Bachelor of Technology

REQUIREMENTS FOR ADMISSION (ONTARIO)
- English
- Calculus
- Chemistry
- Physics

77-80% ANNUAL ADMISSION AVERAGE | 240 TARGET ENROLMENT | ( *) OUA APPLICATION CODE

TOP 5 PROGRAM STRENGTHS (according to surveyed students)
- Hands-on labs: Students spend 700+ hours in the lab applying engineering theory
- Small class sizes: Our average lecture size is 40-60 students
- Co-op work: This required program component allows students to gain meaningful work experience and make career connections
- Quality of facilities: Engineering Technology Building (2009) and McMaster Automotive Resources Centre (2013)
- Management courses: Approximately 25% of the curriculum is devoted to courses in business and management

FIRST YEAR AT A GLANCE

TOTAL: 30 units REQUIRED: 30 units

First year courses:
- Engineering Technology 1CH3 – Chemistry
- Engineering Technology 1CP3 – C++ Programming
- Engineering Technology 1EL3 – Electricity and Electronics I
- Engineering Technology 1MC3 – Mathematics I
- Engineering Technology 1MT3 – Mathematics II
- Engineering Technology 1PH3 – Physics
- General Technology 1CS3 – Communication Skills I
- General Technology 1CT3 – Communication Skills II
- WHMIS 1A00 – Introduction to Health & Safety

Plus 6 units from course list of chosen stream:

Automotive and Vehicle Engineering Technology Stream
- Engineering Technology 1ME3 – Mechanics
- Engineering Technology 1PR3 – Object-Oriented Programming

Biotechnology Stream
- Engineering Technology 1AC3 – Analytical Chemistry
- Engineering Technology 1BD3 – Biology

Automation Engineering Technology Stream
- Engineering Technology 1AC3 – Analytical Chemistry
- Engineering Technology 1PR3 – Object-Oriented Programming

WHY CHOOSE McMASTER?

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FUTURE CAREERS

What have our graduates done with their degree?

Automotive and Vehicle Engineering Technology
- Develop new hybrid and green vehicle technologies
- Design power and control systems, engines and bodies
- Perform complex analysis on mechanical components, assemblies and systems

TOP CO-OP EMPLOYERS: Fiat Chrysler Canada, General Motors Canada, PCC Aerostructures, Magna, Linear

Biotechnology
- Work in biotech, food, and pharmaceutical industries
- Monitoring quality control and assurance of biomaterials and bioproducts
- Work in bioinformatics, genetic and protein engineering, nanobiotechnology, and bioremediation

TOP CO-OP EMPLOYERS: Apeiron, Maple Leaf Foods, Ontario Ministry of Agriculture and Food, PepsiCo Canada, St. Joseph’s Healthcare Hamilton

Automation Engineering Technology
- Use hardware and software to improve the efficiency of plants and labs in industries such as petrochemicals, power generation, pharmaceuticals, and primary steel
- Design control systems and assembly lines
- Develop and program robotics
- Advise on safety policies and procedures for automated technologies

TOP CO-OP EMPLOYERS: Event Micrometers, GE Canada, RBC Royal Bank, Opus Automation

LEADING TECHNOLOGY | THREE STREAM SPECIALIZATIONS | WEBSITE: eng.mcmaster.ca/future

The W. Booth School of Engineering Practice and Technology offers the Bachelor of Technology (B.Tech) program in response to today’s industry needs.

Our students go beyond learning from a textbook – they learn from experiential projects in lectures, labs, and paid industry employment.
Students apply directly to their desired stream specialization. There are three streams from which to choose:
- Automotive and Vehicle Engineering Technology (AVET)
- Biotechnology (BIO)
- Automation Engineering Technology (AET)

Management courses are integrated into the curriculum for all streams.

BEYOND FIRST YEAR

MANDATORY CO-OP
- Mandatory 12 months of paid co-op work experience
- Support is provided by Engineering Co-op and Career Services
- Wage rates for co-ops are between $15-$22/hour

The co-op schedule is as follows:

<table>
<thead>
<tr>
<th>FALL</th>
<th>WINTER</th>
<th>SUMMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 AVET/BIO/AET 1 – A</td>
<td>AVET/BIO/AET 1 – B</td>
<td>Optional CO-OP</td>
</tr>
<tr>
<td>Year 2 AVET/BIO/AET 2 – A</td>
<td>AVET/BIO/AET 2 – B</td>
<td>4 Month CO-OP</td>
</tr>
<tr>
<td>Year 3 AVET/BIO/AET 3 – A</td>
<td>8 Month CO-OP</td>
<td></td>
</tr>
<tr>
<td>Year 4 AVET/BIO/AET 3 – B</td>
<td>AVET/BIO/AET 4 – A</td>
<td>Optional CO-OP</td>
</tr>
<tr>
<td>Year 5 AVET/BIO/AET 4 – B</td>
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CANADA RANKS AMONG THE TOP FIVE COUNTRIES IN BIOTECHNOLOGY

McMASTER VIEWBOOK 2018

MCMaster VIEWBOOK 2018

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B. Tech. Management Advantage

The B. Tech. program has long recognized industry demands for engineering technology professionals who understand the essentials of business and management. The program has responded to these demands by integrating technical and management courses into the B. Tech. curriculum. As a result, our students have the knowledge and skills necessary to become effective project leaders, supervisors and managers within changing professional environments.

