

Imperial Valley College

Fall Semester 2013

Basic Shop Skills

AU T 075, Code # 10195 - Course Syllabus

Instructor:	Ronnie Garrie
Office #:	1102A
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Phone Days:	(760) 339-9442 (Monday through Thursday, 7:00AM to 3:30PM)
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Class Starts:	08/20/13 Tuesday, Lecture, Occasional Hands-on Laboratory
Class Ends:	12/03/13 Tuesday, Lecture (Final Exam End of Class)
Class Meetings:	<u>Days</u> <u>Type</u> <u>Time</u> <u>Room</u>
	Tuesday Lecture and Laboratory 06:30PM–09:40PM 1100-1102

Credit Units: **3.00 Units**

Course Description: **AU T 075 – Basic Shop Skills**

This is a comprehensive course in tool usage, nomenclature, and terminology of tools and equipment for the beginning student in the technologies. The course is for the student who has not developed a background in industrial technology, as well as for the bilingual student who wants to improve his/her technical vocabulary.

Student Learning Outcomes (SLOs)

- 1. Identify and locate the most important parts of a vehicle. (ILO1, ILO4)**
- 2. Identify common automotive handtools. (ILO1, ILO3, ILO4)**
- 3. Select the right tool for a given job. (ILO1, ILO3, ILO4)**

Class Goals and Objectives:

To develop safe shop practices and become familiar with Cal/OSHA standards as they apply to the use of basic automotive hand tools and shop practices. To develop good judgment in the selection of the appropriate hand tools for automotive repair procedures. To gain entry level knowledge and skills to successfully continue automotive vocational training.

IVC, as an institution of higher learning, has adopted five universal Student Learning Outcomes (SLO's). They are interconnected with each other. They will be inherent throughout the course:

- 1. Communication skills**
- 2. Critical thinking skills**
- 3. Information literacy**
- 4. Personal responsibility**
- 5. Global awareness**

The class will follow a performance-based curriculum that presents every student with the knowledge tools that will instill the skills to excel in basic shop skills as well as a responsible member of the community.

Student Learning Outcome Objectives:

- Identify a large number of basic automotive and tools by their proper name.**
- Identify a number of automotive repair uses for basic hand tools.**
- Identify hazards associated with the use of basic hand tools.**
- Display the correct and safe way of using basic tools.**
- Work/study cooperatively and contribute/assist fellow students in class learning.**
- Communicate and demonstrate global awareness and responsibility.**

Measurable Course Objectives - Students Will Be Able To:

1. **Demonstrate safe job practices.**
 - Describe general safety rules for the auto shop.
 - Shop machines.
 - Hoists, jacks, lifts, and safety standards.
 - Battery charging and electrical equipment.
 - Eye and hand protection, clothing, breathing protection.
 - Fire and electrical emergencies.
 - Location and multi-class fire extinguishers.
 - Location of emergency items.
 - Safety shop color codes.
 - Compressed air, hand tools, air rules, and environmental safety.
2. **Demonstrate how to use basic hand tools.**
 - Common measuring tools.
 - Hand and air wrenches/hammers.
 - Coil spring compressors, brake pliers, screwdrivers, and hammer.
 - Lubrication tools.
 - Battery and charging system tools.
 - Brake measurement tools.
 - Suspension and wheel alignment electronic tools.
 - Electrical circuit tools.
3. **Methods of evaluation to determine if objectives have been met by student/exam and grading procedures:**
 - There will be a mid-term and final exam. Each will be worth 25% of the student's final grade. The mid-term will have 82 questions. The final exam will have 112 questions. ASE and Tool Identification type tests.
 - **There will be a student formal verbal class presentation due by the 8th week of this course, given before the lecture session is completed. The presentation will be delivered on a part of the subject material of this course. The length will be 5 to 15 minutes long.**
 - There will be homework tests each week on the chapters that have been assigned. The presentation and the homework tests will be worth 25% of the student's grade. The remaining 25% of the student's grade will be based on the student's performance in the student's workbook and worksheets.
 - All quizzes and tests must be completed and delivered to the instructor the following week they are assigned. Midterm and Final Tests will be delivered to the instructor after completion in class.

Required Textbook and Workbook:

Modern Automotive Technology, Goodheart-Willcox 2009, James E. Duffy 7th Edition (Textbook).

Modern Automotive Technology, Goodheart-Willcox 2009, James E. Duffy 7th Edition (Workbook).

