

21250 Stevens Creek Blvd Cupertino, CA 95014 408-864-5678 www.deanza.edu

#### Academic Year

# 2014 - 2015

# **Automotive Technology**

An entry-level program for full-time day students

Department Head Bldg. E1 Rm. 14A 408-864-8840 Division Office Kirsch Center Building Room KC 228 408-864-8773 Counseling Center Student and Community Services Bldg. 2nd Fl. 408-864-5400

Please visit the Counseling Center to apply for certificates and degrees, and for academic planning assistance.

### Certificate of Achievement-Advanced Level Requirements

1. A minimum "C" grade in each major course.

Demonstrated proficiency in English and mathematics as evidenced by eligibility for EWRT IA or ESL 5 and eligibility for MATH 114.

Note: A maximum of 18 quarter units may be transferred from other academic institutions.

### A.A./A.S. Degree Requirements

- Completion of all General Education (GE) requirements (31-42 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA ("C" average).
- Completion of all major requirements. Each major course must be completed with a minimum "C" grade.
   Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).
   Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.
- 3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA ("C" average). All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA ("C" average). Note: A minimum of 24 quarter units must be earned at De Anza College.

Major courses for certificates and degrees must be completed with a letter grade unless a particular course is only offered on a pass/no-pass basis.

### Advanced Automotive Technology Certificate of Achievement

This certificate program prepares students for an entry-level position in the automotive repair industry in advanced automotive electrical/environmental concepts.

Student Learning Outcomes - upon completion students will be able to:
demonstrate understanding of general advanced automotive electrical/environmental concepts as they relate to automotive service, diagnosis, and repair.

- I. Meet the requirements for this certificate level.
- 2. Complete the following.

| AUTO 60K | Advanced Body Electrical                   | 4.5    |
|----------|--|--------|
| AUTO 67A | Hybrid Electric Vehicles                   | 4.5    |
| AUTO 67B | Plug-In Electric Vehicle Technology        | 4.5    |
| AUTO 67J | Introduction to Automotive and Light Truck |        |
|          | Diesel Systems                             | 4.5    |
| AUTO 66  | Automotive Air Conditioning                | 4.5    |
|          | Total Units Required                       | . 22.5 |

## **Automotive Technology**

### Certificate of Achievement-Advanced (Options A - C)

Complete the required courses for your option choice and meet the corresponding certificate requirements.

#### Option A: Automotive Machining and Engine Repair

This program prepares students for an entry-level position in the automotive repair industry in engine diagnostics.

Student Learning Outcomes - upon completion, students will be able to:

- demonstrate an application of four-stroke engine theory, basic safe machining practices, estimates and repair orders, and engine assembly.
- identify basic electrical circuits and diagnose automotive electrical circuit systems.
- apply the basic principles of physics as they work in the automotive industry.
- demonstrate knowledge of the job procurement process and hazardous materials/waste handling in the automotive industry.

| AUTO 53A | Automotive Mechanisms                      | 3  |
|----------|--|----|
| AUTO 53B | Automotive Electrical & Mechanical Systems | 2  |
| AUTO 57A | Career Research and Employment             |    |
|          | in the Automotive Industry                 | 2  |
| AUTO 94A | Principles of Four Stroke Cycle            |    |
|          | Gas and Diesel Engines                     | 5  |
| AUTO 94B | Automotive Machining and Engine Service    | 5  |
| AUTO 94C | Automotive Machining and Engine Service    | 5  |
| AUTO 94D | Automotive Machining and Engine Service    | 5  |
| AUTO 94E | Automotive Machining and Engine Service    | 5  |
| AUTO 94F | Automotive Machining and Engine Service    | 5  |
|          | Total Units Required                       | 37 |

#### Option B: Automotive Engine Performance

This program prepares students for an entry-level position in the automotive repair industry.

Student Learning Outcomes - upon completion, students will be able to:

- diagnose basic electrical, engine performance, and emissions systems.
- identify basic electrical circuits and diagnose automotive electrical circuit systems.
- apply the basic principles of physics as they work in the automotive industry.

| AUTO 53A | Automotive Mechanisms                | 3    |
|----------|--------------------------------------|------|
| AUTO 53B | Automotive Electrical & Mechanical   |      |
|          | Systems                              | 2    |
| AUTO 57A | Career Research and Employment       |      |
|          | in the Automotive Industry           | 2    |
| AUTO 99A | Automotive Electricity, Battery, and |      |
|          | Cranking Systems                     | 6.25 |
| AUTO 99B | Automotive Charging, Ignition, and   |      |
|          | Accessory Systems                    | 6.25 |
| AUTO 99C | Introduction to Engine Performance   |      |
|          | Systems                              | 6.25 |

| AUTO 99D | Intermediate Engine Performance |        |
|----------|---------------------------------|--------|
|          | Systems                         | 6.25   |
| AUTO 99E | Basic Engine Performance        |        |
|          | Diagnostic Procedures           | 6.25   |
| AUTO 99F | Intermediate Engine Performance |        |
|          | Diagnostic Procedures           | 6.25   |
|          | Total Units Required            | . 44.5 |

#### **Option C: Automotive Chassis and Powertrain**

This certificate program prepares students for an entry-level position in the automotive repair industry.

Student Learning Outcomes - upon completion, students will be able to:

- perform undercar inspections and repair suspension, steering, hydraulic, and active braking systems.
- demonstrate overall operation of an automotive transmission and differential as it relates to service, diagnosis, and repair.
- identify basic electrical circuits and diagnose automotive electrical circuit systems.
- apply the basic principles of physics as they work in the automotive industry.
- use written and oral communication skills to write repair orders and speak with customers.

| AUTO 53A | Automotive Mechanisms                      | 3   |
|----------|--|-----|
| AUTO 53B | Automotive Electrical & Mechanical Systems | 2   |
| AUTO 57A | Career Research and Employment             |     |
|          | in the Automotive Industry                 | 2   |
| AUTO 91A | Automotive Brake Systems                   | 5   |
| AUTO 92A | Automotive Steering and Suspension         | 5   |
| AUTO 92B | Automotive Alignment                       | 5   |
| AUTO 93A | Automotive Final Drive Train               | 5   |
| AUTO 93B | Standard Transaxles                        | 1.5 |
| AUTO 93C | Automatic Transmissions                    | 5   |
| AUTO 93D | Automatic Transaxles                       | 1.5 |
| AUTO 93E | Diagnostic Techniques                      | - 1 |
| AUTO 93F | Automotive Transmission Service            | 5   |
|          | Total Units Required                       | 41  |

# **Automotive Technology**

### A.S. Degree (Options A - C)

Refer to the corresponding description, student learning outcomes, and course requirements for the certificate of achievement-advanced option of your choice.

Complete the prerequisite below and the certificate of achievementadvanced option requirements for the major, and meet the A.A./A.S. degree requirements.

Prerequisite: approved Automotive Technology Course Sequence Contract. See department for an application.

Recommended: One year of automotive educational experience (high school, ROP or De Anza's AUTO 50 series).

| Major     | Requirement: one (1) Automotive Technology |
|-----------|--|
|           | Cert. of Achievement-Advanced,             |
|           | Option A, B, or C (37-44.5)                |
| GE        | General Education (31-42 units)            |
| Electives | Elective courses required when major       |
|           | units plus GE units total is less than 90  |
|           | Total Units Required 90 units              |