Addendum
2023-2024 College Catalog

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Automotive Manufacturing and Automation

Automotive Manufacturing & Automation

Program Information

Competitive business models, engineering designs, and integrated manufacturing systems are creating great career and employment opportunities for well-prepared students. New ideas for products require new systems that integrate mechanics, electronics, electrical, information technology, and outstanding people. Socio-technical processes are constantly increasing in complexity, efficiency, and effectiveness delivering continuously improved products.

Manufacturing & Automation is a rapidly growing industry with high demand for skilled workers. Trenholm State offers leading-edge programs to prepare students to become the Multi-Craft Technicians that the diverse and dynamic manufacturing industry is seeking. Students may choose from critical technology programs such as metrology, welding, electrical, programmable logic controllers, machine tool, troubleshooting assembly lines, and robotics maintenance. Our instructors are well-prepared and know how to address the diverse learning styles of today's students. Our lab facilities include relevant, up-to-date modern equipment, enriching the student learning environment. The students work on specific lab projects that enhance their lectures and reading assignments, ensuring a total learning experience.

The Multi-Craft Technician is responsible for setup, installation, preventive maintenance, troubleshooting, as well as test and repair of complex electro-mechanical equipment, including automatic machines and process controls, motor control systems, computer control systems, human/machine interface systems, and basic plant electrical equipment systems. At Trenholm State, the Manufacturing & Automation program equips students with the skills and technical knowledge needed for success in this interesting and growing field.

Occupational Choices

Manufacturing & Automation graduates should find exceptional job opportunities in this field. As the economy grows, the demand for skilled andqualified Multi-Craft employees will increase. Demand for technicians will grow as the number of vehicles in operation increases, reflectingcontinued growth in the number of multi-car families. Growth in demand will be offset somewhat by slowing population growth and the continuingincrease in the quality and durability of automobiles, which will require less frequent service. Additional job openings will be due to the need to replace a growing number of retiring technicians, who tend to be the most experienced workers.

Source: Bureau of Labor and Statistics Occupational Outlook Handbook, 2019-2029 Edition, 2021 Survey.

Program Contact

Danny Carden

334-420-4385

Location: Patterson Site - Bldg. Q

As part of ongoing planning and evaluation, the College regularly evaluates student learning outcomes for each program.

Estimated Program Length & Cost *

Award	Length	Credit Hours	Tuition/ Fees	Books	Tools Supplies
Associate Degree 1	6 Terms	69	$11,109	$1000	$500 $0
Associate Degree 2	6 Terms	71	$11,431	$1000	$500 $0
Certificate 1	5 Terms	53	$8,533	$850	$500 $0
Certificate 2	5 Terms	56	$9,016	$850	$500 $0

Short Term Certificate (2)	3 Terms	12	$1,956	$600	$500 $0
Short Term Certificate (2)	3 Terms	18	$2,898	$600	$500 $0

* Tax not included. Prices are subject to change without prior notice; cost of books may vary considerably among suppliers. Cost of general education books is in addition to the total listed above. The length of the program is based on full-time status of 12-15 credit hours per term. Enrollment in transitional level general education courses will alter the length of the program.

Automotive/Advanced Manufacturing - Automotive Manufacturing and Automation AAS

Degree Type

AAS

General Education Requirements (16 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area II - Humanities & Fine Arts (3 hours)

(Humanities and Arts disciplines include but are not limited to: Area/Ethnic Studies, Art and Art History, Foreign Languages, Music and Music History, Philosophy, Ethics, Religious Studies, Theater and Dance.)

Note: If SPH-106, SPH-107, SPA-101 or SPA-102 has been taken an additional 3 semester hours in Humanities and Fine Arts must be taken to satisfy requirements in Area II.

Arts:

Course Code	Title	Credits
ART-100	Art Appreciation	3
MUS-101	Music Appreciation	3

Humanities:

Course Code	Title	Credits
PHL-106	Introduction to Philosophy	3
PHL-206	Ethics and Society	3
REL-100	History of World Religions	3
REL-151	Survey of the Old Testament	3
REL-152	Survey of the New Testament	3
SPA-101	Introductory Spanish I	3
SPA-102	Introductory Spanish II	3
SPH-106	Fundamentals of Oral Communication	3
SPH-107	Fundamentals of Public Speaking	3

Literature:

Course Code	Title	Credits
ENG-251	American Literature I	3
ENG-252	American Literature II	3
ENG-261	English Literature I	3
ENG-262	English Literature II	3
ENG-271	World Literature I	3
ENG-272	World Literature II	3

Area III - Natural Science & Mathematics (6 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area IV - History, Social & Behavioral Sciences (3 hours):

(Social and Behavioral Sciences include, but are not limited to: Anthropology, Economics, Geography, Political Science, Psychology, and Sociology.)

Note: Must complete 3 semester hours.

