

#### **MOTP155 - Power Plant Principles**

This course will provide a study of the design features, materials and operating principles of the internal combustion engine. This study will be applied to diagnosis and repair, rework and modification and both component failure and service analysis.

#### **MOTP156 - Electrical and Electronics Principles**

This course pertains to a study of the design features and operating principles of electrical systems used, such as cranking, charging, lighting and accessories systems and electronic systems, used as ignition and computerized fuel injection. The student also learns to solve applied problems, perform laboratory experiments, write lab reports and analyse performance tests according to manufacturers' recommendations.

#### **MOTP157 - Hydraulics and Pneumatics Principles**

This course will provide students with a working knowledge of hydraulics and pneumatics principles, including the design features and operation of fluid conditioners, pumps, valves and actuators. The student also learns to solve problems related to the study of hydraulic and pneumatic power systems.

#### **MOTP158 - Fuel Systems Principles**

This course will provide a study of the design features and operating principles of selected fuel and related systems (intake, exhaust and emission control) as they apply to internal combustion engines using gasoline or diesel fuel. This study will be applied to diagnosis and repair, rework and modification and both failure and service analysis.

#### **MOTP159 - Power Transmission Principles**

This course will provide an in-depth study of the design features, operating principles, static and dynamic test procedures of power transmission and driveline systems, as well as an introduction to air conditioning. The student will also learn to evaluate system problems logically, describe and perform service repair operations.

#### **MOTP180 - Motive Power Seminars**

This course is designed to provide the student with opportunities to explore a variety of topics that are pertinent to the Motive Power field and to careers in the industry. This course is conducted in a seminar/guest lecturer format. Topics may vary from year to year according to industry shifts and needs.

#### **MOTP333 - Heavy Duty Electrical Systems Technology**

This course will enable the students to conduct static and dynamic heavy duty electrical systems performance tests, analyze and evaluate electrical systems problems logically, prescribe and effect corrective service and repair measures to manufacturers' specifications, develop and conduct electrical systems quality control checks, perform comparative studies on motive power electrical systems equipment efficiency and communicate effectively with the public and customers.

#### **MOTP339 - Applied Vehicle Dynamics**

This course will provide an in-depth study of the action of forces on vehicles and vehicle components either in motion or at rest. Applied problems of vehicle control, vehicle performance and handling, and applied engineering mechanics are incorporated in this course to illustrate the various forces to which vehicles are subjected.

#### **MOTP366 - Diesel Engine Mgmt. Systems Technology**

An in-depth study of the procedures and principles required to perform diesel engine and both mechanical and electronic fuel injection system tune-ups. The student also learns to evaluate the system problems logically, prescribe and effect corrective service and repair measures and conduct comparative tests.

#### **MOTP370 - Power Plant Performance Principles**

An in-depth study of the design features, and operating principles of piston-type heat engines. The student learns to evaluate system operation through an understanding of engine performance measurement techniques and performance measuring devices.

#### **MOTP372 - Component Failure Prevention & Analysis**

A study of failures encountered in automotive vehicle components and systems. Using knowledge of design, construction, materials science and operating conditions, the student will identify the type of failure, trace the series of events that led to the failure and provide advice as to necessary preventive measures.

#### **MOTP376 - H.D. Vehicle Controls Systems Technology**

In order to perform required corrective service and repair measures, this course pertains to the study of the design features, operating principles, and static and dynamic test procedures of the hydraulic, gear train, steering, braking, and air conditioning systems as used on heavy duty vehicles.

#### **MOTP379 - Diesel Fuel Management Systems**

An in-depth study of the design features and operating principles of electronically and mechanically governed diesel fuel injections systems including in-line, distributor, pressure-time and unit body systems. The student also learns to evaluate system problems logically, prescribe and effect corrective service and repair measures and conduct comparative fuel system tests.

#### **MOTP380 - Motive Power Seminars**

This seminar course will provide students with an opportunity to explore a variety of experiences and tasks designed to broaden their knowledge of the Motive Power Industry. Through guest speakers, industry visits and student-organized events, students will gain knowledge and skills in a variety of related areas.

#### **MTHM170 - Applied Mathematics**

This course will provide students with the necessary mathematical knowledge and skills required to understand, interpret and find solutions for analytical problems in the motive power industry.

### **Application Procedure**

In order to apply for admission to this program an applicant must complete an "Application for Admission to Ontario Colleges of Applied Arts and Technology" form and submit this form to the:

Ontario College Application Services  
P.O. Box 810, Guelph, Ontario, N1H 6M4  
1-888-892-2228

Application Forms and Applicant Guidebooks are available at Ontario Secondary Schools, at Ontario Colleges of Applied Arts and Technology and at the Ontario College Application Services office.