Class Dates and Outlines – Instruction Methodology:

Week 1:

August 20 – Chapter 5: Class Orientation. Safety Orientation. Shop safety, battery safety, proper clothing, proper use of shop equipment, personal protective equipment, accident prevention, and hazardous materials. No homework this week but textbooks need to be purchased. Safety procedures to be followed in the shop. Shop Safety Training and test. Several subject related practical application material worksheets, handed out during the class, will be completed and handed in to the instructor at the end of the session.

- Week 2: August 27 – Chapter 1: The Automobile. Hand in to the instructor at the beginning of the lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 9 - 14 will be completed in class and evaluated at the end of the session.
- Week 3: September 3 – Chapter 3: Basic Hand Tools. Hand in to the instructor at the beginning of the class the answers to the ASE questions in the textbook at the end of the chapters. Workbook Pages 19 - 22 will be completed in class and evaluated at the end of the session.
- Week 4: September 10 – Chapter 4: Power Tools and Equipment. Hand in to the instructor at the beginning of the lecture class the answers to the ASE questions in the textbook at the end of the chapters. Workbook Pages 23 - 26 will be completed in class and evaluated at the end of the Thursday session.
- Week 5: September 17 – Chapter 6: Automotive Measurement and Math, Hand in to the instructor at the beginning of the lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 31 - 34 will be completed in class and evaluated at the end of the session.
- Week 6: September 24 – Chapter 9: Fasteners, Gaskets, Seals, and Sealants. Hand in to the instructor at the beginning of the lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 41 - 42 will be completed in class and evaluated at the end of the Thursday session.
- Week 7: October 1 – Chapter 8: Basic Electricity and Electronics. Hand in to the instructor at the beginning of the lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 37 - 40 will be completed in class and evaluated at the end of the session.
- Week 8: October 8 – Chapter 8: Basic Electricity and Electronics. Mid-Term Test during class. Class student presentation due by this day. Practice the use Digital Multi-meter in class.
- Week 9: October 10 – Chapter 10: Vehicle Maintenance Fluid Service and Recycling. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 43 - 46 will be completed in class and evaluated at the end of the session.
- Week 10: October 22 - Chapter 11: Engine Fundamentals. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 47 - 50 will be completed in class and evaluated at the end of the session.
- Week 11: October 29 – Chapter 21: Fuel Tanks, Pumps, Lines, and Filters. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 101 - 108 will be completed in class and evaluated at the end of the session.
- Week 12: November 5 - Chapter 17: Computer System Fundamentals. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapters. Workbook Pages 77 - 82 will be completed in class and evaluated at the end of the session.
- Week 13: November 12 - Chapter 71: Brake System Fundamentals. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 357 - 364 will be completed in class and evaluated at the end of the session.

- Week 14:** November 19 – Chapter 22: Gasoline Injection Fundamentals. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Workbook Pages 109 - 117 will be completed in class and evaluated at the end of the session.
- Week 15:** November 26 – Chapter 80: Career Success. Hand in to the instructor at the beginning of lecture class the answers to the ASE questions in the textbook at the end of the chapter. Review for final test. Last week to complete and hand in any missing assignments
- Week 16:** December 3 – Review in Class All Chapters in preparation for final test. **Final Test** during the last hour of the class.

Educational Accommodations:

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S program office is located in building 2100, Mel Wendrick Access Center, or you may contact them at (760) 355-6313.

Physical Conditions:

Notify the instructor if you have any physical conditions which could possibly affect your safety or health in the performance of the course laboratory assignments.

Attendance Policy:

Four (4) tardies equal one (1) absence. Five (5) absences will require the student to be dropped and/or given an incomplete or an “F” for the course. A doctor’s release may be considered an excused absence depending on the total number of classes missed. Please review 2013 Class Schedule Booklet statement on Class Attendance.

Extra-Credit Work

None

Outside Projects

None

Work Handed in Late

Accepted with valid reason.

Class Room Management

Cell-phone/Pager use – set on silent mode and answer during break.
Class breaks – 5 minutes for each hour of class.
Participation in class – to the best of your ability.
Safety rules – as instructed in the first two meetings and then as directed during the classes. See safety rules list at the end of this syllabus.
Clean-up – clean your area of work and as directed by your instructor.
Tardiness, leaving early – report to your instructor.
Call-in because of absence – call your instructor or leave a message at the phone numbers listed at the top of this syllabus.

Harassment Statement

All forms of harassment are contrary to basic standards of conduct between individuals and are prohibited by state and federal law, as well as the District’s policy, and will not be tolerated. The District is committed to providing an academic and work environment that respects the dignity of individuals and groups. The District shall be free of sexual harassment and all forms of sexual intimidation and exploitation.

Grading System:

Letter-Grade only.

Percent of Overall Grade.