History:

Course Code	Title	Credits
HIS-101	Western Civilization I	3
HIS-102	Western Civilization II	3
HIS-121	World History I	3
HIS-122	World History II	3
HIS-201	United States History I	3
HIS-202	United States History II	3

Social and Behavioral Sciences:

Course Code	Title	Credits
PSY-200	General Psychology	3
PSY-210	Human Growth and Development	3
SOC-200	Introduction to Sociology	3
POL-200	Introduction to Political Science	3
POL-211	American National Government	3

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-110	Blueprint Reading	3
ADM-111	Manufacturing Safety Practices	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-292	MSSC Quality Practices/ Measurements	3
ADM-293	MSSC Manufacturing Processes/Practices	3
ADM-294	MSSC Maintenance Awareness Course	3
AUT-114	Programmable Logic Controllers	3
AUT-116	Introduction to Robotics	3
AUT 186	Principles of Industrial Maintenance Welding & Metal Cutting Techniques	3
AUT-221	Advanced Programmable Logic Controllers	3
AUT-230	Preventive Maintenance	3
AUT-234	Industrial Motor Controls I	3
AUT-278	Robotic Programming and Welding	3
AUT-286	Co-Op	1
	Total Credits	**68**

Automotive Manufacturing and Automation – Maintenance Technician AAS

Degree Type
AAS

General Education Requirements (15 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area II - Humanities & Fine Arts (3 hours)

(Humanities and Arts disciplines include but are not limited to: Area/Ethnic Studies, Art and Art History, Foreign Languages, Music and Music History, Philosophy, Ethics, Religious Studies, Theater and Dance.)

Note: If SPH-106, SPH-107, SPA-101 or SPA-102 has been taken an additional 3 semester hours in Humanities and Fine Arts must be taken to satisfy requirements in Area II.

Arts:

Course Code	Title	Credits
ART-100	Art Appreciation	3
MUS-101	Music Appreciation	3

Humanities:

Course Code	Title	Credits
PHL-106	Introduction to Philosophy	3
PHL-206	Ethics and Society	3
REL-100	History of World Religions	3
REL-151	Survey of the Old Testament	3
REL-152	Survey of the New Testament	3
SPA-101	Introductory Spanish I	3
SPA-102	Introductory Spanish II	3
SPH-106	Fundamentals of Oral Communication	3
SPH-107	Fundamentals of Public Speaking	3

Literature:

Course Code	Title	Credits
ENG-251	American Literature I	3
ENG-252	American Literature II	3
ENG-261	English Literature I	3
ENG-262	English Literature II	3
ENG-271	World Literature I	3
ENG-272	World Literature II	3

Area III - Natural Science & Mathematics (6 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area IV - History, Social & Behavioral Sciences (3 hours):

(Social and Behavioral Sciences include, but are not limited to: Anthropology, Economics, Geography, Political Science, Psychology, and Sociology.)

Note: Must complete 3 semester hours.

History:

Course Code	Title	Credits
HIS-101	Western Civilization I	3
HIS-102	Western Civilization II	3
HIS-121	World History I	3
HIS-122	World History II	3
HIS-201	United States History I	3
HIS-202	United States History II	3

Social and Behavioral Sciences:

Course Code	Title	Credits
PSY-200	General Psychology	3
PSY-210	Human Growth and Development	3
SOC-200	Introduction to Sociology	3
POL-200	Introduction to Political Science	3
POL-211	American National Government	3

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-105	Fluid Systems	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-292	MSSC Quality Practices/ Measurements	3
ADM-293	MSSC Manufacturing Processes/Practices	3
ADM-294	MSSC Maintenance Awareness Course	3
AUT-114	Programmable Logic Controllers	3
AUT-116	Introduction to Robotics	3
AUT-138	Principles of Industrial Mechanics	3
AUT-150	Introduction to Machine Shop I	3
AUT-151	Introduction to Machine Shop I Lab	3
AUT-186	Principles of Ind Maintenance Wdt & Metal Cutting Techniques	3
AUT-208	Auto Systems Diagnosis & Troubleshooting	3
AUT-234	Industrial Motor Controls I	3
AUT-235	Industrial Motor Controls II	3
AUT-251	Intro to Variable Frequency Drives & Servo Controls	3
AUT-278	Robotic Programming and Welding	3
AUT-286	Co-Op	1
	Total Credits	**71**

Automotive Manufacturing and Automation - Certificate

Degree Type
CER

General Education Requirements (6 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area III - Natural Science & Mathematics (3 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area V: Pre-Professional/College Requirements

