

ASSOCIATE OF APPLIED SCIENCE DEGREE (718)

Technical Studies

Purpose: The Technical Studies curriculum is designed to meet the rapidly changing workforce training needs of business and industry. Focused on meeting short-term educational needs, the degree can also be used as a general studies degree to enhance the education and training of current employees or ensure basic technical and general work-based skills for new employees. The curriculum allows employers to develop a specific plan of study negotiated with, and approved by, appropriate college faculty and administrators. The basic structure of the curriculum includes four components (general education, a technical core, occupational-technical content area(s), and work-based learning.)

Customized plans of study may be designed and developed to meet specific company or industry needs, in accordance with the structure described below.

Admission Requirements: Applicants must meet the general admission requirements for admission to the college. Developmental courses are required for students with deficiencies in English and mathematics.

Students who do not place into college-level English on the placement test will be required to take developmental courses (i.e., ENG 1, ENG 3, ENG 4, ENG 7).

Students who do not place above Algebra I (MTH 3) and into Algebra II (MTH 4) or higher on the placement test will be required to take developmental courses.

Program Requirements: It is strongly recommended that students take ENG 111 in the first semester of coursework.

SUGGESTED SCHEDULE

FIRST YEAR/FALL

ENG 111
 ITE 115
 MTH 120 (or MTH 151 or 166)
 SAF 127
 SDV 100 or SDV 108
 Content Skills Elective
 Technical Elective

SPRING

CST 100
 Content Skill Elective
 Humanities/Fine Arts
 Science/Technical
 Principles Elective
 Technical Elective

SECOND YEAR/FALL

ENG 115 or AST 205
 HLT/PED
 IND 190
 IND 230
 Content Skills Elective
 Social Science Elective

SPRING

HLT/PED
 IND 290
 Content Skills Elective
 Content Skills Elective
 Social Science Elective
 Technical Elective

CURRICULUM AND OTHER REQUIREMENTS

CREDITS

GENERAL EDUCATION CORE COURSES

CST 100	Principles of Public Speaking	3
ENG 111*	College Composition I	3
ENG 115	Technical Writing (or AST 205*)	3
HLT/PED ¹	Health or Physical Education	2
ITE 115	Intro Computer Applications and Concepts	3
MTH 120, 151 or MTH 166* ...	Introduction to Mathematics.....	3
SDV 100	College Success Skills (or SDV 108)	1
E ²	Humanities/Fine Arts Elective	3
E ³	Social Science Elective	6

TECHNICAL STUDIES AND RELATED COURSES

EGR/IST	Technical Elective	3
IND 190	Coordinated Internship	3
IND 230	Applied Quality Control	3
IND 290	Coordinated Internship	3
IND/PHY	Science/Technical Principles Elective	4
SAF 127	Industrial Safety	2
TEL	Telecommunications Tech Elective	3
E	Content Skills Elective	3
E	Content Skills Elective	12
E	Technical Elective	4

Total Minimum Credits for Degree..... 67

Note: Company representatives are invited to contact the School of Business, Engineering and Technology, (540) 857-7275, for more information.

¹ Two credits of Health (HLT) or Physical Education (PED) are required of all students. Consult approved Health courses in the Description of Courses for selection. Veterans with an honorable discharge will be awarded HLT/PED credit based on military service.

² Any three credit 100 or 200 level ART, ENG, FRE, HUM, MUS, PHI, REL or SPA elective may be used, except ENG 111, ENG 112 or ENG 210. CST 130, 131, 132 or 136 may also be used. Students intending to transfer should contact the four-year college and choose a humanities course from the "Approved List of Transfer Courses" that is recommended by their transfer institution.

³ Any 100 or 200 level social science elective may be used. Students intending to transfer should contact the four-year college and choose a social science course from the "Approved List of Transfer Courses" that is recommended by their transfer institution.

* This course has a prerequisite. Prerequisites for all courses are listed in the course descriptions section in the back of the catalog.

ASSOCIATE OF APPLIED SCIENCE DEGREE (718)

Technical Studies cont'd

Purpose: This degree combines the concepts and practices of mechanical and electrical processes in order to manipulate motorized, hydraulic, and pneumatic machines to perform complex automated functions in an industrial or manufacturing setting. Students develop the skills to assemble, install, test and troubleshoot, calibrate, and service a variety of devices, products and electronic instruments. Coursework also includes collaborative projects in which students form teams with another program area to build a factory, enabling them to apply their skills and knowledge to a simulated work experience.

Occupational Objectives: Entry-level or advancement opportunities at automated manufacturing and computer aided industrial sites. Positions include mechanical, maintenance, electrical, quality, computer, process, and manufacturing technicians. Other job titles may include electronic service technician or industrial electrician.

Admission Requirements: Applicants must meet the general admission requirements for admission to the college. Developmental courses are required for students with deficiencies in English and mathematics.

Students who do not place into college-level English on the placement test will be required to take developmental courses (i.e., ENG 1, ENG 3, ENG 4, ENG 7).

Students who do not place above Algebra I (MTH 3) and into Algebra II (MTH 4) or higher on the placement test will be required to take developmental courses.

Program Requirements: It is strongly recommended that students take ENG 111 in the first semester of coursework.

SUGGESTED SCHEDULE

FIRST YEAR/FALL

ELE 133
 ENG 111
 ITE 115
 MTH 115 or MTH 166
 SAF 127
 SDV 101

SPRING

ELE 134
 ETR 123
 ETR 141
 HLT/PED
 IND 230
 MEC 162

SECOND YEAR/FALL

BLD 111
 CST 100
 ELE 239
 ENG 115 or AST 205
 MEC 119
 PHY 201

SPRING

ETR 286
 IND 290
 MEC 155
 PHY 202
 Humanities/Fine Arts
 Social Science Elective

CURRICULUM AND OTHER REQUIREMENTS

CREDITS

MECHATRONICS TECHNOLOGY SPECIALIZATION (01)

GENERAL EDUCATION CORE COURSES

CST 100	Principles of Public Speaking	3
ENG 111*	College Composition I	3
ENG 115	Technical Writing (or AST 205*)	3
HLT/PED ¹	Health or Physical Education	2
MTH 115*	Tech. Mathematics (or MTH 166)	3
PHY 201-202*	General College Physics I-II	8
SDV 101	Orientation: Introduction to Engineering and Tech	1
E ²	Humanities/Fine Arts Elective	3
E ³	Social Science Elective	3

MECHATRONICS TECHNOLOGY AND RELATED COURSES

BLD 111	Blueprint Reading and the Building Code	3
ELE 133-134*	Practical Electricity I-II	6
ELE 239*	Programmable Logic Controller Systems I	3
ETR 123**	Electronic Applications I	1
ETR 141**	Electronics I	3
ETR 286*	Prin and Applications of Robotics	3
IND 230	Applied Quality Control	3
IND 290	Coordinated Internship	3
ITE 115	Introduction to Computer Applications and Concepts	3
MEC 119	Introduction to Basic CNC and CAM	3
MEC 155	Mechanisms	2
MEC 162	Applied Hydraulics and Pneumatics	3
SAF 127	Industrial Safety	2

Total Minimum Credits for Degree 67

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*This course has a prerequisite. Prerequisites for all courses are listed in the course description section at the back of the catalog.

**This course has a co-requisite. Co-requisites for all courses are listed in the course description section at the back of the catalog.