

# Production Technician - COP



2024-25

## Program map for Production Technician Certificate of Proficiency (COP)

The Production Technician Certificate of Proficiency is designed to prepare production operators for industries using high technology equipment and processes. Producers of coated steel, biofuels, energy, petrochemicals, pulp and paper, pharmaceuticals, food, and dimensional lumber are some of the industries that use automation to control production processes.

### See also

- [Degree Requirements for Manufacturing, Trades and Transportation programs \( lowercolumbia.edu/programs/trades \)](https://lowercolumbia.edu/programs/trades)
- [Course descriptions in LCC Catalog \( lowercolumbia.edu/publications/catalog/courses \)](https://lowercolumbia.edu/publications/catalog/courses)
- [Distribution lists in LCC Catalog \( lowercolumbia.edu/publications/catalog/distribution-lists \)](https://lowercolumbia.edu/publications/catalog/distribution-lists)

( [lowercolumbia.edu/program-maps/trades/](https://lowercolumbia.edu/program-maps/trades/) ) **Important:** Many course sequences only begin in fall quarter. Check with your program advisor.

## By Quarter Overview

### First Quarter

---

- MATH 106: Industrial Mathematics (5 credits)
  - *MATH 079 or TECH 079 with a C or better or instructor permission\**
- MFG 140: Applied Hydraulics (4 credits)
  - *MATH 091 or higher or instructor permission\**
- MFG 105: Industrial Safety (3 credits)
- COLL 101: College Success 101 (2 credits)

*\*Pre- and/or co-requisite(s)*

### Second Quarter

---

- CS 110: Introduction to Microcomputer Applications (3 credits)
  - Ability to use keyboard\*
- PMFG 110: Industrial and Predictive Maintenance Fundamentals (5 credits)

- PMFG 201: Electrical Control Equipment (3 credits)
  - *PMFG 150 or instructor permission\**
- ENGL 110: Industrial Communication (5 credits)
- PMFG 154: Fundamentals of Instrumentation and PLCs (5 credits)
  - *PMFG 150 OR PMFG 151 or instructor permission\**

*\*Pre- and/or co-requisite(s)*

### Third Quarter

---

- MFG 120: Quality Assurance (4 credits)
- PMFG 210: Advanced Industrial Maintenance (5 credits)
  - *PMFG 110 or instructor permission\**
- PMFG 202: Electric Motors (2 credits)
  - *PMFG 201 or instructor permission\**
- HLTH 105: First Aid, CPR and Bloodborne Pathogens (1 credit)

*\*Pre- and/or co-requisite(s)*

### Fourth Quarter

---

- BUS 144: Management of Human Relations: DIV (5 credits)
- PMFG 150: Electrical and Electronic Fundamentals (6 credits)
  - *MATH 087 OR MATH 088 or higher or instructor permission\**
- PMFG 151: Process Control Equipment (5 credits)

*\*Pre- and/or co-requisite(s)*

## Detailed Class Sequence

### 1. Industrial Mathematics

---

MATH 106 (5 credits)

*Pre- and/or co-requisite(s): MATH 079 or TECH 079 with a C or better or instructor permission*

### 2. Applied Hydraulics

---

MFG 140 (4 credits)

*Pre- and/or co-requisite(s): MATH 091 or higher or instructor permission*

### 3. Industrial Safety

---

MFG 105 (3 credits)

### 4. College Success 101

---

COLL 101 (2 credits)

---

## 5. Introduction to Microcomputer Applications

---

CS 110 (3 credits)

*Pre- and/or co-requisite(s): Ability to use keyboard*

---

## 6. Industrial and Predictive Maintenance Fundamentals

---

PMFG 110 (5 credits)

---

## 7. Electrical Control Equipment

---

PMFG 201 (3 credits)

*Pre- and/or co-requisite(s): PMFG 150 or instructor permission*

---

## 8. Industrial Communication

---

ENGL 110 (5 credits)

---

## 9. Fundamentals of Instrumentation and PLCs

---

PMFG 154 (5 credits)

*Pre- and/or co-requisite(s): PMFG 150 OR PMFG 151 or instructor permission*

---

## 10. Quality Assurance

---

MFG 120 (4 credits)

---

## 11. Advanced Industrial Maintenance

---

PMFG 210 (5 credits)

*Pre- and/or co-requisite(s): PMFG 110 or instructor permission*

---

## 12. Electric Motors

---

PMFG 202 (2 credits)

*Pre- and/or co-requisite(s): PMFG 201 or instructor permission*

---

## 13. First Aid, CPR and Bloodborne Pathogens

---

HLTH 105 (1 credit)

---

## 14. Management of Human Relations: DIV

---

BUS 144 (5 credits)