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-110	Blueprint Reading	3
ADM-111	Manufacturing Safety Practices	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-292	MSSC Quality Practices/ Measurements	3
AUT-114	Programmable Logic Controllers	3
AUT-116	Introduction to Robotics	3
AUT-178	Gas Tungsten Arc Welding	3
AUT-180	Gas Tungsten Arc Welding Lab	3
AUT-221	Advanced Programmable Logic Controllers	3
AUT-230	Preventive Maintenance	3
AUT-234	Industrial Motor Controls I	3
AUT-286	Co-Op	1
	Total Credits	**53**

Automotive Manufacturing and Automation – Maintenance Technician Certificate

Degree Type
CER

General Education Requirements (6 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area III - Natural Science & Mathematics (3 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area V: Pre-Professional/College Requirements

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-292	MSSC Quality Practices/ Measurements	3
ADM-293	MSSC Manufacturing Processes/Practices	3
ADM-294	MSSC Maintenance Awareness Course	3
AUT-114	Programmable Logic Controllers	3
AUT-116	Introduction to Robotics	3
AUT-138	Principles of Industrial Mechanics	3
AUT-208	Auto Systems Diagnosis & Troubleshooting	3
AUT-234	Industrial Motor Controls I	3
AUT-235	Industrial Motor Controls II	3
AUT-251	Intro to Variable Frequency Drives & Servo Controls	3
AUT-278	Robotic Programming and Welding	3
AUT-286	Co-Op	1
	Total Credits	**56**

Automotive Manufacturing and Automation - Manufacturing Maintenance Technician II STC

Degree Type
STC

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ADM-292	MSSC Quality Practices/ Measurements	3
AUT-116	Introduction to Robotics	3
AUT-138	Principles of Industrial Mechanics	3
AUT-208	Auto Systems Diagnosis & Troubleshooting	3
AUT-235	Industrial Motor Controls II	3
AUT-278	Robotic Programming and Welding	3
	Total Credits	**18**

Automotive Manufacturing and Automation - Manufacturing Maintenance Technician I STC

Degree Type
STC

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ADM-105	Fluid Systems	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
AUT-114	Programmable Logic Controllers	3
AUT-234	Industrial Motor Controls I	3
AUT-251	Intro to Variable Frequency Drives & Servo Controls	3
	Total Credits	**18**

Automotive Manufacturing and Automation - Manufacturing Technician STC

Degree Type
STC

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ADM-101	Precision Measurement	3
ADM-106	Quality Control Concepts	3
ADM-111	Manufacturing Safety Practices	3
ADM-155	Manufacturing Projects	3
	Total Credits	**12**

Automotive Manufacturing and Automation – Certified Production Technician STC

Degree Type
STC

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ADM-291	MSSC Safety Course	3
ADM-292	MSSC Quality Practices/ Measurements	3
ADM-293	MSSC Manufacturing Processes/Practices	3
ADM-294	MSSC Maintenance Awareness Course	3
	Total Credits	**12**

ADM-101: Precision Measurement

This course covers the use of precision measurement instruments utilized in inspection. In addition, basic print reading techniques reverse engineering, and related industry standards required in advanced manufacturing disciplines are covered. Upon completion, students should be able to demonstrate correct use of precision measuring instruments, interpret basic prints and apply basic reverse engineering techniques.
Credits 3
Prerequisites
As determined by college.

ADM-105: Fluid Systems

This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems.
Credits 3
Prerequisites
As determined by college.

ADM-106: Quality Control Concepts

This course provides an overview of the materials and processes and quality assurance topics used in commercial and specialized manufacturing products. Emphasis is placed on process evaluation techniques that can be extrapolated to other system areas such as new products and new technology. Emphasis is also placed on quality assurance including the history of the quality movement, group problem solving, and statistical methods such as statistical process control (SPC), process capability studies, and the concepts associated with lean manufacturing.
Credits 3
Prerequisites
As determined by college

ADM-110: Blueprint Reading

This course is designed to provide students with a comprehensive understanding of blueprint reading. Topics include identifying types of lines and symbols used in mechanical drawings, recognition and interpretation of various types of views, tolerance, and dimensions.
Credits 3
Prerequisites
As determined by college.

ADM-111: Manufacturing Safety Practices

This course is an introduction to general issues, concepts, procedures, hazards, and safety standards found in an industrial environment. This safety course is to make technicians aware of safety issues associated with their changing work environment and attempt to eliminate industrial accidents. This course will offer credentialing for NCCER Core and OSHA 10 hour.
Credits 3
Prerequisites
As determined by college.

ADM-120: DC Fundamentals

This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, resistance, electrical sources, power, inducers and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities. CORE
Credits 3
Prerequisites
None

ADM-121: AC Fundamentals

This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands-on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals, such as RLC circuits, impedance, phase relationships and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing and maintaining industrial AC systems. This is a CORE course.

