2018-2019 TTC Catalog - Automotive Technology (AUT)

AUT 001 - AUT 001

Lec: 0 **Lab:** 0 **Credit:** *

Indicates credit given for automotive course work transferred from another college for which there is no equivalent course at TTC. *Hours vary depending on external course.

Division: Manufacturing and Maintenance

AUT 101 - Engine Fundamentals

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course is a study of automotive engine fundamentals and principles of engine operations, including horsepower calculations, cubic inch displacement calculations, efficiency combustion theory, etc. Types of engines, cylinders, valve arrangements, lubrications, fuel, exhaust and cooling systems also are included.

Prerequisite

ENG 100

and

MAT 032

or appropriate test scores

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 103 - Engine Reconditioning

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a review of engine fundamentals and overhaul procedures, including engine block preparation, cleaning, specifications, measurements with micrometers, assembly and operation.

Prerequisite

AUT 101

and

AUT 131

or

departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 111 - Brakes

Lec: 1.5 **Lab:** 4.5 **Credit:** 3.0

This course is a study of the fundamentals of hydraulics and brake components and their application to automotive brake systems.

Prerequisite

AUT 101

and

AUT 131

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 116 - Manual Transmission and Axle

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is an advanced study of manual transmissions and transaxles, including proper overhaul procedures for axles and manual transmissions and transaxles.

Prerequisite

AUT 101

and

AUT 131

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 122 - Suspension and Alignment

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a continued study of suspension and steering systems including nonadjustable and adjustable wheel alignment angles. The student becomes familiar with the use and application of balancing and alignment equipment.

Prerequisite

AUT 101

and

AUT 131

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 131 - Electrical Systems

Lec: 1.5 **Lab:** 4.5 **Credit:** 3.0

This course is a study of the individual systems and components that form the entire automobile electrical system. The course includes starting and charging systems, ignition, engine, chassis and accessory systems, as well as instruction in the proper use of electrical schematics.

Prerequisite

AUT 101

and

AUT 133

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 133 - Electrical Fundamentals

Lec: 1.5 **Lab:** 4.5 **Credit:** 3.0

This course is a study of the theories of electricity including magnetism, series and parallel circuits, Ohm’s Law, and an introduction to the use of various types of electrical test equipment.

Prerequisite

ENG 100

and

MAT 032

or appropriate test scores

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 145 - Engine Performance

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course covers the diagnosis of various performance problems using the appropriate diagnostic equipment and diagnostic manuals. Logical thinking also is included in the course.

Prerequisite

AUT 149

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 149 - Ignition and Fuel Systems

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a study of ignition system operation and how it relates to fuel systems for proper engine performance.

Prerequisite

AUT 101

and

AUT 131

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 152 - Automatic Transmission

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a basic study of power flow and hydraulics, including the study of the torque converter operation.

Prerequisite

AUT 116

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 241 - Automotive Air Conditioning

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a study in the principles of refrigeration, operation and testing procedures to determine the cause of malfunction, and servicing or repairing by approved methods. Emphasis is on special tools, equipment and safety procedures.

Prerequisite

AUT 101

and

AUT 131

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 252 - Advanced Automatic Transmission

Lec: 3.0 **Lab:** 3.0 **Credit:** 4.0

This course is an advanced study of automatic transmission and transaxle electronics, including torque converter clutch and clutch controls.

Prerequisite

AUT 152

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 263 - Advanced Automotive Machining

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This advanced course covers proper procedures in the use of auto machine shop equipment, including cylinder block reboring, align boring, head and block resurfacing, and cylinder head reconditioning.

Prerequisite

AUT 103

or departmental approval

Grade Type: Letter Grade

Division: Manufacturing and Maintenance

AUT 299 - Evolving Technologies

Lec: 2.0 **Lab:** 6.0 **Credit:** 4.0

This course is a study of evolving technologies in response to frequent changes in federal and state mandates, rules and regulations. Emphasis will be on the advances of the internal combustion engine fuel system, transmission, and on-board electronics.

Prerequisite

AUT 145

Grade Type: Letter Grade

Division: Manufacturing and Maintenance
