

# BEND COMMUNITY COLLEGE

## INDUSTRY, MANUFACTURING & TRADES

### INDUSTRIAL ELECTRICAL TECHNOLOGY



The Industrial Systems Technology program provides a comprehensive two-year curriculum designed to prepare students for career opportunities as industrial electrical technicians. Students receive instruction in safety, electrical and electronic theory, process control, instrumentation, and Programmable Logic Controllers. Today's industrial electrician is a multi-faceted technician.

Electrical and control system technologies are increasingly sophisticated and complex. The Industrial Electrical Technology option reflects the changing trends in the industrial climate while maintaining a broad-based curriculum blending theory and practical applications. Related instruction includes mathematics, technical drawing interpretation, computer applications, communications, preventive maintenance, safety, and first aid. This program is intended for individuals who are seeking entry-level employment opportunities and those updating their skills.

#### ENTRY REQUIREMENTS

- Complete Admissions and Placement processes       Meet with IST advisor prior to enrolling

#### DEGREE REQUIREMENTS

##### Related Instruction ( 18+ credits)

- |  |  |
|--|--|
| <input type="checkbox"/> BUS 120 – Human Relations on the Job (4) OR<br><i>SOC&amp; 101 OR PSYC&amp; 100 (5)</i><br><input type="checkbox"/> CMST 100 – Human Communications (4) OR<br><i>CMST&amp; 210 OR CMST&amp; 220 (5)</i><br><input type="checkbox"/> ENGL 109 – Applied Technical Writing (3) OR<br><i>ENGL&amp; 101 (5)</i> | <input type="checkbox"/> FAD 150 – Industrial First Aid and CPR (2)<br><input type="checkbox"/> MAP 103 – Applied Mathematics (5) OR<br><input type="checkbox"/> MAP 117 – Applied Math for Workforce Ed (5) |
|--|--|

##### Program Requirements ( 85

- |   |   |
|---|---|
| <input type="checkbox"/> IST 100 – Intro. to Industrial Safety and Health (3)<br><input type="checkbox"/> IST 102 – Technical Drawing Interpretation (3)<br><input type="checkbox"/> IST 105 – Basic Electricity: DC Circuit Analysis (5)<br><input type="checkbox"/> IST 106 – Basic Electricity: AC Circuit Analysis (5)<br><input type="checkbox"/> IST 107 – Industrial Electricity I (5)<br><input type="checkbox"/> IST 110 – Intro. to National Electrical Code (2)<br><input type="checkbox"/> IST 111 – National Electrical Code II (2)<br><input type="checkbox"/> IST 112 – National Electrical Code III (2)<br><input type="checkbox"/> IST 113 – Ind. Elec. Installation Techniques (5)<br><input type="checkbox"/> IST 120 – Intro. to Preventive/Predictive Maint. (3) | <input type="checkbox"/> IST 150 – Intro. to Programmable Logic Controls I (5)<br><input type="checkbox"/> IST 152 – Programmable Automation Control (5)<br><input type="checkbox"/> IST 170 – Intro. to Instrumentation (5)<br><input type="checkbox"/> IST 207 – Industrial Electricity II (5)<br><input type="checkbox"/> IST 208 – Industrial Electricity III (5)<br><input type="checkbox"/> IST 221 – Electronics I (Principles) (5)<br><input type="checkbox"/> IST 222 – Electronics II (Applications) (5)<br><input type="checkbox"/> IST 223 – Electronics III (Industrial) (5)<br><input type="checkbox"/> IST 270 – Instrumentation II & Control Actuators (5)<br><input type="checkbox"/> MCT 101 – Mechatronics I (5) |
|---|---|

##### Program Electives ( 2-5 credits )

- |  |  |
|--|--|
| <input type="checkbox"/> Approved Electives – See your IST advisor | <input type="checkbox"/> Work-based Learning Recommended |
|--|--|

