<u>Syllabus</u>

<u>Construction Technology 100</u> <u>Building Fundamentals</u>

Instructor:	Mr. Ross Durand	
Day and Time:	Monday & Wednesday 1:00 - 2:10 pm Lecture Construction Tech room Monday & Wednesday 2:25 - 4:55 pm Lab 502 Construction Tech Yard	
Length of Course:	August 26, 2013 to December 11, 2013	
Office Hours:	Monday- Thursday 7:15 - 8:00 am Construction Technology Office Alternate office hours: by arrangement.	
Contact Information:	(310) 660-3593 Ext. 3630 School E-mail: rdurand@elcamino.edu	
Textbook:	CARPENTRY, sixth edition	
	Code Check Building 3 rd edition	
Author:	Leonard Koel ISBN: 978-0-8269-0809-4	
	Hansen and Kardon. ISBN: 978-1-60085-329-6	
Course Description:	Construction Technology 100 Building Fundamentals Section # 7350 Lecture and Lab 4 units	

This course is an introduction to the fundamentals of the building trades. Topics of instruction include: building codes, construction mathematics, rough framing and technical information on materials and methods of residential construction. Practical instruction is given in the use of tools and materials through construction laboratory work.

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Course Objectives

Students successfully completing this course will be able to:

- 1. Complete a written comprehensive construction safety test.
- 2. Calculate header and cripple lengths for standard doors and windows.
- 3. Identify components in a structural type V residence.
- 4. Construct a standard height wall including doors and windows.
- 5. Install a let-in wall brace.
- 6. Compute rafter lengths.
- 7. Step-off rafter lengths using a framing square.
- 8. Construct a gable roof structure.
- 9. Identify and define a list of construction terms.
- 10. Identify and use hand tools common to the construction industry.
- 11. Identify and use hand held power tools common to the construction industry.

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Student Learning Outcome:

Students will be able to: Demonstrate a basic application of materials and methods commonly used in residential construction.

Grading

Final grade will be based on the following criteria:

Attendance: All students will be expected to maintain a satisfactory attendance record. To get the most out of this class, plan on attending all class meetings. If you miss a meeting, you are responsible for all information, including: lecture notes, assignments due, and exams taken. **Quizzes will not be made up**. Fifteen percent of the final grade of the course will come from your lecture attendance. <u>This includes being on time for class</u>. **One (1) absence will be added** to your attendance after four (4) tardies, you can be dropped from the class after your fourth (4th) absence.

Class Participation: All students will be required to participate in Lecture discussions and presentations. Everyone is expected to participate in the lecture and come to class fully prepared.

Homework: There will be outside classroom assignments for all students which will count for <u>Ten Percent</u> of the final grade of the course.

Lab Work: <u>This is a working lab. You must be prepared to work.</u> During the lab hours of the course, all students will be assigned projects to complete. Lab work will contribute a possible <u>Forty percent</u> to the final grade of the course. The Lab grade will be based on the following:

- 1. Punctuality
- 2. Ability to work effectively and harmoniously with others.
- 3. Being dressed properly for construction work.
- 4. Having necessary tools and instructional materials for class, daily.
- 5. Ability to put into practice the information learned in the lecture portion of the class.
- 6. Completing assignments.
- 7. Thorough cleaning of the Construction Area after every class.

Examinations: All Students will be given various types of written tests for their evaluation in this course during the semester. These will include: Identification, Multiple Choice, True-False, and mathematical calculations. There will be NO makeup examinations. This will make up <u>Twenty percent</u> of the final grade of the course.

Final Examination: The Final exam will be a comprehensive test based on the information and knowledge learned throughout the semester. <u>All Students must take the final exam.</u> The final exam will be worth <u>Fifteen percent</u> of the final grade of the course.

The Percentage Values for each Grading Criterion:		
Attendance -Lecture	15 %	
Homework	10 %	
Lab Assignments/ Participation	40 %	
Quizzes	20 %	
Final Examination	15 %	
Final Grade	100 %	

А	100% - 90%
В	89% - 80%
С	79% - 70%
D	69% - 60%
F	59% - 0%

El Camino Special Resource Center (SRC)

Students with disabilities who believe they may need accommodations in this class are encouraged to contact the <u>Special Resource Center</u> on campus as soon as possible to better ensure such accommodations are implemented in a timely fashion. As well please contact me privately to discuss your specific needs. The SRC is located adjacent to the east side of the Student Services Building

SRC Phone(310) 660- 3295E-Mailsrchelp@elcamino.eduWebhttp://www.elcamino.edu/academics/src/

Shop Lockers: If you wish to have a locker assigned to you: bring a lock, select an available locker, fill out a locker card and give it to the tool room attendant. The locker is yours to use until the end of the semester. Lockers will be cleaned out at the end of each semester.

SAFETY GLASSES ARE REQUIRED FOR ALL LABORATORY WORK.

