2	2	0	3
	PLU 115 Basic Plumbing	2	6	0	4
	SST 250 Sustain Capstone Projects	1	6	0	3
	WBL 111-112 Work-Based Learning I	0	0	10-20	1-2
	WBL 121-122 Work-Based Learning II	0	0	10-20	1-2
III. Other Required Courses: 2 Hours					
	ACA 111 College Student Success	1	0	0	1
	WBL 110 World of Work	1	0	0	1
	Total Credits				**72**

Sustainability Technologies

Renewable Energy Diploma D40370D1

(Revised 2015*03) Course and Hour Requirements

Title		Class	Lab	Exp.	Credits
I. General Education: 6 Hours					
A.English: 3 Hours					
	ENG 111 Writing and Inquiry	3	0	0	3
B.Math/Natural Science: 3 Hours					
	MAT 121 Algebra/Trigonometry I	2	2	0	3
or	MAT 171 Precalculus Algebra	3	2	0	4
II. Major Courses: 32 Hours					
A. Core: 12 Hours					
	Technical Core: 12 Hours				
	BIO 140 Environmental Biology	3	0	0	3
	SST 110 Intro to Sustainability	3	0	0	3
	SST 120 Energy Use Analysis	2	2	0	3
	SST 210 Issues in Sustainability	3	0	0	3
B. Other Major Courses: 20 Hours					
1. Required Courses: 17 Hours					
	ALT 120 Renewable Energy Tech	2	2	0	3
	ALT 250 Thermal Systems	2	2	0	3
	BIO 140A Environmental Biology Lab	0	3	0	1
	ELC 113 Residential Wiring 2	6	0	4	
	ELC 220 Photovoltaic Sys Tech 2	3	0	3	
	SST 140 Green Bldg & Design Concepts	1	3	0	2
2. Required Electives: 3 Hours selected from the following:					
	CIS 110 Introduction to Computers	2	2	0	3
	CMT 210 Construction Management Fund	3	0	0	3
	CST 131 OSHA/Safety/Certification	2	2	0	3

Sustainability Technologies D40370D1 (Continued)

Title		Hours Class	Lab	Work Exp.	Credits
	CST 211 Construction Surveying	2	3	0	3
	CST 241 Planning/Estimating I	2	2	0	3
	WBL 111-112 Work-Based Learning I	0	0	10-20	1-2
III. Other Required Courses: 1 Hour					
	ACA 111 College Student Success	1	0	0	1
	Total Credits				**39**

Sustainability Technologies

Green Building Diploma D40370D2

(Revised 2015*03) Course and Hour Requirements

Title		Class	Lab	Exp.	Credits
I. General Education: 7 hours					
A. English: 3 Hours					
	ENG 111 Writing and Inquiry	3	0	0	3
B. Math/Natural Science: 4 Hours					

MAT 171 Precalculus Algebra	3	2	0	4

II. Major Hours: 29 hours

A. Core: 10 Hours

Technical Core: 3 Hours

SST 110 Intro to Sustainability	3	0	0	3

Track Requirement: 7 Hours

SST 140 Green Bldg & Design Concepts	3	0	0	3
CST 111 Construction I	3	3	0	4

B. Other Major Courses: 19 Hours

1. Required Courses: 16 Hours

BPR 130 Print-Reading Construction	3	0	0	3
CST 112 Construction II	3	3	0	4
CST 131 OSHA/Safety/Certification	2	2	0	3
ELC 113 Residential Wiring	2	6	0	4
SST 120 Energy Use Analysis	2	2	0	3

2. Required Electives: 3 Hours

ALT 120 Renewable Energy Tech	2	2	0	3

III. Other Required Courses: 1 Hour

ACA 111 College Student Success	1	0	0	1
Total Credits				**37**

*This diploma has been identified as a pathway for high school students participating in the Career and College Promise initiative.