

Basic Course Information

Semester	Fall 14	Instructor Name	Jose Velasquez
Course Title & #	BLDC 135	Email	Jose.velasquez@imperial.edu
CRN #	10833	Webpage (optional)	
Room	3117	Office	3118
Class Dates	8/18-12/13	Office Hours	M-R 1:00-4:00pm
Class Days	T Lecture R Laboratory	Office Phone #	(760) 355-5758
Class Times	T 6:30 -8:20 pm R 6:30-9:40pm	Office contact if student will be out or emergency	(760) 623-6274
Units	3.0		

Course Description

This course is an introductory study of the layout and fabrication of a residential plumbing system. Discussion will include water and waste water plumbing systems for residential applications. In addition there will be a component on residential plumbing design, with emphasis on repair and maintenance of fixtures faucets and drains and water leaks. Installations will be guided by the local and national plumbing codes. Learning opportunities will be enhanced through a combination of lecture and laboratory activities. (Nontransferable, AA/AS degree only)

Student Learning Outcomes

1. Explain the importance of locating and protecting underground utilities (critical thinking skills)
2. Demonstrate positive work ethics and demonstrate ability to work well with others and perform group tasks in a timely manner. (personal Responsibility)
3. Apply information on various tables to determine adequate size of DWV piping and water supply piping. (critical thinking skills)

Course Objectives

Upon successful completion of this course, the students will:

- A. Demonstrate safe use of tools and equipment
- B. Read and understand mechanical drawings of plumbing layouts
- C. Identify and explain the function of fittings in water and wastewater systems
- D. Calculate proper wastewater pipe size
- E. Measure, Cut and solder copper pipes
- F. Understand layout and design code requirements for plumbing in residential construction

Textbooks & Other Resources or Links

Modern Plumbing by E. Keith Blankenbaker, Goodheart- Willcox Company, Inc. ISBN# 1-59070-350-2

Course Requirements and Instructional Methods

Technical Literature Review Essay: Compare and Contrast essay on copper tubing vs. vanguard plastic tubing. A minimum of 2,000 words required.

Out-of-class:

Research: Sir Isaac Newton (1642-1727) and his discovery of the law of gravity and the laws of change in motion. Understand the three laws of motions and briefly paraphrase in one page how these laws apply to plumbing.

Course Grading Based on Course Objectives

A= 90%-100% Excellent

B= 80%-89% Good

C= 70%-79% Satisfactory

D= 60%- 69% Pass, less than satisfactory

F= 59%&Below Failing

The course grade will be determined by various factors such, as class participation, classroom assignments, chapter reviews & drawing project, midterm & final exams. The grading range is as follows:

Class Participation	25%
Laboratory	25%
Midterm	25%
Final Exam	25%

Attendance, Late Assignments:

Absences and tardiness provide an opportunity to miss valuable instruction presented by the instructor, guest speakers, and site administrators. Tardiness will contribute to lower scores on assignments and subsequently a lower course grade. All assignments are due on the specified completion dates and all students have the same and equal time to complete all assignments as per the course calendar. Considerations will be given to those late assignments accompanied by a written medical statement from a physician. 25% of possible points will be penalized for late work. Any assignment can be turned in prior to the due date!

Attendance

Required language

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

Required Information --Discretionary language

This is where an instructor explains his/her policy on these matters. Here is some suggested language:

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor. **Consider:** specifics for your class/program
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty

Required Language

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to 'cite a source' correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Help – Discretionary Section and Language

The instructor can add the information pertinent to his or her class here. Some suggested language:

- **Blackboard** support center: <http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543>
- **Learning Labs:** There are several ‘labs’ on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.
- **Library Services:** There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Required Language: 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 office is located in Building 2100, telephone 760-355-6313, if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Required Language: Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see <http://www.imperial.edu/students/student-health-center/>. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Required Language: Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Required Language: Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at <http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>

Anticipated Class Schedule / Calendar

Required Information –Discretionary Language and Formatting: The instructor will provide a tentative, provisional overview of the readings, assignments, tests, or other activities for the duration of the course. The faculty may find a table format useful for this purpose.

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1	(T) Introduction on lecture day/Ch.1 safety orientation (R) Ch.2 Plumbing tools & Ch. 3 Leveling instruments	Pages 17-47 Pages 51-84
Week 2	(T) lecture day/Ch.4 Mathematics for plumbers (R) Lab day/ Ch. 5 Hydraulics and Pneumatics	Pages 87-99 Pages 103-109
Week 3	(T) lecture day/Ch.6 Print Reading and Sketching (R) Lab day/ Ch. 8 Building and plumbing codes	Pages 111-128 Pages 137-144
Week 4	(T) lecture day/Ch.9 Soldering Brazing, and Welding (R) Lab day/ Ch. 11 Water Supply Systems	Pages 145-154 Pages 169-185

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Week 5	(T) lecture day/Ch.12 Water Treatment (R) Lab day/ Ch. 13 Plumbing Fixtures	Pages 187-198 Pages 199-212
Week 6	(T) lecture day/Ch.14 Piping Materials and Fittings (R) Lab day/ Ch. 15 Valves and Meters	Pages 213-242 Pages 245-256
Week 7	(T) lecture day/Ch.16 Water Heaters (R) Lab day/ Ch.17 Designing Plumbing Systems	Pages 257-270 Pages 273-298
Week 8	(T) lecture day/Ch.18 Preparing for Plumbing System Installation (R) Lab day/ Ch.19 DWV Pipe and Fitting Installation	Pages 299-316 Pages 317-343
Week 9	(T) lecture day/Ch.20 Installing Water Supply Piping (R) Lab day/ Ch.21 Supporting and Testing Pipe	Pages 345-367 Pages 371-380
Week 10	(T) lecture day/Ch.22 Installing Fixtures, Faucets, and appliances (R) Lab day/ Ch. 23 Septic Systems	Pages 383-404 Pages 405-417
Week 11	(T) lecture day/Ch.24 Storm Water and Sumps (R) Lab day/ Ch. 25 Installing HVAC Systems	Pages 419-427 Pages 429-109
Week 12	(T) lecture day/Ch.26 Swimming Pools, Hot tubs, & Spas (R) Lab day/ Ch. 27 Irrigation Systems	Pages 443-452 Pages 453-462
Week 13	(T) lecture day/Ch.28 Repairing DWV Systems (R) Lab day/ Ch.29 Repairing Water Supply Systems	Pages 465-473 Pages 475-498
Week 14	(T) lecture day/Ch.30 Remodeling (R) Lab day/ Ch. 5 Hydraulics and Pneumatics	Pages 501-518
Week 15	Laboratory Project	
Week 16	Final Exam	