Credits 3

Prerequisites

AUT-110

ADM-155: Manufacturing Projects

This is an introduction to project base learning. This course will involve research, team skills, the collaboration of trades, outsourcing, manufacturing management that emphasizes synthesis through collaborative learning. Students integrate and apply previous knowledge, skills, and experiences they learned in their major and other academic courses to complete individual & team-based projects. The course emphasizes communication skills, critical thinking, problem-solving, computer literacy, and teaming skills.

Credits 3

Prerequisites

As determined by college

ADM-291: MSSC Safety Course

This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics covered include: work in a safe and productive manufacturing workplace, perform safety and environmental inspections, perform emergency drills and participate in emergency teams, identify unsafe conditions and take corrective action, provide safety orientation for all employees, train personnel to use equipment safely, suggest process and procedures that support safety of work environment, fulfill safety and health requirements for maintenance, installation and repair, monitor safe equipment and operator performance, utilize effective, safety-enhancing workplace practices

Credits 3

Prerequisites

None

ADM-292: MSSC Quality Practices/Measurements

This course is designed to provide students with knowledge and skills related to quality practices and measurement in a manufacturing environment. Topics covered include participate in periodic internal quality audit activities; check calibration of gages and other data collection equipment; suggest continuous improvements; inspect materials and product/process at all stages to ensure they meet specifications; document the results of quality problems; communicate quality problems; take corrective actions to restore or maintain quality; record process outcomes and trends; identify fundamentals of blueprint reading; use common measurement systems and precision measurement tools. This course is equivalent to ADM 106 and WKO 132. Students completing this course will receive an MSSC certificate in quality practices and measurement. Students completing courses ADM 291, 292, 293 and 294 will receive the Certified Production Technician credential.

Credits 3

Prerequisites

ADM-291: MSSC Safety Course

ADM-293: MSSC Manufacturing Processes/Practices

This course is designed to provide students with knowledge and skills related to manufacturing processes and production in a manufacturing environment. Topics covered include identify customer needs; determine resources available for the production process; set up equipment for the production process; set team production goals; make job assignments; coordinate work flow with team members and other work groups; communicate production and material requirements and product specifications; perform and monitor the process to make the product; document product and process compliance with customer requirements; prepare final product for shipping or distribution. This course is equivalent to AUT 144 and WKO 133. Students completing this course will receive an MSSC certificate in manufacturing processes and production. Students completing courses ADM 291, 292, 293 and 294 will receive the Certified Production Technician credential.

Credits 3

Prerequisites

ADM-291: MSSC Safety Course

ADM-294: MSSC Maintenance Awareness Course

This course is designed to provide students with knowledge and skills related to maintenance awareness in a manufacturing environment. Topics covered include prepare preventative maintenance and routine repair, monitor indicators to ensure correct operations, perform all housekeeping to maintain production schedule, recognize potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with: electrical systems, pneumatic systems, hydraulic systems, machine automation systems, lubrication systems, bearings and couplings.

Credits 3

Prerequisites

ADM-291: MSSC Safety Course

AUT-114: Programmable Logic Controllers

This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs. This is a CORE course.

Credits 3

Prerequisites

As determined by college

Corequisites

As determined by college

AUT-116: Introduction to Robotics

This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.

Credits 3

Prerequisites

As determined by college

Corequisites

As determined by college

AUT-138: Principles of Industrial Mechanics

This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, students will be able to perform basic troubleshooting, repair and maintenance functions on industrial production equipment.

Credits 3

AUT-150: Introduction to Machine Shop I

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.
Credits 3
Prerequisites
AUT-104 or AUT-166
Corequisites
AUT-151

AUT-151: Introduction to Machine Shop I Lab

This course provides practical application of the concepts and principles of machining operations learned in AUT 150. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.
Credits 3
Prerequisites
None
Corequisites
AUT-150: Introduction to Machine Shop I

AUT-178: Gas Tungsten Arc Welding

This course provides student with knowledge needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.
Credits 3
Prerequisites
None
Corequisites
AUT-180

AUT-180 : Gas Tungsten Arc Welding Lab

This course provides student with skills needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.
Credits 3
Prerequisites
None
Corequisites
AUT-178: Gas Tungsten Arc Welding

AUT-186: Principles of Ind Maintenance Wdt & Metal Cutting Techniques

This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment.
Credits 3
Prerequisites
None
Corequisites
AUT-178

AUT-208: Auto Systems Diagnosis & Troubleshooting

This course focuses on systematically solving problems in automated systems. Emphasis is placed on safety, test equipment, basic troubleshooting techniques and hands on problem solving. Upon completion, students will be able to use a systematic process to solve complex malfunctions.

