

**Class Schedule and Outline of Subjects MECH-01**  
**Fall Semester '19 Rocklin Campus Room V-108**

**Sierra College MECH-01**  
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WEEK #	DATE '19	SUBJECT	QUIZ <i>DUE</i>	ASSIGNMENTS
1	Aug 27	Introductions. The usual first class period boatload of paperwork. Basic definitions. A brief history. Atoms, charge. Conductors & insulators. Basic soldering. LED Flashlight		
2	Sep 3	Units of measure. Engineering units. Pictorial vs. Schematic symbols. Measuring instruments. . Using Excel to simplify calculations. Introduction to "breadboard" techniques.	Quiz 1	
3	Sep 10	Methods of generating electricity. Direct and alternating voltage/current. Primary and secondary cells. Potato clock.	Quiz 2	
4	Sep 17	Inductors and capacitors. Resonance. Antennas.	Quiz 3	<b>Sample Research Paper</b>
5	Sep 24	Magnetism & electromagnetism. Transformers. Power transmission. DC elementary motors. Reed switch motor.	Quiz 4	<b>Research Paper Subject Approval</b>
6	Oct 1	Vacuum tubes and elementary semiconductors. Diodes.	Quiz 5	
7	Oct 8	Bipolar junction transistors & Field effect transistors	Quiz 6	
8	Oct 15	Amplifiers, RF Transmission & Reception		<b>Midterm Exam</b>
9	Oct 22	Integrated circuit fabrication. Linear integrated circuits. Op-amp introduction.		
10	Oct 29	Pic Microcontrollers. Introduction to BASIC Programming		
11	Nov 5	Programming Pic Microcontrollers.		
12	Nov 12	Programming Pic Microcontrollers. LED displays.		
13	Nov 19	Programming Pic Microcontrollers. LED displays. <i>Extra Credit Opportunity</i>		
14	Nov 26	Special function ICs -- timers & comparators. Photo bug construction		<b>Research Paper</b>
15	Dec 3	Microcontrollers/Microprocessors React game construction		<b>Final Exam</b>
16	Dec 10	Research Paper Presentation (optional) <i>Extra Credit Opportunity</i>		
		<b><u>HAVE A GREAT WINTER BREAK</u></b>		