### **Admission to the College**

Complete information concerning admission to programs at Fanshawe College may be found in the Central Admission Publication located in the Office of the Registrar, Fanshawe College.

The College reserves the right to make changes in the information in this brochure without prior notice.

The College reserves the right to cancel at any time a program, course, program major or option, change the location and/or term in which a program or course is offered, or withdraw an offer of admission both prior to and after its acceptance by an applicant or student because of insufficient applications or registrations, over-acceptance of offers of admission, budgetary constraints, or for other such reasons. In the event the College exercises such right, the College's sole liability will be the return of any monies paid by the applicant or student to the College.

*This brochure is available in alternative formats, upon request, for persons with disabilities.*

For further information on admission and registration, contact: Office of the Registrar, (519) 452-4277

For further specific program information, contact: Motive Power Technology Division: (519) 452-4450

**Fanshawe College**  
1460 Oxford St. E.  
P.O. Box 7005  
London, ON, N5Y 5R6

[www.fanshawec.on.ca](http://www.fanshawec.on.ca)

Printed in Canada 00 09 27

# Fanshawe COLLEGE

## *Motive Power Technician (Diesel)*



*Community Driven...  
Student Focused*



# Motive Power Technician (Diesel)

A Two Year Diploma Program

Program Code: MTD2 Campus Code: LC

LC - London September/January Admission

Motive Power Technology Division: (519) 452-4450

Average Salary: N/A

Current Grade 9 and Grade 10 Secondary School students considering admission to this program for September, 2003 and beyond should consult the 2001/2002 Fanshawe College Program Guide for the academic admission requirements for 2003/2004.

The two year Motive Power Technician program (Diesel Major) is designed to develop graduates with essential technical, organizational, interpersonal and administrative skills required for the motive power truck and heavy equipment industry. Students will learn to communicate effectively, diagnose and solve problems logically and to undertake responsible work tasks with a minimum of supervision. As well, students will be provided with comprehensive learning experiences on internal combustion compression ignition power trains and related modern heavy duty systems.

## Career Opportunities

Graduates will find employment opportunities with motive power equipment manufacturers and dealers, commercial vehicle and heavy duty equipment manufacturers and dealers in servicing, sales, merchandising and cost estimating with advancement possibilities to supervisory and administrative positions.

MTC11	Level 1	Hrs/Wk
<i>Select 1 of the following:</i>		
CMNC155	Language and Communication Skills I	3.0
MNMT152	Personal Management Principles	2.0
MOTP158	Fuel Systems Principles	6.0
MOTP159	Power Transmission Principles	6.0
MTHM170	Applied Mathematics	3.0
OR		
CMNC155	Language and Communication Skills I	3.0
MNMT152	Personal Management Principles	2.0
MOTP155	Power Plant Principles	6.0
MOTP156	Electrical and Electronics Principles	7.0
MOTP180	Motive Power Seminars	3.0
MTHM170	Applied Mathematics	3.0

MTC12	Level 2	Hrs/Wk
<i>Select 1 of the following:</i>		
MKTG167	Applied Marketing Principles	3.0
MOTP155	Power Plant Principles	6.0
MOTP156	Electrical and Electronics Principles	7.0
MOTP157	Hydraulics and Pneumatics Principles	3.0
MOTP180	Motive Power Seminars	3.0

OR		
MKTG167	Applied Marketing Principles	3.0
MOTP157	Hydraulics and Pneumatics Principles	3.0
MOTP158	Fuel Systems Principles	6.0
MOTP159	Power Transmission Principles	6.0

MTD23	Level 3	Hrs/Wk
<i>Select 1 of the following:</i>		
CMNC255	Language and Communication Skills II	3.0
OR		
CMNC355	Language and Communication Skills III	3.0
<i>Select 1 of the following:</i>		
MOTP370	Power Plant Performance Principles	3.0
MOTP376	H.D. Vehicle Controls Systems Technology	6.0
MOTP379	Diesel Fuel Management Systems	6.0
MOTP380	Motive Power Seminars	3.0
OR		
MNGE387	Applied Management Principles	5.0
MOTP333	Heavy Duty Electrical Systems Technology	5.0
MOTP339	Applied Vehicle Dynamics	3.0
MOTP366	Diesel Engine Mgmt. Systems Technology	6.0
MOTP372	Component Failure Prevention & Analysis	3.0