Credits 3
Prerequisites
As determined by college
Corequisites
As determined by college

AUT-221: Advanced Programmable Logic Controllers

This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.
Credits 3
Prerequisites
None

AUT-230: Preventive Maintenance

This course focuses on the concepts and applications of preventive maintenance. Topics include the introduction of alignment equipment, job safety, tool safety, preventive maintenance concepts, procedures, tasks, and predictive maintenance concepts. Upon course completion, students will demonstrate the ability to apply proper preventive maintenance and explain predictive maintenance concepts.
Credits 3
Prerequisites
None

AUT-234: Industrial Motor Controls I

This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.
Credits 3
Prerequisites
As determined by college

AUT-235: Industrial Motor Controls II

This course covers complex ladder diagrams of motor control circuits and the uses of different motor starting techniques. Topics include wye-delta starting, part start winding, resistor starting and electronic starting devices. Upon completion, the students should be able to understand and interpret the more complex motor control diagrams and understand the different starting techniques of electrical motors.

Credits 3
Prerequisites
As determined by college.

AUT-251: Intro to Variable Frequency Drives & Servo Controls

This course provides an introduction to variable frequency drives (VFD) and servo drive technology. Topics include the purpose of VFDs, general operating principles, analog and digital servo drives, and characteristics of practical servo systems. The Lab enables students to program, test, and run drives and motors. The removal and replacement of servo drives will also be discussed. Upon completion students will be able to apply principles of VFD and servo drives.
Credits 3
Prerequisites
As determined by college

AUT-278: Robotic Programming and Welding

This program introduces students to the safety and programming associated with robotic welding technology. Topics include robotic weld station familiarity, safety, robotic motions, programming, and welding inspection. Upon completion, the student should be able to setup and program a robot to weld parts in an efficient and safe manner.
Credits 3
Prerequisites
As determined by college
Corequisites
As determined by college

AUT-286: Co-Op

These courses constitute a series wherein the student works on a part-time basis in a job directly related to advanced manufacturing. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 1
Prerequisites
As determined by program

Industrial Systems and Automation Instrumentation

Industrial Systems and Automation - Instrumentation AAS

Degree Type
AAS
General Education Requirements (15 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area II - Humanities & Fine Arts (3 hours)

(Humanities and Arts disciplines include but are not limited to: Area/Ethnic Studies, Art and Art History, Foreign Languages, Music and Music History, Philosophy, Ethics, Religious Studies, Theater and Dance.)

Note: If SPH-106, SPH-107, SPA-101 or SPA-102 has been taken an additional 3 semester hours in Humanities and Fine Arts must be taken to satisfy requirements in Area II.

Arts:

Course Code	Title	Credits
ART-100	Art Appreciation	3
MUS-101	Music Appreciation	3

Humanities:

Course Code	Title	Credits
PHL-106	Introduction to Philosophy	3
PHL-206	Ethics and Society	3
REL-100	History of World Religions	3
REL-151	Survey of the Old Testament	3
REL-152	Survey of the New Testament	3
SPA-101	Introductory Spanish I	3
SPA-102	Introductory Spanish II	3
SPH-106	Fundamentals of Oral Communication	3
SPH-107	Fundamentals of Public Speaking	3

Literature:

Course Code	Title	Credits
ENG-251	American Literature I	3
ENG-252	American Literature II	3
ENG-261	English Literature I	3
ENG-262	English Literature II	3
ENG-271	World Literature I	3
ENG-272	World Literature II	3

Area III - Natural Science & Mathematics (6 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area IV - History, Social & Behavioral Sciences (3 hours):

(Social and Behavioral Sciences include, but are not limited to: Anthropology, Economics, Geography, Political Science, Psychology, and Sociology.)

Note: Must complete 3 semester hours.

History:

Course Code	Title	Credits
HIS-101	Western Civilization I	3
HIS-102	Western Civilization II	3
HIS-121	World History I	3
HIS-122	World History II	3
HIS-201	United States History I	3
HIS-202	United States History II	3

Social and Behavioral Sciences:

Course Code	Title	Credits
PSY-200	General Psychology	3
PSY-210	Human Growth and Development	3
SOC-200	Introduction to Sociology	3
POL-200	Introduction to Political Science	3
POL-211	American National Government	3

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-110	Blueprint Reading	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-294	MSSC Maintenance Awareness Course	3
ELT-119	Concepts of Solid-State Electronics	5
ILT-110	Advanced Industrial Process Control Technology	3
ILT-114	Instrumentation Operation and Calibration	3
INT-105	Introduction to Process Technology	3
INT-113	Industrial Motor Control I	3
INT-184	Intro to Programmable Logic Controllers	3
INT-206	Industrial Motors I	3
INT-215	Troubleshooting Techniques	3
INT-288	Applied Prin of Programmable Controllers	3
INT-296	Co-Op	1
	Total Credits	**67**

Industrial Systems and Automation - Instrumentation Certificate

Degree Type
CER

General Education Requirements (6 hours)

Area I - Written Composition (3 hours)

Course Code	Title	Credits
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

Area III - Natural Science & Mathematics (3 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

Note: 3 semester hours in MTH must be completed. Additional hours can be taken in the Natural Science area.

