Technical Studies – Industrial Technology Specialization, AAS Degree
Plan 212.01

Purpose
This program is designed to build upon the Industrial Technology certificate and to create a pathway to upper division studies or a competitive resume advantage for students planning to work as technicians in industrial operations to build and maintain equipment and systems that are controlled by electrical, hydraulic, pneumatic, and mechanical devices.

Industrial operations need highly skilled personnel to build and maintain equipment and systems that are controlled by electrical, hydraulic, pneumatic, and mechanical devices. The industrial technology curriculum is designed to prepare students to build equipment, install machinery and maintain or repair electrical wiring and fixtures, hydraulic and pneumatic devices, programmable logic controlled systems, and heating and air conditioning systems found in institutional, industrial, and commercial settings.

This curriculum integrates training from a variety of disciplines: electrical, mechanical, hydraulics and pneumatics, welding, drafting and design, heating, ventilation, and air conditioning. These technical courses are supported by a solid core of general education courses that will aid students in developing important, practical business application skills. This broad-based, interdisciplinary training prepares students to be competent industrial technicians who are adaptable to multiple industrial environments. Modern industry refers to these individuals as multi-craft technicians.

Program Requirements and Special Conditions
Students must meet ESCC admission requirements. Students must also complete placement tests (or equivalent) in English and Mathematics, and scores will be used for appropriate course placement. If students have deficiencies in English and/or Mathematics, ESCC offers developmental and prerequisite courses to prepare students for the curriculum. New students should see a counselor and returning students their advisor for more information.

Program Learning Outcomes
Students will be able to:
- Identify typical tools and proper use of a variety of devices including precision measurement.
- Read and interpret blueprints in the welding industry.
- Perform data collection and evaluation for equipment used in the industrial environment.
- Demonstrate an understanding of quality control principles.

Program Curriculum and Suggested Sequence of Courses

1st Semester	**Credits**	**Course Options**
SDV 101 Student Dev Orientation to Engineering and	1	SDV 100
DRF 175 Schematics and Mechanical Diagrams	2	
IND 103 Industrial Methods	2	
MTH 130 Fundamentals of Reasoning	3	MTH 111 See Note 2
SAF 130 Industrial Safety – OSHA 10	1	
AIR 121 Air Conditioning and Refrigeration I	3	
ENG 111 College Composition I	3	
Total Credits	*15*	
2nd Semester	**Credits**	**Course Options**
AIR 276 Refrigerant Usage EPA Certification	2	
ENG 115 Technical Writing	3	
HLT 106 First Aid and Safety	2	HLT100

ITE 115 Introduction to Computer Applications and Concepts	3	See Note 4
WEL 110 Welding Processes	3	
MEC 165 Applied Hydraulics, Pneumatics and Hydrostatics	3	IND145
Total Credits	*16*	
3RD Semester		
IND 116 Applied Technology	3	
IND 190 Coordinated Internship I	3	IND 197 See Note 3
Total Credits	*6*	
4th Semester	**Credits**	**Course Options**
ELE 118 Practical Electricity	2	
MEC 211 Machine Design I	4	
HIS 111 History of World Civilization I	3	
ELE 149 Wiring Methods in Industry	3	
IND 101 Quality Assurance Technology I	3	
Total Credits	*15*	
5th Semester	**Credits**	**Course Options**
HIS 112 History of World Civilization II	3	
PHI 220 Ethics	3	
CAD 201 Computer Aided Drafting and Design I	3	See Note 4
IND 137 Team Concepts & Problem Solving	3	
IND 190 Coordinated Internship II	3	IND 197 See Note 3
Total Credits	*15*	
Total Credits For Program	67	

Notes and Additional Curriculum Options

1. Part-time students should consult their faculty advisors regarding appropriate course sequences.
2. Students who have completed MTH 103 have satisfied this requirement.
3. Internship is a total of 6 credits taken over two semesters.
4. Alternate courses: ITE119, ETR113, ETR150, ETR160

Certifications

Courses in this program may help students attain the following license(s) or certification(s):

- EPA Section 608 Technician Certification, U.S. Environmental Protection Agency
- 10-hour Construction Safety and Health, Occupational Safety and Health Administration