

Homework 6: Printed Circuit Board Layout Design Narrative					
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)	10	Introduction of PCB layout issues missing or too brief.	Mentions PCB layout, but ideas are non critically and fully introduced.	Notes important PCB layout issues to be discussed in the report.
2	PCB Layout Design Considerations - Overall	20	Section is missing or overall discussion is too sparse. More than two items mentioned (far right) may be missing or poorly-justified overall. Extra design considerations (if appropriate) are completely absent.	One or two of the items mentioned (to the right) may be missing. Justification in general may be slightly (but only slightly) weak. Extra design considerations appropriate to the project may be missing (grader should make an appropriate comment).	All of signal routing, component placement, trace sizing, EMI reduction, manufacturing concerns are mentioned and appropriately justified. Requirements are all justified relating to the design at hand. Extra design considerations (as appropriate) are mentioned and justified.
3	PCB Layout Design Considerations - Microcontroller	15	Section is missing or microcontroller discussion is too sparse. More than one of the items mentioned (far right) may be missing or poorly-justified overall. Extra design considerations (if appropriate) are completely absent.	One of the items mentioned (to the right) may be missing. Justification in general may be slightly (but only slightly) weak. Extra design considerations appropriate to the project may be missing (grader should make an appropriate comment).	All of oscillator circuit, bypass capacitor location, special trace sizing/routing are mentioned and appropriately justified (Simply stating, "The internal oscillator is used; therefore, no oscillator circuit is necessary" is appropriate"). Any extra design considerations are mentioned and justified.
4	PCB Layout Design Considerations - Power Supply	15	Section is missing or power supply discussion is too sparse. More than one of the items mentioned (far right) may be missing or poorly-justified overall. Power supply trace routing may be missing or very weak.	One of the items mentioned (to the right) may be missing. One or more justifications slightly (but not significantly) weak. Power supply trace routing SHOULD be present but may be preliminary.	All critical trace routing, bypass and bulk capacitor locations, low inductance/resistance paths (if relevant), and ground planes are mentioned and appropriately justified. Power supply trace routing NEEDS to be present.
5	Summary	10	Very poor or nonexistent	Included but weak or too long	Included and effective/concise.
6	References	10	No use of IEEE format. References are largely incomplete.	Must use IEEE format. A few references may be missing.	Linked references for all components mentioned.
Attach	PCB Layout Files	20	Low quality design (If grader can't read your PCB, grader can't help you fix problems). PCB layout may be missing some items. Layout contains many mistakes or is not included.	Decent design. PCB is fully (or very nearly) laid out and appears as though a good layout has been attempted. Layout contains a few mistakes, PCB layout files uploaded.	High-quality design. PCB is fully laid out and appears to have been solidly attempted. Layout may contain very minor issues (grader will make comments as appropriate)