



# MANUFACTURING & PROCESS TECHNOLOGY AAS AUTOMATION & ROBOTICS EMPHASIS

INDUSTRY, MANUFACTURING, & TRADES

**START here**

## Requirements to Earn this Associate Degree

Work with an advisor to develop your specialized education plan.



### Manufacturing & Process Technology

#### Core Requirements:

#### Credits

- BIM 109A: Outlook/Internet..... 1
- BIM 180A: Microsoft Office (Word, Excel)..... 2
- IST 100: Industrial Health & Safety ..... 3
- IST 102: Technical Drawing Interpretation ..... 3
- MPT 120: Intro to CAM ..... 5
- MPT 140: Intro to IIOT and SCADA..... 3

#### General Education Requirements

- CMST&210: Interpersonal Communication OR  
CMST&220: Public Speaking..... 5
- ENGL&101: Composition I ..... 5
- FAD 150: Industrial First Aid..... 2
- MAP 117: Math for Workforce ..... 5
- PSYC& 100: General Psychology OR  
SOC& 101: Intro to Sociology..... 5

#### Automation & Robotics Emphasis Required Courses:

- CS 111: Intro to Programming.....5
- IST 107: Industrial Electricity I..... 5
- IST 150: Intro to Programmable Logic Controllers (PLCs)..... 5
- IST 170: Intro to Instrumentation..... 5
- IST 221: Electronics and Control Circuits..... 5
- IST 222: Electronics II (Applications)..... 5
- IST 252: Programmable Automation Control III (HMI)..... 5
- IST 270: Instrumentation II & Control Actuators.....5
- MPT 104: Introduction to Electricity.....5
- MPT 210: Introduction to Industrial Robotics.....5
- Specified Elective: Select with advisor.....5

**Total Credits Required: 94**

## TO DO: Stay on track with this checklist!

### TO DO'S:

#### QUARTER 1

- APPLY FOR FAFSA OR WASFA FOR NEXT YEAR
- SET UP YOUR BANKMOBILE ACCOUNT
- GET FAMILIAR WITH YOUR CTCLINK STUDENT HOMEPAGE
- MEET WITH YOUR ADVISOR

#### QUARTER 2

- MAKE AN EDUCATION PLAN WITH YOUR ADVISOR
- APPLY FOR BBCC FOUNDATION SCHOLARSHIPS

#### QUARTER 3

- MEET WITH YOUR ADVISOR

#### QUARTER 4

- UPDATE YOUR EDUCATION PLAN WITH YOUR ADVISOR

#### QUARTER 5

- APPLY FOR GRADUATION (AFTER ENROLLING IN YOUR FINAL QUARTER OF CLASSES)

#### QUARTER 6

- ORDER CAP AND GOWN
- ATTEND GRADUATION!
- EXPLORE EMPLOYMENT OPPORTUNITIES

## Career Outlook

Manufacturing and Process Technology provides students the ability to specialize their training to work in a variety of industry settings in our area including manufacturing facilities, data centers, food or chemical processing plants, and other businesses with need for regular facility or equipment maintenance.

## Future Education Opportunities

This degree prepares students to pursue the Bachelor or Applied Science - Applied Management at Big Bend Community College.

## Find Out More

(509) 793-2265; [manufacturing@bigbend.edu](mailto:manufacturing@bigbend.edu)

<https://www.bigbend.edu/academics/manufacturing-and-process-technology/>



Students are required to purchase tools and safety equipment.

## Length of Program

90+ credits = 6 quarters\* if you take 14-16 credits each quarter.

\*Your specific route may take longer than 6 quarters depending on the number of credits you take each quarter and where you start in your math and English pathways.

## Which Quarter Can I Begin?

The 2-year pathway starts in the Fall quarter, though courses may be started any quarter, this will extend time to degree.

## Program Modality

This program can be completed on campus or hybrid. Courses are offered on-campus or hybrid (part on-campus, part online)

## Helpful Hints

- Work closely with your advisor for program planning!