Mathematics:

Course Code	Title	Credits
MTH-100	Intermediate College Algebra	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

Natural Sciences:

Course Code	Title	Credits
BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science	4
PHS-112	Physical Science	4
PHY-120	Introduction to Physics	4

Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ORI-101	Orientation to College	1
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-110	Blueprint Reading	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ADM-291	MSSC Safety Course	3
ADM-294	MSSC Maintenance Awareness Course	3
ELT-119	Concepts of Solid-State Electronics	5
ILT-110	Advanced Industrial Process Control Technology	3
ILT-114	Instrumentation Operation and Calibration	3
INT-105	Introduction to Process Technology	3
INT-113	Industrial Motor Control I	3
INT-184	Intro to Programmable Logic Controllers	3
INT-206	Industrial Motors I	3
INT-215	Troubleshooting Techniques	3
INT-288	Applied Prin of Programmable Controllers	3
INT-296	Co-Op	1
	Total Credits	**58**

Automotive/Advanced Manufacturing Industrial Systems and Automation – Mechanical Technician STC

Degree Type
STC

Area V: Pre-Professional/College Requirements

(Courses appropriate to the degree requirements and major of the individual student and electives.)

Course Code	Title	Credits
ADM-101	Precision Measurement	3
ADM-105	Fluid Systems	3
ADM-110	Blueprint Reading	3
ADM-111	Manufacturing Safety Practices	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ILT-114	Instrumentation Operation and Calibration	3
INT-215	Troubleshooting Techniques	3
	Total Credits	**24**

Automotive/Advanced Manufacturing Industrial Systems and Automation – Instrumentation Technician STC

Degree Type

STC

Course Code	Title	Credits
ADM-105	Fluid Systems	3
ADM-111	Manufacturing Safety Practices	3
ADM-120	DC Fundamentals	3
ADM-121	AC Fundamentals	3
ELT-119	Concepts of Solid-State Electronics	5
ILT-110	Advanced Industrial Process Control Technology	3
ILT-114	Instrumentation Operation and Calibration	3
INT-105	Introduction to Process Technology	3
	Total Credits	**26**

ADM-101: Precision Measurement

This course covers the use of precision measurement instruments utilized in inspection. In addition, basic print reading techniques reverse engineering, and related industry standards required in advanced manufacturing disciplines are covered. Upon completion, students should be able to demonstrate correct use of precision measuring instruments, interpret basic prints and apply basic reverse engineering techniques.
Credits 3
Prerequisites
As determined by college.

ADM-105: Fluid Systems

This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems.
Credits 3
Prerequisites
As determined by college.

ADM-110: Blueprint Reading

This course is designed to provide students with a comprehensive understanding of blueprint reading. Topics include identifying types of lines and symbols used in mechanical drawings, recognition and interpretation of various types of views, tolerance, and dimensions.
Credits 3
Prerequisites
As determined by college.

ADM-111: Manufacturing Safety Practices

This course is an introduction to general issues, concepts, procedures, hazards, and safety standards found in an industrial environment. This safety course is to make technicians aware of safety issues associated with their changing work environment and attempt to eliminate industrial accidents. This course will offer credentialing for NCCER Core and OSHA 10 hour.
Credits 3
Prerequisites
As determined by college.

ADM-120: DC Fundamentals

This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, resistance, electrical sources, power, inducers and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities. CORE
Credits 3
Prerequisites
None

ADM-121: AC Fundamentals

This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands-on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals, such as RLC circuits, impedance, phase relationships and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing and maintaining industrial AC systems. This is a CORE course.

Credits 3

Prerequisites

AUT-110

ADM-291: MSSC Safety Course

This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics covered include: work in a safe and productive manufacturing workplace, perform safety and environmental inspections, perform emergency drills and participate in emergency teams, identify unsafe conditions and take corrective action, provide safety orientation for all employees, train personnel to use equipment safely, suggest process and procedures that support safety of work environment, fulfill safety and health requirements for maintenance, installation and repair, monitor safe equipment and operator performance, utilize effective, safety-enhancing workplace practices

Credits 3

Prerequisites

None

ADM-294: MSSC Maintenance Awareness Course

This course is designed to provide students with knowledge and skills related to maintenance awareness in a manufacturing environment. Topics covered include prepare preventative maintenance and routine repair, monitor indicators to ensure correct operations, perform all housekeeping to maintain production schedule, recognize potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with: electrical systems, pneumatic systems, hydraulic systems, machine automation systems, lubrication systems, bearings and couplings.

Credits 3

Prerequisites

ADM-291: MSSC Safety Course

ELT-119: Concepts of Solid-State Electronics

This course is an introduction to semiconductor fundamentals and applications to the electronic devices. Course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices.

Credits 5

Prerequisites

None.

