

SCHOOL OF INDUSTRIAL TECHNOLOGY

Advanced Manufacturing Systems Technology AAS Degree (MS23)

Offered at Currahee Campus

Entrance Dates Fall, Spring, Summer
 Length of Program..... 5 Terms
 Credit Hours Required for Graduation 64-68

Purpose: The Advanced Manufacturing Systems Technology Associates of Applied Science Degree Program is designed around the changing skills demanded by area manufactures. The program provides learning opportunities that introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. The program teaches skills in industrial maintenance and automated control systems. The program is excellent for people who like to work with their hands. Graduates of the program should be eligible for positions as maintenance technicians or controls technicians in an automated manufacturing facility. Some of the titles might include maintenance technician, service engineer, robot programmer, and PLC programmer.

Admission Requirements:

- Age 16 or older or student with dual/joint enrollment in high school or GED® students seeking access to quality instruction at the postsecondary level
- High school diploma or GED®
- Completion of application process including placement test; or provide SAT or ACT scores

Program Courses

Credits

General Core Courses	Total 15 credit hours
Area I Language Arts/Communication	3
ENGL 1101 Composition and Rhetoric (required)	
Area II Social/Behavioral Sciences	3
Area III Natural Sciences/Mathematics	3
<i>(one of the following required)</i>	
MATH 1101 Mathematical Modeling	
MATH 1111 College Algebra	
MATH 1103 Quantitative Skills and Reasoning	
Area IV Humanities/Fine Arts	3
General Education Core Requirement from any area	3

Contact program advisor for program-specific courses and see General Education Requirements for Associate Degrees for course options.

Occupational Courses

Total 29 credit hours

AUMF 1120 Programmable Controllers	5
AUMF 1140 Electrical Motor Controls	4
AUMF 1150 Introduction to Robotics	3
AUMF 1190 Fluid Power and Piping Systems	3
COLL 1010 College and Career Success Skills	3
IDSY 1020 Print Reading and Problem Solving	3
IDSY 1170 Industrial Mechanics	4
IDSY 1240 Maintenance for Reliability	4

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Select one of the following specializations

Automated Control Systems			Total of 17 hours
IDSY	1130	Industrial Wiring	4
AUMF	1170	AC/DC Circuit Fundamentals	4
AUMF	1220	HMI's and Industrial Networking	4
AUMF	2060	Work Cell Design Laboratory	2
OR			
AUMF	2210	Smart Factory Networking and Sensors	(4)
AND			
AUMF	2500	Manufacturing Operations Intern/Practicum	3
OR			
AUMF	2200	Mechatronic Systems Programming and Troubleshooting	(5)
 Industrial Maintenance			 Total of 17 hours
IDSY	1130	Industrial Wiring	4
AUMF	1160	Industrial Metalworking	4
AUMF	1170	AC/DC Circuit Fundamentals	4
AUMF	2060	Work Cell Design Laboratory	2
AUMF	2500	Manufacturing Operations Intern/Practicum	3

Estimated cost of books and supplies for full program is approximately \$2,000

SCHOOL OF INDUSTRIAL TECHNOLOGY

Advanced Manufacturing Systems Technology Diploma (AMS2)

Offered at Currahee Campus

Entrance Dates Fall, Spring, Summer
 Length of Program..... 4 Terms
 Credit Hours Required for Graduation 43

Purpose: The Advanced Manufacturing Systems Technology diploma program is designed around the changing skills demanded by area manufactures. The program provides learning opportunities that introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. The program teaches skills in industrial maintenance or automated control systems. The program is excellent for people who like to work with their hands. Graduates of the program should be eligible to work as maintenance technicians or controls technicians in an automated manufacturing facility. Some of the titles might include maintenance technician, service engineer, robot programmer, and PLC programmer.