The B. Tech. program develops students and graduates with a rare combination of applied engineering and management skills. Engineering technology graduates often understand the technology but not the business side of the industry. Business School graduates often understand engineering and management skills. Engineering technology graduates often understand the business but not the technology. B. Tech. graduates understand both sides of the picture, and perhaps most importantly, how the two sides fit together. B.Tech. students and graduates are able to “think inside and outside the box”, in fact they can re-design the box and help sell it.

CIM ACCREDITATION

The B. Tech. program is accredited by the Canadian Institute of Management (CIM), which recognizes B. Tech. as a leader in business and management education.

AUTOMOTIVE AND VEHICLE ENGINEERING TECHNOLOGY

Learn about the construction, operation, design, and manufacturing of modern vehicles. Evaluate current and future automotive propulsion technologies, advanced combustion systems, hybrid powertrains, and alternative fuel vehicles. Use engineering fundamentals and state-of-the-art software to identify, formulate, analyze, and solve problems related to the machine components and assemblies used in the automotive industry.

PROGRAM STRUCTURE

Management | 25%
Engineering Foundation | 20%
Mechatronics | 10%
Automotive | 20%
Mechanical | 25%

ALUMNI | WHERE ARE THEY NOW?
Design Engineer, Honda Manufacturing
Research Engineer, Ford Motor Company
M.Eng Design, McMaster University
M.A.Sc. Mechanical Engineering, McMaster University

AUTOMATION ENGINEERING TECHNOLOGY

Today, manufacturing and processing facilities operate at high speeds with accuracy and limited personnel, while simple and complicated devices perform automated tasks. Prepare yourself for careers in automation through this multidisciplinary program with subjects from chemical, mechanical, electrical, electronics, and computer engineering. Develop analytical and design skills and gain specialized knowledge in sensors, instruments, actuators, industrial networks, process control, SCADA, programming, robotics, and the integration of plant floor data with business systems.

PROGRAM STRUCTURE

Management | 25%
Engineering Foundation | 20%
Automation and Controls | 20%
Chemical | 10%
Electrical and Computer | 25%

ALUMNI | WHERE ARE THEY NOW?
Process Controls Specialist, GE Water and Process Technologies
Senior Automation Analyst, Arcelor-Mittal Dofasco
M.A.Sc. Electrical & Computer Engineering, McMaster University
M.Eng Manufacturing, McMaster University

DEVELOPING T-SHAPED PROFESSIONALS

B. Tech.’s interdisciplinary focus develops T-Shaped Professionals – meaning they have deep knowledge and skills in their technical discipline (vertical), yet are capable of understanding and providing technological solutions within the business context (horizontal). This convergence of engineering technology and business and management education enables our graduates to ‘hit the ground running’ and make significant contributions within ever-changing business and technical environments.

HORIZONTAL: BUSINESS AND MANAGEMENT EXPERTISE

- Management
- Operations
- Marketing
- Entrepreneurship
- Finance
- Quality
- Communications

VERTICAL: ENGINEERING TECHNOLOGY EXPERTISE

- Automotive and Vehicle Engineering Technology (AVET)
- Biotechnology (BKI)
- Automation Engineering Technology (AET)

WILL SOMEONE BUY IT?
WILL WE MAKE A PROFIT?
CAN WE MAKE IT?

BIOTECHNOLOGY

Biotechnology is an interdisciplinary field merging basic science, applied science, and engineering. Study genetic engineering, cell biology, molecular biology, and microbiology, analytical instrumentation, and bio processing. Learn about the latest research in immunology, virology, genomics, proteomics, and bioinformatics.

PROGRAM STRUCTURE

Management | 25%
Engineering Foundation | 20%
Biomedical | 10%
Chemical | 10%
Biochemical | 30%

ALUMNI | WHERE ARE THEY NOW?
Chemist, Estée Lauder
Production Supervisor, Bunge
M.Sc. Ontario Institute for Cancer Research, UOIT
Master of Biotechnology, University of Toronto
PhD in Biomedical Engineering, McMaster University

MEASUREMENT SCIENCE

Specialized measurement programs offer fundamental skills in the measurement sciences. These programs are similar in structure, but with different emphases in key areas. Graduates are employed in technical and management positions, in research, development, and management.

PROGRAM STRUCTURE

Management | 25%
Instrumentation | 20%
Optics | 15%
Thermodynamics | 20%
Chemical | 10%

ALUMNI | WHERE ARE THEY NOW?
Chemist, National Research Council
Senior Research Engineer, Analog Devices
Senior Development Engineer, Fraser River Metals
PhD in Biotechnology, University of Toronto
PhD in Chemistry, McMaster University

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