



Monroe Community College

STATE UNIVERSITY OF NEW YORK

Inspiring every day.



SCHOOL OF APPLIED SCIENCES & TECHNOLOGIES

Precision Machining – Optical Fabrication Certificate

GAIN HANDS-ON TRAINING AND JOB-READY SKILLS THAT ARE IN HIGH DEMAND. MCC has one of the best-equipped college machining programs in New York State. Our Precision Machining certificate program provides you with first-hand experience in the most current techniques and technology in optical fabrication, plus the opportunity to learn directly from journeyman machinists with years of professional experience. You'll enjoy many opportunities for part-time work while you're in the program—about 90 percent of our students hold jobs. And in just one year, you'll graduate with a certificate and a bundle of highly sought skills that prepare you for immediate employment.

PROGRAM DESCRIPTION

This one-year certificate program is designed to prepare you for immediate employment in the precision machining industry. The program places special emphasis on optical fabrication, which involves the manufacturing of components used in lasers, fiber optics, and digital imaging. You'll learn the principles and practices of precision metalworking, and then apply these skills to the materials used in fiber optics, digital imaging, lasers, and other technological applications.

Students interested in this program may also be interested in the two-year Precision Machining associate degree.

A STRONG START—ACADEMICALLY AND FINANCIALLY!

MCC's low tuition plus financial aid opportunities help make a high-quality education affordable. You could qualify for federal grants, workforce grants, scholarships, and more. Visit www.monroecc.edu/go/finaid or call 585.292.2050.

APPLY TODAY!

To learn more about MCC, visit us on the web at www.monroecc.edu. Apply today at admissions.monroecc.edu or contact the Admissions Office at 585.292.2200 to schedule a visit.



GET THE LATEST ON CAREERS IN OUR AREA, INCLUDING EMPLOYMENT PROJECTIONS, EARNINGS, AND JOB OPENINGS AT CAREERCOACH.MONROECC.EDU

WHERE WILL YOU GO?

Start your career with employers like these:

- PEKO Precision Products
- CooperVision
- Rochester Precision Optics
- Gleason Corporation
- Advantech Industries
- Optimax
- Sydor Optics
- JML Optics

Your job title could be:

- Computer-Controlled Machine Tool Operator—Metal and Plastic/Optician
- Machinist—Optical, Aircraft, or Automotive
- First-Line Supervisor of Production and Operating Workers

“When I get a resume from an MCC graduate, it goes to the top of the pile.”

– Jim Sydor, Sydor Optics

CURRICULUM OVERVIEW

PRECISION MACHINING - OPTICAL FABRICATION CERTIFICATE

Distribution Requirements	Credit Hours
FIRST SEMESTER: 16 Credit Hours	
TAM 105 Machine Project Laboratory OR OPTICS ELECTIVE	3
TAM 121 Mathematics for Machinists I	3
TAM 131 Machine Shop Print Reading I	3
OPT 110 Introduction to Optical Technology	3
OPT 131 Optical Elements and Ray Optics	4
Total	16
SECOND SEMESTER: 15-16 Credit Hours	
ENG 101 College Composition OR ENG 200 Advanced Composition OR CRC 101 Practical Computer Literacy	3
OPT 135 Measurement and Analysis OR TAM 138 Dimensional Metrology	3-4
OPT 151 Optical Instruments and Testing	4
TAM 139 CNC Vertical Machine Tool Programming I	3
TAM 205 CNC Machine Project Laboratory	2
Total	15-16
TOTAL CREDITS	31-32
OPTICS ELECTIVES:	
OPT 135 Measurement and Analysis	4
OPT 201 Photo Science	4
OPT 211 Wave Optics and Applications	4
OPT 213 Optical Processes	4
OPT 215 Electro-Optical Devices and Systems	5
OPT 235 Advanced Optical Manufacturing	3

NOTE: Students currently working in the precision machining industry may substitute a TAM/OPT elective for TAM 105, based on work experience and approval of a faculty advisor.

All students enrolled in the program should take the MCC placement exam for advisement prior to registration. It is recommended that students have a minimum of 2 years of high school math or place MTH 104 or higher on the placement exam prior to enrolling in this program. Please seek advisement from the TAM/OPT Coordinator or faculty prior to registration. Call 585-292-3725 for advisement times.