- A. 25% Completed Lab Assignments (hand in all of the assignments -100 points)
- B. 25% Completed Weekly Homework Tests and Class Presentation (hand in all assignments - 100 points)
- C. 25% Midterm Exam (Answer all 82 questions right – 100 points)
- D. 25% Final Exam (Answer all 112 questions right – 100 points)

A+B+C+D divided by 4 = Average Points (0 to 100)

Letter Grades.

Points Scores = Letter Grade

- 90 - 100 = A - Superior
- 80 - 89 = B - Better Than Average
- 70 - 79 = C - Average
- 60 - 69 = D - Below Average
- Below 60 = F - Failing

Required Materials:

Pen and pencils.

Lined 8”x 11-1/2” standard writing paper.

Textbook.

Proper clothing suitable for shop environment (long pants, leather shoes, safety glasses, gloves, and means to secure long hair).

Student Responsibilities:

Each student is required to comply with the schedule established by the automotive program at Imperial Valley College. Students are required to attend class each day class is in session. If for any reason a student is absent he or she is responsible for making up any missed literature or lab assignments. It is recommended that the students call or leave a message to inform the instructor if he or she is ill and/or bring a doctor's note upon returning to class.

- You must bring your textbook to every class meeting.
- You must bring notebook and pencils to be prepared for taking class notes on class lectures, homework, videos, and class lab activities.
- You must be on time for each class.
- You must participate during lecture and lab assignments.
- You must hand your assignments in on time and take your exams on time.

Safety Rules and Regulations (Code of Safe Practices):

- (1) Safety glasses must be worn in designated shop areas at all times.
- (2) No work shall be done in the shop or computer lab except during designated class time.
- (3) Face masks, face shields, and/or goggles may need to be worn when operating power tools, equipment or machinery, which exposes the student to particulate matter.
- (4) Wear proper the clothing, this is a working shop atmosphere.
 - (a) Do not wear loose fitting clothing, or unsecured long hair, or articles that may be caught in moving machinery, equipment, or power tools.
 - (b) Substantial and appropriate all leather shoes shall be worn in the lab area. No open toed footwear. It is recommended that boot-type footwear be worn in the shop area.
 - (c) Wear long pants, gloves when necessary, and a means to secure long hair when required.
- (5) All power equipment shall be shut off when not in use.

- (6) Do not leave power equipment or machinery unattended when on.
- (7) Do not use tools, equipment, or machinery you have not been instructed on how to use.
- (8) Use the proper tool for the job at hand.
- (9) When operating the equipment with another student, make sure it is understood which student is the operator.
- (10) Observe rules concerning operator's safety zones.
- (11) Do not hold a conversation with someone operating power tools, equipment or machinery. The distraction may cause an accident.
- (12) Never operate power tools, equipment or machinery without the proper safety guards in place.
- (13) When using air, be sure that no one will be the target of the air blast.
- (14) Unsafe work practices or safety hazards are to be reported to your instructor.
- (15) Any accident or injury, regardless of how minor, must be reported to your instructor immediately.
- (16) No horseplay, running, scuffling, etc. on the college facilities.
- (17) No music allowed in the auto shop.
- (18) No parking in front of the gate.
- (19) No work should be done without instructor's permission. No parking inside the shop during lecture time.
- (20) Each student will be responsible for keeping the work area clean.
- (21) Students must contact the instructor if you must leave early.
- (22) No helpers or visitors during lab activities.

Fall 2013 Important Dates:

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| • Late registration | Aug. 19 – 31. |
| • Ticketing for parking violation starts | Sept. 3. |
| • Deadline to make up for incomplete grade | Sept. 27. |
| • Financial aid return to title IV drop deadline | Oct 24. |
| • Deadline to drop full-term classes | Nov. 9. |
| • Holidays (for this class) | None. |
| • Last week of classes including final examinations | Dec. 2 - 7. |

Policy on plagiarism and cheating:

Cheating includes, but is not limited to:

- Use of any unauthorized assistance in taking quizzes, tests, assessment tests, or examinations.
- Dependence upon the aid of sources beyond those authorized by the faculty member in writing papers, preparing reports, solving problems or carrying out other assignments.
- The acquisition, without permission, of tests or other academic material belonging to a member of the college faculty or staff.

Plagiarism includes, but is not limited to:

- The use of paraphrased or directly quoted published or unpublished work of another person without full and clear acknowledgment.
- The unacknowledged use of material prepared by another person or agency engaged in the selling of term papers or other academic materials.
- Information gathered from the internet and not properly identified is also considered plagiarism.

Such academic misconduct may be subject to sanctions which may include a warning, grade adjustment, or course failure.