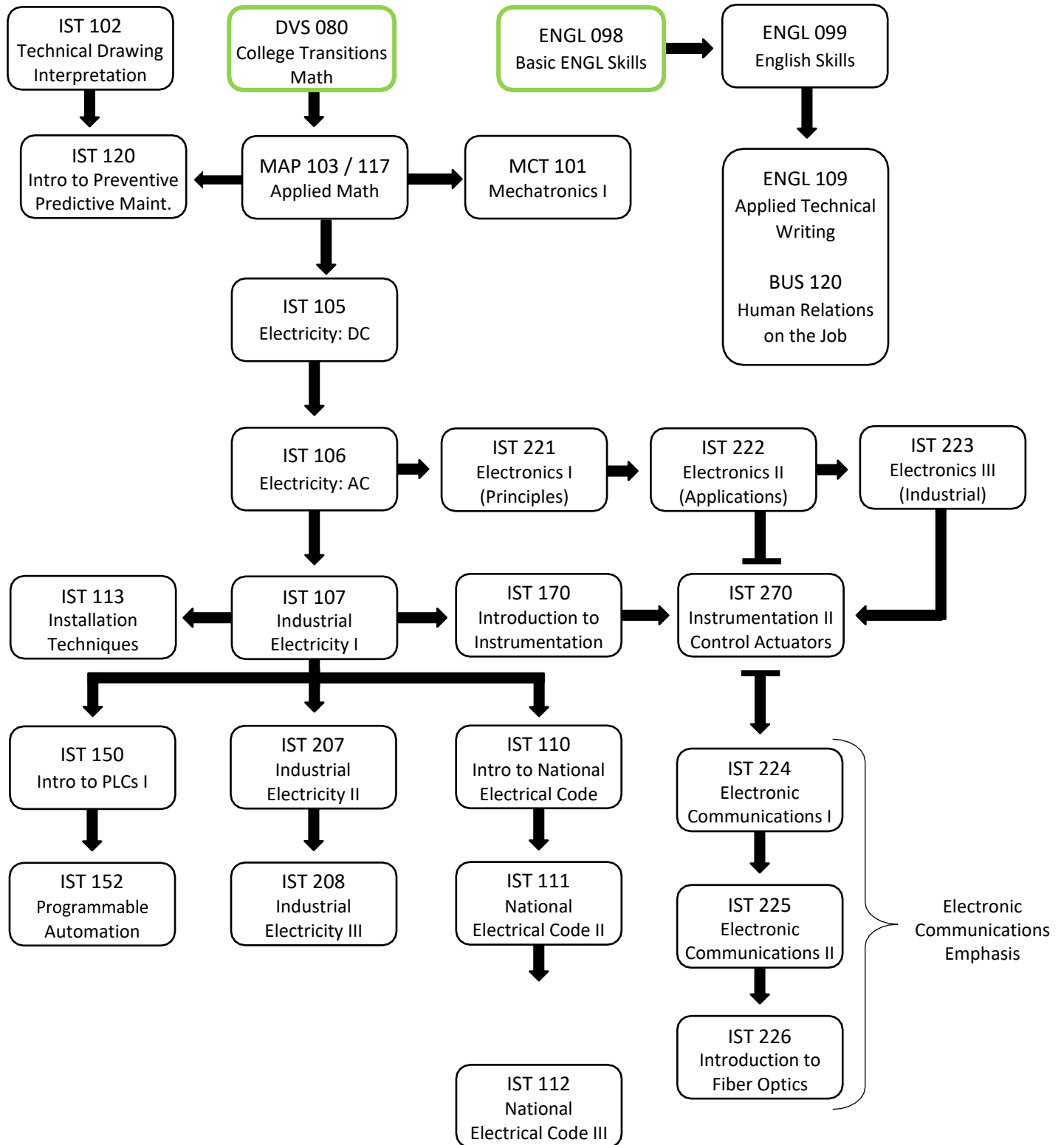
**103 TOTAL DEGREE CREDITS**

NAME:

SID:

## INDUSTRIAL ELECTRICAL TECHNOLOGY PRE-REQUISITE FLOW CHART

Start by talking with your assigned advisor to determine which courses to take first based on your placement scores.



**KEY**

STARTING POINT of SEQUENCE

PRE-requisite

CO-requisite

[F = fall W = winter Sp = spring Su = summer]

**Courses WITHOUT PRE-requisites**

Program Course Requirements

IST 100 – Industrial Safety & Health

IST 102 – Tech. Drawing Interpretation

CMST 100 – Human Communications

FAD 150 – Industrial First Aid & CPR

**IST ELECTRICAL QUARTERLY PROGRAM PLAN (YEAR ONE)**

<b>FALL (20 CR)</b>			<b>WINTER (19+ CR)</b>			<b>SPRING (19+)</b>		
IST 100 (3)			BUS 120 (4) or SOC&/PSYC& (5)			CMST 100 (4) or &210 or &220 (5)		
IST 102 (3)			FAD 150 (2)			IST 107 (5)		
IST 105 (5)			IST 106 (5)			IST 113 (5)		
MAP 103 or 117 (5)			IST 120 (3)			IST 221 (5)		
MCT 101 (5)								
<b>ADVISING</b>								
<b>FALL (CR)</b>			<b>WINTER (CR)</b>			<b>SPRING (CR)</b>		
<input type="checkbox"/> BCC Foundation scholarship app <input type="checkbox"/> Fill out FAFSA or WAFSA for next year <input type="checkbox"/> Meet with your advisor			<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Complete letter of intent for Year 2			<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Prepare for Year 2 mandatory orientation		

