

Homework 5: Theory of Operation and Hardware Design Narrative plus Preliminary Schematic Drawing					
Section	Description	Max	Poor	Good	Excellent
			0-2 / 0-5 / 0-10	3-4 / 6-8 / 11-16	5 / 9-10 / 17-20
1	Introduction (including updated PSSC)	5	Little or no discussion about circuit design issues.	Mention of the report topic.	Notes important hardware and circuit design issues to be discussed in the report.
2	Theory of Operation	20	Major subsections of the circuit not clearly described. Not clear how subsections relate. Omitted to discuss some major component. Rehash of the manufacturers' data sheets for the parts. Unclear what certain parts in the circuit are for.	Includes an overview of how subsections relate, but not clear what certain subsections are for or how they relate. All major components discussed, may have omitted to discuss a minor component. Component discussion not comprehensive.	Clearly explains how the subsections relate to each other. Function and operating mode of each major subsection of the circuit discussed. Discusses the function and operating mode of major components, including rationale for choice of operating frequency, supply voltage(s), etc. Tell us how the parts work in your circuit.
3	Hardware Design Narrative	20	Omitted to discuss microcontroller subsystem use. Port assignment of microcontroller not explained. Specific configuration choices for other major subsystems not discussed.	Microcontroller subsystem use discussed but purpose of some may be unclear. Port assignments listed but no explanation for specific choices. Other major subsystem configurations mentioned.	Discusses which subsystems of the microcontroller will be used and how they will be used. Notes port assignments of the microcontroller and explains why specific ports were chosen for specific functions. Include power, ground, and bypass capacitor considerations. For the other major subsystems, discuss any specific configuration choices and how this affects the interconnection between these subsystems and the microcontroller.
4	Summary	5	No summary or summary may be inappropriate.	Discussion of circuit issues is lacking in summary.	Summary is complete and appropriate but not too long.
5	References	10	No use of IEEE format. References are largely incomplete.	Must use IEEE format. A few references may be missing (1 or 2).	Linked references for all components mentioned.
App A	System Block Diagram	10	No block diagram.	Block diagram not updated to most recent design.	Block diagram is up-to-date and shows connections between components effectively. Bus widths are included.
App B	Schematic	30	(0-10) Schematic not included or severely lacking in quality.	(11-25) Schematic included and modest effort was made. Most components are included and most components are wired.	(26-30) Schematic included and substantial effort was made. All components are included or if a component is missing, a justification is provided. All components are wired. All relevant nets in schematic have labels or note what parts interfaces are going to.