Required Tools:	Hammer		
	Carpenters tape measure, ³ / ₄ " steel blade is preferred, 1" is also acceptable Adjustable square or "Speed Square"		
	Pencil		
	Cats Paw nail puller or equivalent		
	Tool apron		
Recommended:	Gloves		
	Exposure protection ex: Hat, sun block		

Tentative Class Schedule: Fall 2012

Week 1

<u>August 26</u>	Introductions/ Orientation/ Safety Booklet Handout/ Emergency Cards Tool room and Locker Cards
August 28	Safety Review, Tools and Procedures

Week 2

September 2	<u>No School Today Labor Day Holiday</u>	
September 4	Section 1: Carpentry and Construction	
	Unit: 1 Types of Construction	pgs 2-7
	Code Check:	Read inside Cover

September 9	<u>Quiz #1</u>	
	Section 1: Carpentry and Construction	
	Unit: 2 The Building Trades	pgs 8-15
	Unit: 32 Building Codes	pgs 263-271
	Code Check: Grading and Drainage	pg 12

September 11	Section 5: Construction Equipment, Job Site Safety, and Working		
	Conditions		
	Unit: 20,		
	Scaffolds, Personal Fall-Arrest Systems and Ladders	pgs 156-177	
	Unit: 21		
	Construction Equipment	pgs 178-184	
	Knots and Hitches	pg 191	
	Code Check: Anchoring and foundation	pg 13	

September 16	Section 5: Construction Equipment, Job Site Safety, and Working Conditions		
	Unit: 22 Job Site Safety and Working Conditions	pgs. 192-207	
	<u>Code Check:</u> Forms and Reinforcement Methods Anchoring to Foundations, SDC 1&2 Family Under Floor Framing, Girders.	pg 13 pgs 15, 16	
September 18	<u>Quiz #2</u> <u>Section 7: Survey Instruments and Operations</u> Unit: 33 Builders levels, Automatic Levels,	pgs274- 284	
	Unit: 34 Lasers and total station instruments	pgs 291-300	
	<u>Code Check:</u> Joists, Blocking, Bridging, Framing at openings, Notching and Boring	pg 17	
<u>Week 5</u>			
<u>September 23</u>	Section 6: Building Design and Print Reading Unit: 25 Plot Plans Unit: 26 Foundation Plans Unit: 27 Floor Plans Code Check: Wall Framing Fastener Schedule	pgs 225-228 pgs 229-232 pgs 233-235 pg 19 pg 25	
September 25	Section 8: Foundation and Outdoor Slab Construction Unit: 35 Building Site and Foundation Layout Unit: 36 Types of Foundations	pgs 302-309 pgs 310-318	
Week 6			
<u>September 30</u>	Section 3: Hand Tools Unit: 9 Measuring and Layout Tools Unit: 10 Fastening and Prying Tools	pgs 76-86 pgs 87-96	
October 2	<u>Quiz #3</u> Section 3: Hand Tools		

Unit: 11 Sawing and Cutting Tools	pgs 97-102
Unit: 12 Clamping and Boring Tools	pgs 103-105
Unit: 13 Smoothing Tools	pgs106-111

October 7	Section 4: Power Tools	
	Unit: 14 Portable Power Saws	pgs 114-123
	Unit: 15 Stationary Power Saws	pgs 124-130
	Unit: 16 Portable Power Drills and Screwdrivers	pgs 131-135
October 9	Section 6: Building Design and Print Reading	
	Unit: 23 Building Design, Plans and Specifications	pgs 210-216
	Unit: 24 Understanding the Language of Prints	pgs 217-224
Week 8		
October 14	Section 9: Floor, Wall and Ceiling Frame Construct	<u>ion</u>
	Unit: 42 Floor Framing	pgs 362-391
October 16	<u>Quiz #4</u>	
	Section 2: Construction Materials	
	Unit: 3 The Nature of Wood	pgs 18-20
	Unit: 4 Lumber Manufacture	pgs 21-29
Week 9		
October 21	Section 2: Construction Materials	
	Unit: 5 Softwood and Hardwood	pgs30-35
	Unit: 6 Sizes, Shapes and Dimensions of Lumber	pgs 36-39
	<u>Code Check:</u> Windows and Exterior Doors	pg 25
October 23	Section 2: Construction Materials	
	Unit: 7 Engineered Wood products	pgs 40-53
<u>Week 10</u>		
October 28	Section 2: Construction Materials	
	Unit: 8 Fastening Systems	pgs 54-73
October 30	Quiz #5	
	Section 4: Power Tools	
	Unit: 17 Portable Power Planes, Routers and Sanders	pgs 136-140

November 4	Section 4: Power Tools	
	Unit: 18 Pneumatic and Powder Actuated Tools	pgs 141-149
	<u>Code Check:</u> Roof and Ceiling Framing	pgs 26, 27
November 6	Section 9: Floor, Wall and Ceiling Frame Construction	<u>on</u>
Week 12	Unit: 43 Wall Framing	pgs 392-430
November 11	<u>No School Today Veterans' Day Holiday</u>	
November 13	<u>Quiz #6</u> <u>Section 6: Building Design and Print Reading</u> Unit: 28 Exterior Elevations	pgs 236-239
Week 13	Unit: 29 Section views	pgs 240-244
November 18	Section 6: Building Design and Print Reading	
	Unit: 30 Detail and Framing Plans	pgs 245-259
	Unit: 31 Door, Window and Finish Schedules	pgs 260-262
November 20	Section 10: Roof Frame Construction	
	Unit: 46 Basic Roof Types and Roof Theory Unit: 50 Roof Trusses	pgs 462-467 pgs 515-523
Week 14		10
November 25	Section 12 Exterior Finish	
	Unit: 55 Roof Finish	pgs 574-589
November 27	<u>Quiz #7</u>	
	Section 15: Post-and-Beam Construction Unit: 65 Post-and-Beam Construction	pgs 736-747
<u>Week 15</u>		
December 2 December 4	Lab Break Down and Organization, Review For Final Lab Break Down and Organization, Review For Final	
<u>Week 16</u>		
December 9	Lab Break Down and Organization, Final Exam	
December 11	Last Day of Class	