Manufacturing Engineering

What Do Manufacturing Engineers Do?
Manufacturing engineers use complex systems, high-tech equipment, robots, and machines to convert a few pennies worth of raw materials into finished products worth hundreds of that. Be ready for the exciting world of manufacturing.

What Skills Are Needed?
Manufacturing engineers draw upon a wide array of skills—math, science, and interpersonal. They also need good manual skills and an appreciation for things well made. Most of all, they need vision, creativity, and ambition.

Where Can I Work After Graduation?
Bradley manufacturing graduates currently hold leadership positions at companies such as The Boeing Company, Caterpillar Inc., John Deere & Co., Ford Motor Company, Motorola, and Hewlett Packard.

List of Scholarships

Presidential Schlolarship
Deans Scholarship
Caterpillar Employee Dependents Scholarship
Legacy Scholarship
State-Specific Scholarships
Transfer Scholarship
Transfer Excellence Scholarship
IMET Scholarships

Nearly $50,000 in departmental scholarships and $45,000 in Caterpillar Manufacturing scholarships are awarded annually to undergraduate students enrolled in Manufacturing Engineering Technology

ABET | Engineering Accreditation Commission

The baccalaureate program in manufacturing engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

Reasons to Choose this Program

1. The average entry-level salary for industrial or manufacturing engineers with a BS degree is **$61,887** which is higher that of engineers holding BS in some other disciplnes
2. CNN Money reports that Industrial (System) Engineering is ranked #1 for the top 50 US jobs with a 45% job growth outlook.
3. Our department has constructed a new curriculum focusing on engineering management courses in industrial, manufacturing, health care, service, and supply chain fields.
4. In our department, you will have an opportunity to learn new technologies in the "**Manufacturing Laboratory** for new Generation Engineers" - a $2 million federal grant.
5. Team projects are directly related to the field, so students get a hands-on experience before they graduate.

Bradley University Contact Info

Check out our website at http://imet.bradley.edu/

For faculty and staff contact information, please see the individual faculty and staff pages on the website.

Should you wish to contact us regarding the program, please direct your special inquiries to:

Dr. Joseph Chen, Ph.D., P.E.
Caterpillar Professor
Department Chairman
Phone: (309) 677-2740
Office:110B Morgan Hall
Email: jchen@bradley.edu

Degree Obtained at

Black Hawk College

Transfers To

BRADLEY University

Manufacturing Engineering Program

Transfer From Black Hawk to Bradley University

Department of Industrial & Manufacturing Engineering & Technology

Updated: March 7, 2018

Program of Study Pre-Engineering(MfE), Black Hawk

First Year

First Semester – 17 hrs (16 BU credits)

CHEM 101 General Chemistry I (CHM 110+111 -4*)	4
ENG 101 Composition I (ENG101 -3*)	3
GE 101 Engineering Graphics & Geometry (IME103 -2*)	3
MATH 124 Calculus I (MTH 121 -4*)	4
ECON 222 Micro Economics (ECO 221 -3 *)	3

Second Semester – 15 hrs (15 BU credits)

MATH 225 Calculus II (MTH122 -4*)	4
PHYS 201 General Physics (PHY110 -4*)	5
SPEC 101 Prin. of Speech Communication(COM 103-3*)	3
BCC Multidisciplinary Integration**	3

Second Year

First Semester – 16 hrs (14 BU credits)

MATH 226 Calculus III (MTH223 -4*)	5
PHYS 202 General Physics (PHY201 -4*)	5
GE 201 Analytical Mechanics: Statics (CE150 -3*)	3
CS 101 Intro to Structured Programming (IME 110 -3*)	3

Second Semester – 15 hrs (15 BU credits)

MATH 235 Differential Equations (MTH224 -3*)	3
GE 205 Ele. Mechanics of Deformable Bodies (CE270-3*)	3
BCC Humanities**	3
BCC Fine Arts **	3
BCC Global Perspectives**	3

*Credits Transfer to Bradley

**Bradley Core Curriculum (BCC) courses may be fulfilled at Black Hawk or Bradley. Consult an advisor for approved courses

For Information Contact:
Cathryn Lass ,Articulation/Transfer Coordinator
Phone: (309)-796-5474 or
email: lassc@bhc.edu

B.S.Mf.E. Bachelor of Science in Manufacturing Engineering, Bradley University

Junior Year

First Semester- 16 hrs

IME 101 Intro. To Industrial & Manufacturing Eng.	1
IME 311 Intro to Engineering Statistical Methods	3
IME 341 Manufacturing Processes	3
IME 301 Engineering Economics I	3
IME 386 Industrial & Managerial Engineering	3
Technical Elective - I	3

Second Semester- 18 hrs

IME 331 Fundamental of Materials Science	3
IMT 362 Metrology and Instrumentation	3
Technical Elective - II	3
ENG 305 Technical Writing	3
Concentration Elective I	3
Concentration Elective II	3

Senior Year

First Semester 18 hrs

EE 327 Fundamentals of Electrical Engineering I	3
IME 395 Solid Model & Rapid Prototyping	3
IME 333 Materials Science Laboratory	1
IME 431 Materials Engineering	2
IME 422 Manufacturing Quality Control	3
Concentration Elective III	3
Technical Elective III	3

Second Semester 16 hrs

IME 499 Senior Industrial Design Project	4
IME 441 Advanced Manufacturing Processes I or	
IME 443 Advanced Manufacturing Processes II	3
IME 445 Computer Aided Manufacturing	3
Concentration Elective IV	3
Technical Elective - IV	3

For Information on Manufacturing Engineering Contact:
Dr. Saeed Saboury at (309) 677-2979, saboury@bradley.edu

Concentration Requirements

The program offers students two concentration options:

Process Engineering Concentration

Process engineering concentration would be aimed at providing the graduates with a strong set of knowledge and skills in product design, manufacturing processes, materials selection and design, automation, and manufacturing systems. The unique courses for this concentration are:

IME 325 Transport Phenomena - 3 hrs
IME 441 Advanced Manufacturing Processes I or
IME 443 Advanced Manufacturing Processes II - 3 hrs
IME 447 Advanced Joining and Fabrication - 3 hrs
IME 495 Design for Manufacturability - 3 hrs

Lean Manufacturing Concentration

Lean manufacturing concentration on the other hand would prepare the graduates to concentrate on creating more value with less work, through cost reduction by the elimination of waste in manufacturing. They would learn about principles like pull processing, perfect first-time quality, waste minimization, continuous improvement, six sigma utilization, flexibility, and production flow. The unique courses for this concentration are:

IME 385 Introduction to Logistics & supply chain - 3 hrs
IME 412 Design and Analysis of Experiments - 3 hrs
IME 466 Facilities Planning - 3 hrs
IME 481 Lean Production Systems - 3 hrs

Notes

- Additional courses may be required.
- Two Writing Intensive Tagged Courses Required (See advisor for the list)
- Approved BCC classes are listed on the website at: https://www.bradley.edu/admissions/transfer/transfer_guides/