# OPPORTUNITY FOR FREE \$\$\$

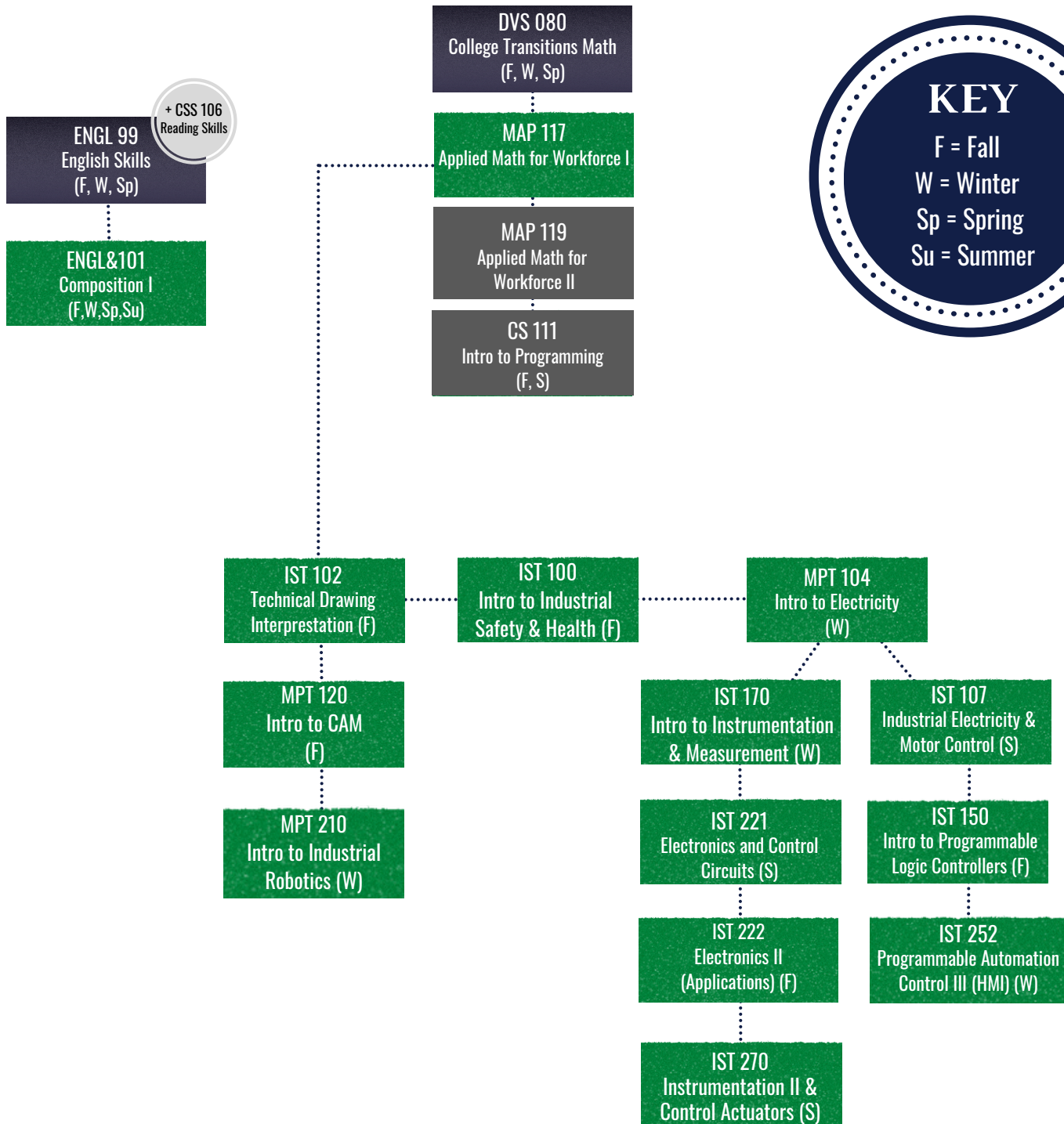
Workforce Education Services provides additional financial assistance for tuition and fees, books, tools, bus passes, and emergency support.

See if you qualify here!