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

NAME: \_\_\_\_\_

SID: \_\_\_\_\_

**IST ELECTRICAL QUARTERLY PROGRAM PLAN (YEAR TWO)**

FALL (17 CR)			WINTER (17 CR)			SPRING (15+ CR)		
IST 110 (2) IST 150 (5) IST 207 (5) IST 222 (5)			IST 111 (2) IST 152 (5) IST 170 (5) IST 223 (5)			IST 112 (2) IST 208 (5) IST 270 (5) ENGL 109 (3) or ENGL& 101 (5) Optional elective		
ADVISING								
FALL			WINTER			SPRING		
<input type="checkbox"/> Meet with your advisor			<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Explore Career Services			<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Explore employment opportunities		

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER				REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #	

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER				REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #	

**QUARTERLY REGISTRATION PLANNING**

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER				REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #	

NAME: \_\_\_\_\_

SID: \_\_\_\_\_

**Big Bend Community College**  
**WORKFORCE EDUCATION PROGRAM REQUIREMENTS**

NAME:

**Certificate of Achievement**

Students working toward a Certificate of Achievement need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The plan must include all related instruction components. The Certificate of Achievement is designed to provide recognition for the student who has not completed an Associate in Applied Science degree program.

**Certificate of Accomplishment**

Students working toward a Certificate of Accomplishment need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The Certificate of Achievement is designed to provide recognition for the student who does not complete a Certificate of Achievement or an Associate in Applied Science degree program.

**Changes or substitutions for course work in the college catalog must be listed and approved by the advisor.** It is essential that students meet quarterly with their advisor before registration to review progress and plan their program.

Each program plan must be approved by the Workforce Education program advisor and Dean of Workforce Education. Certificates will be issued out of the Dean of Workforce Education Instructional Services office.

**Certificate of Achievement**    YR & QTR Completed: \_\_\_\_\_

**Certificate of Achievement**    YR & QTR Completed: \_\_\_\_\_

*Title of Certificate:*

*Advisor Approval:*

\_\_\_\_\_  
Advisor

\_\_\_\_\_  
Date

*Program Completion Approval:*

\_\_\_\_\_  
Dean of Workforce Education

\_\_\_\_\_  
Date

\_\_\_\_\_  
Instructional Services Office Assistant

\_\_\_\_\_  
Date

SID:

NAME: \_\_\_\_\_

SID: \_\_\_\_\_

**Big Bend Community College  
WORKFORCE EDUCATION PROGRAM REQUIREMENTS  
Associate in Applied Science Degree**

**Credit Requirement:** Completion of the total credit requirements of the approved Workforce Education Program Plan. Minimum of 90 quarter hours. It is the student's responsibility to insure that he/she meets all of the technical and general education degree requirements.

**MATHEMATICS REQUIREMENT:** 3-5 credits\* in mathematics courses as stated in the approved Professional/Technical Program Plan.

BUS 102	Business Mathematics
MAP 100	Applied Mathematics (AMT)*
MAP 101	Applied Mathematics (AUT/WLD)
MAP 103	Applied Mathematics (MMT/IET)
MAP 117	Applied Mathematics for Workforce I
MAP 119	Applied Mathematics for Workforce II
MATH&.107	Math in Society
MATH&.141	Pre-calculus I
MATH&.146	Intro to Statistics
MATH 147	Finite Mathematics
* AMT	program requires two MAP 100 credits

**WRITTEN COMMUNICATIONS REQUIREMENT:** 3-5 credits in written communications courses as stated in the approved Professional/Technical Program Plan.

BUS 121	Business English
ENGL&.101	English Composition I
ENGL 109	Applied Technical Writing

**ORAL COMMUNICATIONS REQUIREMENT:** 3-5 credits in oral communications courses as stated in the approved Professional/Technical Program Plan.

AVF 225	Effective Communications in Flight Instruction
CMST 100	Human communications
CMST&.210	Interpersonal Communications
CMST&.220	Public Speaking

**HUMAN RELATIONS REQUIREMENT:** 3-5 credits in human relations courses as stated in the approved Professional/Technical Program Plan.

BUS 120	Human Relations on the Job
EDUC&.115	Child Development
PSYC&.100	General Psychology
SOC&.101	Intro to Sociology

**INDUSTRIAL FIRST AID REQUIREMENT:** 2 credits in Industrial First Aid or equivalent or higher certification as stated in the approved Professional/Technical Program Plan.

FAD 150	Industrial First Aid and CPR plus Bloodborne Pathogens
Current First Aid/CPR, First Responder, or EMT card	

\_\_\_\_\_

Student Name \_\_\_\_\_ SID# \_\_\_\_\_

Approval: \_\_\_\_\_

Advisor \_\_\_\_\_ Date \_\_\_\_\_

Program Completion Approval: \_\_\_\_\_

Dean of Workforce Education \_\_\_\_\_ Date \_\_\_\_\_

Each program must be approved by the Workforce Education program advisor. Program changes and substitutions must be approved by the program advisor prior to application for degree.