Program map for Industrial Maintenance Technician Certificate of Proficiency (COP)

2025-26

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.

View this program in the LCC Catalog (lowercolumbia.edu/publications/catalog/programs/Trades-COP-Industrial-Maintenance-Technician)

See also

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

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

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- 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)

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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)

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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)