

More notes for undergraduates on the critical review:

- 1) You need to develop a background in the subject of the paper. If you don't understand the strengths and weaknesses or the alternatives in terms of techniques involved in the paper then you either have picked the wrong paper for you or you haven't done background reading on the techniques. There are some background notes in the characterization class notes on the web, <http://www.eng.uc.edu/~gbeauca/Classes/Characterization.html> where some of the limitations of various analytic techniques are given. **In most cases you are going to need to do significant background reading targeted at the paper and this should be reflected in your review by citations of the relevant literature.** You will need to find citations to support your critical review in your background reading. If you don't have citations in the review then you have probably done something wrong unless you really know the field of the paper.
- 2) If the paper uses equations you need to find derivations of the equations and determine if the assumptions involved in the derivation of the equations are applicable to the system being studied in the paper.
- 3) If the paper pertains to characterization of polymers prepared in some way you need to determine not only if the analytic techniques are reproducible but also if the samples are reproducible in terms of the properties being studied.
- 4) You can order papers from the circulation desk (back side) at the main library if they are in engineering journals and not available on the web. The engineering collection is in storage due to construction but the library can get copies of papers for you in 1 day.
- 5) Unless you have a strong background in the field of the paper you should ***expect to get at least 5 to 10 background papers*** such as the main papers cited by the authors, papers you find in subject search, cross references to cited papers in the citation index, review papers for the subject you are reviewing. You should give copies of these supporting papers (or the relevant parts for long review papers) with your review and reference to these papers in your review.
- 6) If the paper pertains to a subject you know something about you can cite your own knowledge in the review. This is stronger if you have backup citations to support your knowledge though.

Papers should be turned into

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