MTD24	Level 4	Hrs/Wk
<i>Select 1 of the following:</i>		
CMNC355	Language and Communication Skills III	3.0
OR		
CMNC255	Language and Communication Skills II	3.0
<i>Select 1 of the following:</i>		
MNGE387	Applied Management Principles	5.0
MOTP333	Heavy Duty Electrical Systems Technology	5.0
MOTP339	Applied Vehicle Dynamics	3.0
MOTP366	Diesel Engine Mgmt. Systems Technology	6.0
MOTP372	Component Failure Prevention & Analysis	3.0
OR		
MOTP370	Power Plant Performance Principles	3.0
MOTP376	H.D. Vehicle Controls Systems Technology	6.0
MOTP379	Diesel Fuel Management Systems	6.0
MOTP380	Motive Power Seminars	3.0

## Program Eligibility Criteria

### Required Academic Preparation

OSSD with courses at the General Level with:

- Grade 12 Mathematics for Technology\*

Or

BTSD-Level 4 Certificate

Or

Pre-Technology Certificate\*\*

Or

Ontario High School Equivalency Certificate (GED) and:

- Grade 12 Mathematics for Technology\*

Or

Mature Applicant with standing in the required course stated above

Note: Applicants who lack required courses may be admitted to the program subject to appropriate prior upgrading.

## Recommended Academic Preparation

- Grade 11 or Grade 12 Transportation Technology courses
- Grade 11 or Grade 12 Physics or Chemistry
- Computer Studies courses
- Marketing course

## Recommended Personal Preparation

Training or experience in any of the following areas may be helpful preparation for this program: technological studies in automotive, welding or drafting courses; physics or environmental science courses; part-time employment in the motive power industry.

## Applicant Selection Criteria

Where the number of eligible applicants exceeds the available spaces in the program, the Applicant Selection Criteria will be:

- Preference for Permanent Residents of Ontario.
- Receipt of Application by February 1st.
- Achievement in the required academic preparation.
- Achievement in the recommended academic preparation.

### Notes:

- \*Grade 12 Mathematics for Technology preferred but the following Mathematics courses are acceptable:
  - Grade 12 Mathematics for Business and Consumers
  - Grade 12 Mathematics, Advanced
  - OAC Finite Mathematics
- \*\*Students admitted to the Pre-Technology program are guaranteed admission the following year to a School of Technology career program (excluding the programs in the Information Technology Division) provided that they achieve a 'B' average in the Pre-Technology program and fulfill any other specified conditions. Normally these students are admitted to their first choice career program.

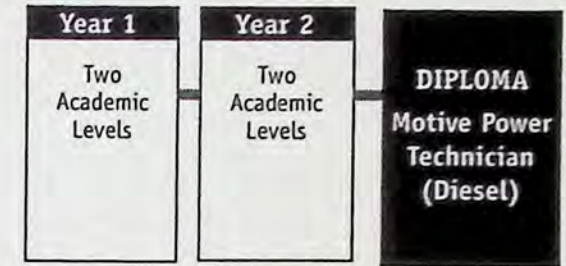
## Advanced Standing

Credit for any course in the program will be given to students who can demonstrate that they have the required background to meet the objectives of the course.

## Approximate Costs (2000/2001)

Fees for:	Levels 1 & 2 \$2143.90	Levels 3 & 4 \$2143.90
Books and Supplies:	\$1007.00 plus \$16.00 for optional SAE/STS Membership	\$610.00 plus \$16.00 for optional SAE/STS Membership

## Program Progression



## Course Descriptions

**CMNC155 - Language and Communication Skills I**  
CMNC 155 provides the student with an opportunity to establish skills in reading, writing and editing documents for work-related and personal uses. Students will also practice important study/reading skills and apply grammar rules.

**CMNC255 - Language and Communication Skills II**  
CMNC 255 provides the student with the skills and knowledge required to formulate and articulate his or her responses to literature, with emphasis upon the analysis of audience, purpose, message, and prose texts.

**CMNC355 - Language and Communication Skills III**  
This course will permit the student to perform primary and secondary research, to shape, organize and document a formal report and to present a persuasive oral report.

**MKTG167 - Applied Marketing Principles**  
The course will provide an introduction to the fundamental marketing principles and the relationships between transportation, society and the marketing of goods and services.

**MNGE387 - Applied Management Principles**  
The student will gain a working knowledge of the organizational behaviour, shop management, accounting practices and applied business practice skills requirements for personnel employed in various areas of responsibility in the Motive Power Industry. Effectiveness and quality improvement strategies and analyses of the respective systems and controls are emphasized.

**MNMT152 - Personal Management Principles**  
This course will provide the student with an introduction to organizational structures, behaviour, business practices and procedures of the Motive Power service industry. As well, the student will learn to apply essential learning skills to cope more effectively with the overall program requirements.