

INDUSTRIAL SYSTEMS

The Technical Certificate in Industrial Electronic Technology is designed to enhance the technical skills and job-related knowledge of individuals who are currently employed in the industrial field as well as other persons seeking careers in Industrial Systems. Upon advisor approval, documented competencies acquired through training, certification, or licensure may be substituted as equivalencies for related technical courses. The majority of the technical courses are offered on a flexible schedule on campus, at off-site industrial locations and on the web. Courses taken for the certificate may be applied to the Associate of Applied Science degree in Industrial Systems.

Industrial Systems

Curriculum in Industrial Electronic Technology Technical Certificate

Course Number	Course Name	Semester Hours
1st Semester		
TELT 1013	Fundamentals of Electricity	3
COMS 1003	Introduction to Computer Based Systems	3
TDFT 1013	Blueprint Reading for Machine Trades	3
TIPM 1103	Hydraulics and Pneumatics	3
TMAT 1003	Technical Mathematics	3
Total		15
2nd Semester		
TELT 1123	Industrial Electricity	3
TELT 1223	Solid State	3
ENGL 1013	Composition I	3
TELT 2013	Programmable Logic Controllers (PCL) Applications	3
TELT 1313	Digital Electronics	
Total		15

The Industrial Systems program leads to the Associate of Applied Science degree. This program is designed to: (1) prepare students for jobs in the use and maintenance of common electrical and electronic instruments along with industrial machines and equipment, and (2) enhance the technical skills and job-related knowledge of persons who are currently employed in the industrial field or anticipating a career in a related field.

Courses in general areas related to electronics and maintenance for industry are combined with general education courses to provide a firm foundation in basic electronics, math, and writing skills. Instruction also includes power distribution, programmable logic controllers, hydraulic power, welding, and basic machining. Emphasis is placed on troubleshooting skills and preventive maintenance techniques.

Upon advisor approval, documented competencies acquired through training, certification, or licensure may be substituted as equivalencies for related technical courses. The majority of the technical courses are offered on a flexible schedule on campus, at off-site industrial locations, or on the web.

To be admitted to the program, one must do the following: (1) apply for admission to Arkansas Tech University, (2) send to the university a certified copy of high school transcript, GED certificate, or college transcript(s), and (3) take the ACT or COMPASS. Those who make a score of less than 19 on the ACT in English, Mathematics, or

Reading will need to take the appropriate developmental course or courses. Those who make a score of less than 42 in Math, 75 in Writing and 82 in Reading on the COMPASS will also be required to take the appropriate developmental course or courses.

The program allows the student to earn up to six hours of articulated college credit for demonstrated competencies validated by an exam provided by the National Occupational Competency Testing Institute (NOCTI). In order to receive validated credit:

1. The student may take a teacher/expert worker exam in the occupational area for which the student is requesting credit and score no lower than one standard deviation below the national mean.
2. The student must successfully complete 15 semester hours of credit at Arkansas Tech University (excluding developmental hours) before the six hours of validated credit can be awarded.
3. The credit awarded for articulated competency will be designated on the transcript but will not count in the calculation of the student's grade point average.
4. Scores from the NOCTI exam completed more than five (5) years prior to application for admission to the program will not be accepted.

Curriculum in Industrial Systems Associate of Applied Science Degree

Course Number	Course Name	Semester Hours
1st Semester		
ENGL 1013	Composition I	3
COMS 1003	Introduction to Computer Based Systems	3
TELT1013	Fundamentals of Electricity	3
TDFT 1013	Blueprint Reading for Machine Trades	3
TIPM 1103	Hydraulics and Pneumatics	3
Total		15
2nd Semester		
ENGL 1023	Composition II	3
TELT 1123	Industrial Electricity	3
TELT 1223	Solid State	3
	Mathematics ¹	3
TMAC 1133	Welding Option	3
TIPM 1203	Maintenance of Plumbing Systems	3
Total		18
3rd Semester		
TMAT 1003	Technical Mathematics	3
TELT 1313	Digital Electronics	3
TELT 2013	Programmable Logic Controllers (PLC) Applications	3
	Technical Elective ²	3
	Social Sciences ¹	3
Total		15

Curriculum in Industrial Systems Associate of Applied Science Degree *Continued*

4th Semester		
TMAC 1013	Basic Machine Shop	3
MCEG 1002	Engineering Graphics	2
	Technical Elective ²	3
TELT 2503	Industrial Systems: Special Topics	3
TMAC 1023	Machine Set-Up and Operation	3
TELT 2223	Troubleshooting Electrical and Electronics Systems	3
Total		17

1 See appropriate alternatives or substitutions in "General Education Requirements".

2 Technical Electives: Six hours may be selected from the following courses: TELT 2991-5, TELT 2233, TACR 2223, TACR 2013, COMS 1203 (comparable computer courses may be substituted upon approval of advisor).