## 15. Electrical and Electronic Fundamentals

---

PMFG 150 (6 credits)

*Pre- and/or co-requisite(s): MATH 087 OR MATH 088 or higher or instructor permission*

## 16. Process Control Equipment

---

PMFG 151 (5 credits)



## Program Maps for Manufacturing, Trades and Transportation ( [lowercolumbia.edu/program-maps/trades](http://lowercolumbia.edu/program-maps/trades) )

- **Advanced Manufacturing Technology - AAS (Engineering Technician and Multicraft Trades Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Engineering-Tech-Multicraft-Trades](http://lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Engineering-Tech-Multicraft-Trades) )**
- **Advanced Manufacturing Technology - AAS (Multicraft Trades and Production Technician Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Multicraft-Trades-Production-Tech](http://lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Multicraft-Trades-Production-Tech) )**
- **Advanced Manufacturing Technology - AAS (Production Technician and Engineering Technician Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Production-Tech-Engineering-Tech](http://lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Production-Tech-Engineering-Tech) )**
- **Advanced Manufacturing for BAS-OLTM in Applied Science - Transfer (AAS-T) ( [lowercolumbia.edu/program-maps/trades/AAS-T-Advanced-Manufacturing-to-BAS-OLTM](http://lowercolumbia.edu/program-maps/trades/AAS-T-Advanced-Manufacturing-to-BAS-OLTM) )**
- **Automotive Technology - AAS ( [lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology](http://lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology) )**
- **Automotive Technology - AAS-T (BAS-OLTM Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology-to-BAS-OLTM](http://lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology-to-BAS-OLTM) )**
- **Automotive Technology - COP ( [lowercolumbia.edu/program-maps/trades/COP-Automotive-Technology-Maintenance-Light-Repair](http://lowercolumbia.edu/program-maps/trades/COP-Automotive-Technology-Maintenance-Light-Repair) )**
- **Commercial Truck Driving - COC ( [lowercolumbia.edu/program-maps/trades/COC-Commercial-Truck-Driving](http://lowercolumbia.edu/program-maps/trades/COC-Commercial-Truck-Driving) )**
- **Computer Numerical Control - COP ( [lowercolumbia.edu/program-maps/trades/COP-Computer-Numerical-Control](http://lowercolumbia.edu/program-maps/trades/COP-Computer-Numerical-Control) )**
- **Diesel/Heavy Equipment Preventative Maintenance - COP ( [lowercolumbia.edu/program-maps/trades/COP-Diesel-Heavy-Equipment-Preventative-Maintenance](http://lowercolumbia.edu/program-maps/trades/COP-Diesel-Heavy-Equipment-Preventative-Maintenance) )**
- **Diesel/Heavy Equipment Technology - AAS ( [lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment](http://lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment) )**
- **Diesel/Heavy Equipment Technology - AAS-T (BAS-OLTM Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment-to-BAS-OLTM](http://lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment-to-BAS-OLTM) )**
- **Engineering Technician - COP ( [lowercolumbia.edu/program-maps/trades/COP-Engineering-Technician](http://lowercolumbia.edu/program-maps/trades/COP-Engineering-Technician) )**

- **Machine Trades - AAS ( [lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades](http://lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades) )**
- **Machine Trades - AAS-T (BAS-OLTM Option) ( [lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades-to-BAS-OLTM](http://lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades-to-BAS-OLTM) )**
- **Machinist - COP ( [lowercolumbia.edu/program-maps/trades/COP-Machinist](http://lowercolumbia.edu/program-maps/trades/COP-Machinist) )**
- **Multicraft Trades - COP ( [lowercolumbia.edu/program-maps/trades/COP-Multicraft-Trades](http://lowercolumbia.edu/program-maps/trades/COP-Multicraft-Trades) )**
- **Production Technician - COP ( [lowercolumbia.edu/program-maps/trades/COP-Production-Technician](http://lowercolumbia.edu/program-maps/trades/COP-Production-Technician) )**
- **Welding - AAS ( [lowercolumbia.edu/program-maps/trades/AAS-Welding](http://lowercolumbia.edu/program-maps/trades/AAS-Welding) )**
- **Welding - COP ( [lowercolumbia.edu/program-maps/trades/COP-Welding](http://lowercolumbia.edu/program-maps/trades/COP-Welding) )**
- **Welding for BAS-OLTM in Applied Science - Transfer (AAS-T) ( [lowercolumbia.edu/program-maps/trades/AAS-T-Welding-to-BAS-OLTM](http://lowercolumbia.edu/program-maps/trades/AAS-T-Welding-to-BAS-OLTM) )**