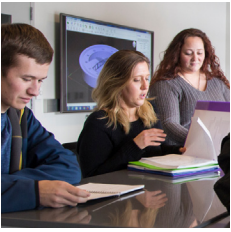




COLLEGE OF
PROFESSIONAL STUDIES

METROPOLITAN STATE UNIVERSITY™
OF DENVER



"Manufacturing jobs provide benefits to workers with higher overall compensation than other sectors, and to the economy through innovation that boosts our nation's standard of living."

Source: U.S. Department of Commerce "The Benefits of Manufacturing Jobs Report 2012"

BACHELOR OF SCIENCES DEGREE IN ADVANCED MANUFACTURING SCIENCES



ADVANCED MANUFACTURING SCIENCES BACHELOR DEGREE (B.S.)

A nationally unique bachelor degree program, the Advanced Manufacturing Sciences (AMS) major focuses on advanced (digital) manufacturing equipment, processes and materials, as well as soft skills development for manufacturing career success.

The multidisciplinary Advanced Manufacturing Sciences degree, which is taught by faculty from a variety of technology disciplines, will prepare you for leading-edge careers in various industry sectors.

To earn your bachelor of science degree in Advanced Manufacturing Sciences, you will complete a common core of courses focused on subjects and experiences that are critical to a successful career in Advanced Manufacturing. In addition to that core, you'll integrate one of eight concentrations such as Aerospace, Civil Engineering Technology/Construction, Computer Information Systems, Industrial Design or Operations Management.

The MSU Denver Advanced Manufacturing Sciences bachelor degree program is designed to help you develop skills in critical thinking, problem-solving, leadership, teamwork, technical writing, computer-aided designing and research and analysis. Plus, you will come to understand Advanced Manufacturing industry sectors, manufacturing materials and processes, testing and inspection, project and budget management, electronics and data management (including cyber-risk).

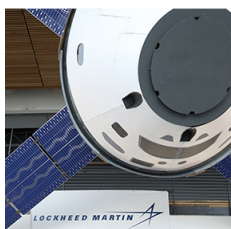
Advanced Manufacturing Sciences Major

Customize your degree by choosing from among eight different concentrations. This allows you to tailor your studies to the industry sector you want to pursue professionally.

- Aerospace Concentration
- Civil Engineering Technology/Construction Concentration
- Computer Information Systems Concentration
- Computer Science Concentration
- Electrical Engineering Technology Concentration
- Industrial Design Concentration
- Mechanical Engineering Technology Concentration
- Operations Management Concentration

**BEL AIR
FINISHING
PRODUCTS
COLORADO
ADVANCED
MANUFACTURING
ASSOCIATION
EYASSAT
HARTWIG, INC.
LOCKHEED
MARTIN SPACE
SYSTEMS CORP.
PADT, INC.
STRATASYS
YORK SPACE
SYSTEMS
ZOLLER, USA**

**AMSI
Industry
Partners
and
Affiliates**



ADVANCED MANUFACTURING SCIENCES

Advanced Manufacturing Sciences Program Benefits:

1. Experience multidisciplinary core classes. Your degree will be comprised of core Advanced Manufacturing Science courses plus your concentration. Your AMS core includes these classes taught by faculty from various departments:

- Foundations of Information Systems
- Technical Writing
- Computing for Advanced Manufacturing
- Technical Drawing and CAD
- Engineering Graphics
- Manufacturing Materials and Processes
- Principles of Quality Assurance
- Manufacturing Analysis
- Organizational Management
- College Trigonometry

2. Study in a state-of-the-art facility. As an Advanced Manufacturing Sciences student, you will have access to technology and experiential laboratories under the auspices of the Advanced Manufacturing Sciences Institute, located in the state-of-the-art Aerospace and Engineering Sciences Building. Here you will develop hands-on skills using cutting-edge precision machine tools and 3D printers in our **Lockheed Martin Additive Manufacturing Lab** and **Hartwig, Inc. Advanced Manufacturing Lab**, programming machines and working with materials currently at the forefront of manufacturing in Colorado and nationwide.

3. Intern with a manufacturing company. The Professional Internship course will give you the invaluable opportunity to work with one of MSU Denver's manufacturing company partners on a real-world project, as well as providing you with critical industry contacts for future employment.

Fueling Advanced Manufacturing at MSU Denver

MSU Denver has developed partnerships with companies and organizations interested in developing advanced manufacturing opportunities in Colorado. The following industry partners provide students career experience and offer faculty and staff collaborative opportunities.

INDUSTRY PARTNERS associated with the Advanced Manufacturing Sciences Institute (AMSI)

• Lockheed Martin Space Systems Corporation (LMSS)

Lockheed Martin employs 97,000 people worldwide and is one of the largest companies in the aerospace, defense, security and technologies industry. A targeted \$1 million investment by LMSS Corporation of Colorado created the Lockheed Martin Additive Manufacturing Laboratory and endowed directorship at MSU Denver.

• Hartwig Inc.

One of the nation's leading computer numerical control (CNC) machine tool distributors, Hartwig has partnered with MSU Denver, providing access to manufacturing equipment, processes and materials. Hartwig will be refreshing the equipment on an on-going basis, thus maintaining state-of-the-art status for our program.

Contributing companies under the Hartwig umbrella: **Okuma America, Tsugami, Edge Technologies, ATS-Systems, Sandvik Coromant, Hexagon, Qualichem.**

• Zoller USA

Specializes in tool measuring and tool management systems (both hardware and software).

• Bel Air Finishing Products

Specializes in surface finishing process technology

• Colorado Advanced Manufacturing Association (CAMA)

The Colorado Advanced Manufacturing Association is Colorado's only statewide, member-based professional organization dedicated to promoting manufacturing in the Centennial state. CAMA runs a teaching/learning center for members at MSU Denver.



Okuma M560 Vertical Milling Center



Stratasys Fortus 900mc 3D Printer

Your Employment Outlook:

COLORADO ADVANCED MANUFACTURING EMPLOYMENT STATISTICS

5,900 150,700



Manufacturing
Firms



Employees

\$73,301



Average Annual Salary
Bachelor's Degree or Higher
Full-Time Workers 25 Years
and Older

Source: The Colorado Office of
Economic Development and
International Trade (OEDIT)

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