Admission Requirements:

- Age 16 or older or student with dual/joint enrollment in high school or GED® students seeking access to quality instruction at the postsecondary level
- High school diploma or GED®
- Completion of application process including placement test; or provide SAT or ACT scores

Program Courses

Credits

Basic Skills Courses

Total 9 credit hours

COLL	1010	College and Career Success Skills	3
ENGL	1010	Fundamentals of English I	3
MATH	1012	Foundations of Mathematics	3

Occupational Courses

Total 22 credit hours

AUMF	1120	Programmable Controllers	5
AUMF	1140	Electrical Motor Controls	4
AUMF	1150	Introduction to Robotics	3
AUMF	1190	Fluid Power and Piping Systems	3
IDSY	1020	Print Reading and Problem Solving	3
IDSY	1170	Industrial Mechanics	4

Select one of the following specializations

Automated Control Systems

Total of 12 hours

IDSY	1130	Industrial Wiring	4
AUMF	1170	AC/DC Circuit Fundamentals	4
AUMF	1220	HMI's and Industrial Networking	4

Industrial Maintenance Total of 12 hours

IDSY	1130	Industrial Wiring	4
AUMF	1160	Industrial Metalworking	4
AUMF	1170	AC/DC Circuit Fundamentals	4

Estimated cost of books and supplies for full program is approximately \$2,000.

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Manufacturing Maintenance Mechanic Certificate (MA91)

Offered at Currahee Campus

Entrance Dates	Fall
Length of Program.....	1 Term
Credit Hours Required for Graduation	10

Purpose: The Manufacturing Maintenance Mechanic certificate provides students the opportunity to enter the workforce area of industrial maintenance with specializations in the areas of inspection, maintenance, service, and repair of industrial mechanical systems, fluid power systems, pumps, and piping systems. Topics include belt, gear and chain drive systems, speed reducers, transmissions, and various bearing installation, troubleshooting and repair, hydraulics and pneumatics, pumps, and piping system installation, troubleshooting and repair.

Admission Requirements:

- Age 16 or older or student with dual/joint enrollment in high school or GED® students seeking access to quality instruction at the postsecondary level
- High school diploma or GED®
- Completion of application process including placement test; or provide SAT or ACT scores

<u>Program Courses</u>	<u>Credits</u>
AUMF 1190 Fluid Power Systems	3
IDSY 1020 Print Reading and Problem Solving	3
IDSY 1170 Industrial Mechanics	4

Estimated cost of books and supplies for full program is approximately \$200.

Manufacturing Motor Controls Technician Certificate (MM81)

Offered at Currahee Campus

Entrance Dates	Fall
Length of Program.....	1 Term
Credit Hours Required for Graduation	12

Purpose: The Manufacturing Motor Controls Technician certificate will provide students with the opportunity to enter the workforce area of industrial maintenance with specialized skills in the areas of electrical applications and maintenance of industrial motor controls. Topics include AC and DC theory, application and motors, circuits, manual and automatic controls, variable speed motor controls and other applications of industrial wiring.

Admission Requirements:

- Age 16 or older or student with dual/joint enrollment in high school or GED® students seeking access to quality instruction at the postsecondary level
- High school diploma or GED®
- Completion of application process including placement test; or provide SAT or ACT scores

<u>Program Courses</u>	<u>Credits</u>
AUMF 1170 ACDC Circuit Fundamentals	4
AUMF 1140 Electrical Motor Controls	4
IDSY 1130 Industrial Wiring	4

Estimated cost of books and supplies for full program is approximately \$200.

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Manufacturing Programmable Controls Technician Certificate (MPC1)

Offered at Currahee Campus

Entrance Dates Fall
 Length of Program..... 1 Term
 Credit Hours Required for Graduation 9

Purpose: The Manufacturing Programmable Motor Controls Technician certificate provides students with the opportunity to enter the workforce area of industrial electro-mechanical maintenance specifically in areas of automated applications. Instruction is provided using industry standard equipment and industry recognized programming platforms. Topics include: ladder, function block and structured text programming, applications of industrial networking, focuses on network security, remote input and output devices and navigating software for troubleshooting and repair.

Admission Requirements:

- Age 16 or older or student with dual/joint enrollment in high school or GED® students seeking access to quality instruction at the postsecondary level
- High school diploma or GED®
- Completion of application process including placement test; or provide SAT or ACT scores

Program Courses

Credits

AUMF 1120	Programmable Controllers	5
AUMF 1220	HMI's and Industrial Networking	4

Estimated cost of books and supplies for full program is approximately \$200.