ILT-110: Advanced Industrial Process Control Technology

This course is an advanced study of the principles governing methods of using process variables in the control of industrial processes. The study includes methods and procedures for measuring, displaying and transmitting process variables according to industry standards. The course also includes an in-depth study of mathematics pertaining to industrial control instruments.

Credits 3

Prerequisites

As required by program.

ILT-114: Instrumentation Operation and Calibration

The hardware used to measure and control process variables is presented. The student learns the principles of operation, servicing, maintenance, calibration, and troubleshooting procedures used on mechanical, pneumatic, electronic and digital based industrial transmitters, recorders, controllers, valves, and other control devices. The course is broken down into theory and laboratory work on actual process measuring and control equipment.
Credits 3
Prerequisites
As determined by college.

INT-105: Introduction to Process Technology

This course is designed to provide students with an introduction to process control technology and various instruments used to control processes. Upon completion, students should be able to comprehend principles of process control technology and the application of various instruments used to control processes in an industrial setting.
Credits 3
Prerequisites
As required by college.

INT-113: Industrial Motor Control I

This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.
Credits 3
Prerequisites
None

INT-184: Intro to Programmable Logic Controllers

This course introduces programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs. This course is also taught as AUT-114, ATM-211, ENT-204, ELT-231, ILT-194, IAT-160, and IET-231.
Credits 3
Prerequisites
None

INT-206: Industrial Motors I

This course focuses on basic information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform routine maintenance on various types of motors.
Credits 3
Prerequisites
None

INT-215: Troubleshooting Techniques

This course is designed to allow students an opportunity to study directly related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is place on the application of skills and knowledge with practical experiences. Upon, completion, students should be able to solve job related problems using technical skills and knowledge.
Credits 3
Prerequisites
None

INT-288: Applied Prin of Programmable Controllers

This course provides a comprehensive study in the theory and application of specific models of programmable logic controllers. Topics include hardware configuration, memory and addressing detail function of software, instruction types, system troubleshooting, and simple programming techniques.
Credits 3
Prerequisites
None

INT-296: Co-Op

These courses constitute a series wherein the student works on a part-time basis in a job directly related to Industrial Maintenance. In these courses the employer evaluates the student's productivity, and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 1
Prerequisites
None

MTT-147: Introduction to Machine Shop I

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. This is a CORE course.
Credits 3
Prerequisites
As determined by college.

Tuition & Fees Schedule

Tuition & Fees Schedule (Effective: Spring 2024)

Credit Hours	Tuition	Bond Fee	Facility Fee	Technology Fee	Building Fee	ACCS Enhancement Fee	Tuition & Fees
1	127.00	1.00	9.00	9.00	15.00	10.00	171.00
2	254.00	2.00	18.00	18.00	30.00	20.00	342.00
3	381.00	3.00	27.00	27.00	45.00	30.00	513.00
4	508.00	4.00	36.00	36.00	60.00	40.00	684.00
5	635.00	5.00	45.00	45.00	75.00	50.00	855.00
6	762.00	6.00	54.00	54.00	90.00	60.00	1,026.00
7	889.00	7.00	63.00	63.00	105.00	70.00	1,197.00
8	1,016.00	8.00	72.00	72.00	120.00	80.00	1,368.00
9	1,143.00	9.00	81.00	81.00	135.00	90.00	1,539.00
10	1,270.00	10.00	90.00	90.00	150.00	100.00	1,710.00
11	1,397.00	11.00	99.00	99.00	165.00	110.00	1,881.00
12	1,524.00	12.00	108.00	108.00	180.00	120.00	2,052.00
13	1,651.00	13.00	117.00	117.00	195.00	130.00	2,223.00
14	1,778.00	14.00	126.00	126.00	210.00	140.00	2,394.00
15	1,905.00	15.00	135.00	135.00	225.00	150.00	2,565.00
16	2,032.00	16.00	144.00	144.00	240.00	160.00	2,736.00
17	2,159.00	17.00	153.00	153.00	255.00	170.00	2,907.00
18	2,286.00	18.00	162.00	162.00	270.00	180.00	3,078.00
19	2,413.00	19.00	171.00	171.00	285.00	190.00	3,249.00
20	2,540.00	20.00	180.00	180.00	300.00	200.00	3,420.00
21	2,667.00	21.00	189.00	189.00	315.00	210.00	3,591.00
22	2,794.00	22.00	198.00	198.00	330.00	220.00	3,762.00
23	2,921.00	23.00	207.00	207.00	345.00	230.00	3,933.00
24	2,921.00	24.00	216.00	216.00	360.00	240.00	3,977.00
25	3,048.00	25.00	225.00	225.00	375.00	250.00	4,148.00
26	3,175.00	26.00	234.00	234.00	390.00	260.00	4,319.00
27	3,302.00	27.00	243.00	243.00	405.00	270.00	4,490.00
28	3,429.00	28.00	252.00	252.00	420.00	280.00	4,661.00
29	3,556.00	29.00	261.00	261.00	435.00	290.00	4,832.00
30	3,683.00	30.00	270.00	270.00	450.00	300.00	5,003.00
31	3,810.00	31.00	279.00	279.00	465.00	310.00	5,174.00
32	3,937.00	32.00	288.00	288.00	480.00	320.00	5,345.00
33	4,064.00	33.00	297.00	297.00	495.00	330.00	5,516.00
34	4,191.00	34.00	306.00	306.00	510.00	340.00	5,687.00
35	4,318.00	35.00	315.00	315.00	525.00	350.00	5,858.00
36	4,445.00	36.00	324.00	324.00	540.00	360.00	6,029.00
37	4,572.00	37.00	333.00	333.00	555.00	370.00	6,200.00
38	4,699.00	38.00	342.00	342.00	570.00	380.00	6,371.00