# Manufacturing & Process Technology Pre-Requisite Flow Chart

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



# CERTIFICATE OPTIONS

## MANUFACTURING & PROCESS TECHNOLOGY

### Maintenance Mechanics Certificate of Achievement

#### Credits

- BIM 109A: Internet Communications..... 1
- BIM 180A: Introduction to Microsoft Office:..... 2
- CMST& 220: Public Speaking OR  
CMST& 210: Interpersonal Communication..... 5
- ENGL&101: Composition I ..... 5
- FAD 150: Industrial First Aid..... 2
- IST 107: Industrial Electricity and Motor Control..... 5
- IST 120: Introduction to Preventive/Predictive  
Maintenance..... 3
- IST 170: Introduction to Instrumentation and  
Measurement..... 5
- MAP 117: Math for Workforce..... 5
- MPT 140: Introduction to Industrial Internet of Things  
(IIoT), SCADA(Supervisory Control and Data  
Acquisition)..... 3
- PSYC& 100: General Psychology OR  
SOC& 101: Intro to Sociology..... 5
- Advisor Approved MPT Elective..... 5

**Total Credits: 59+**

### Coordinate Metrology Certificate of Accomplishment

#### Credits

- IST 102: Technical Drawing Interpretation..... 3
- MPT 120: Intro to CAM  
(Computer Aided Manufacturing)..... 5
- MPT 145: Intro to Coordinate Metrology..... 3

**Total Credits: 15**

### Machining Certificate of Accomplishment

#### Credits

- MPT 120: Intro to CAM (Computer Aided  
Manufacturing)..... 5
- MPT 125: 2.5 Axis Milling..... 5
- MPT 130: CNC Turning..... 5

**Total Credits: 15**

### Additive Manufacturing Certificate of Accomplishment

#### Credits

- IST 102: Technical Drawing Interpretation..... 3
- MPT 120: Intro to CAM  
(Computer Aided Manufacturing)..... 5
- MPT 135: Introduction to Additive Manufacturing.... 3

**Total Credits: 11**

### Multi-Axis Machining Certificate of Accomplishment

#### Credits

- MPT 120: Intro to CAM (Computer Aided  
Manufacturing) ..... 5
- MPT 125: 2.5 Axis Milling..... 5
- MPT 130: CNC Turning..... 5
- MPT 220: CAM for 3-Axis Milling..... 5
- MPT 225: CAM for Multi-Axis Milling..... 5

**Total Credits: 25**

# My Education Plan

Name: \_\_\_\_\_

ID #: \_\_\_\_\_

 Quarter/Year	Quarter/Year
Quarter/Year	Quarter/Year
Quarter/Year	Quarter/Year

# My Education Plan

Name: \_\_\_\_\_

ID #: \_\_\_\_\_

Quarter/Year	Quarter/Year
Quarter/Year	Quarter/Year
Quarter/Year	Quarter/Year



# Suggested Schedule to Earn the AAS for the Automation & Robotics Emphasis

If the classes listed below don't fit your schedule or you're planning to start after fall quarter, work with an advisor to develop your specialized education plan.

## Year One

<b>Fall</b>	<b>Credits</b>
• IST 100: Intro to Industrial Safety & Health.....	3
• IST 102: Technical Drawing Interpretation.....	3
• MAP 119: Applied Math for Workforce Programs II.....	5
• MPT 120: Intro to CAM (Computer Aided Manufacturing).....	5
<b>Winter</b>	
• BIM 109A: Outlook/Internet.....	1
• BIM 180A: Microsoft Office (Word, Excel).....	2
• CMST&210: Interpersonal Communication OR CMST&220: Public Speaking.....	5
• IST 170: Intro to Instrumentation.....	5
• MPT 104: Introduction to Electricity.....	5
<b>Spring</b>	
• IST 107: Industrial Electricity I.....	5
• IST 221: Electronics and Control Circuits.....	5
• MPT 140: Intro to IIOT and SCADA.....	3

## Year Two

<b>Fall</b>	
• CS 111: Intro to Programming.....	5
• IST 150: Intro to Programmable Logic Controllers (PLCs).....	5
• IST 222: Electronics II (Applications).....	5
<b>Winter</b>	
• ENGL&101: Composition I .....	5
• IST 252 Programmable Automation Control III (HMI).....	5
• MPT 210: Introduction to Industrial Robotics.....	5
<b>Spring</b>	
• FAD 150: Industrial First Aid.....	2
• IST 270: Instrumentation II & Control Actuators.....	5
• PSYC&100: General Psychology OR SOC&101: Intro to Sociology.....	5
• Specified Elective: Select with advisor.....	5