Credit Hours	Tuition	Bond Fee	Facility Fee	Technology Fee	Building Fee	ACCS Enhancement Fee	Tuition & Fees
39	4,826.00	39.00	351.00	351.00	585.00	390.00	6,542.00
40	5,080.00	40.00	360.00	360.00	600.00	400.00	6,840.00
41	5,207.00	41.00	369.00	369.00	615.00	410.00	7,011.00
42	5,334.00	42.00	378.00	378.00	630.00	420.00	7,182.00
43	5,461.00	43.00	387.00	387.00	645.00	430.00	7,353.00
44	5,588.00	44.00	396.00	396.00	660.00	440.00	7,524.00
45	5,715.00	45.00	405.00	405.00	675.00	450.00	7,695.00
46	5,842.00	46.00	414.00	414.00	690.00	460.00	7,866.00
47	5,969.00	47.00	423.00	423.00	705.00	470.00	8,037.00
48	6,096.00	48.00	432.00	432.00	720.00	480.00	8,208.00
49	6,223.00	49.00	441.00	441.00	735.00	490.00	8,379.00
50	6,350.00	50.00	450.00	450.00	750.00	500.00	8,550.00
51	6,477.00	51.00	459.00	459.00	765.00	510.00	8,721.00
52	6,604.00	52.00	468.00	468.00	780.00	520.00	8,892.00
53	6,731.00	53.00	477.00	477.00	795.00	530.00	9,063.00
54	6,858.00	54.00	486.00	486.00	810.00	540.00	9,234.00
55	6,985.00	55.00	495.00	495.00	825.00	550.00	9,405.00
56	7,112.00	56.00	504.00	504.00	840.00	560.00	9,576.00
57	7,239.00	57.00	513.00	513.00	855.00	570.00	9,747.00
58	7,366.00	58.00	522.00	522.00	870.00	580.00	9,918.00
59	7,493.00	59.00	531.00	531.00	885.00	590.00	10,089.00
60	7,620.00	60.00	540.00	540.00	900.00	600.00	10,260.00
61	7,747.00	61.00	549.00	549.00	915.00	610.00	10,431.00
62	7,874.00	62.00	558.00	558.00	930.00	620.00	10,602.00
63	8,001.00	63.00	567.00	567.00	945.00	630.00	10,773.00
64	8,128.00	64.00	576.00	576.00	960.00	640.00	10,944.00
65	8,255.00	65.00	585.00	585.00	975.00	650.00	11,115.00
66	8,382.00	66.00	594.00	594.00	990.00	660.00	11,286.00
67	8,509.00	67.00	603.00	603.00	1,005.00	670.00	11,457.00
68	8,636.00	68.00	612.00	612.00	1,020.00	680.00	11,628.00
69	8,763.00	69.00	621.00	621.00	1,035.00	690.00	11,799.00
70	8,890.00	70.00	630.00	630.00	1,050.00	700.00	11,970.00
71	9,017.00	71.00	639.00	639.00	1,065.00	710.00	12,141.00
72	9,144.00	72.00	648.00	648.00	1,080.00	720.00	12,248.00
73	9,271.00	73.00	657.00	657.00	1,095.00	730.00	12,415.00
74	9,398.00	74.00	666.00	666.00	1,110.00	740.00	12,580.00
75	9,525.00	75.00	675.00	675.00	1,125.00	750.00	12,825.00
76	9,652.00	76.00	684.00	684.00	1,140.00	760.00	12,996.00

Credit Hours:

6 – 8 hours – Half-time student status

8 – 11 hours – Three-quarter time student status

12 – above – Full-time student status

Out-of-State Tuition Rate: 2 times the in-state tuition rate

Tuition and Fees are subject to change based on actions of the ACCS Board of Trustees. Visit www.trenholmstate.edu for current tuition and fee rates.

8/21/2023