

MEE 390 Project Report Checklist: www.kostic.niu.edu/390/390ReportChecklist.pdf

Check those items if appropriate and discuss unchecked items below with me:

- 1) [...] Is your Project Title specific about your measurements performed (i.e. “*Strain Measurements of Coca-Cola Can,*” not general topic, like “*Strain Measurements.*”)?
- 2) [...] Is your Abstract specific (not too general and descriptive, like Introduction) and includes specific achievements/results of your project? For example, “*It is possible (?) to measure friction factors for a fluid (?) flow in wide (?) Reynolds number range ...*” is too general (?). It should be specific and to-the-point: “*Friction factors were measured for a water flow at room temperature in 1X1 inch square duct for the Reynolds number range from 100 to 50,000 and agreement with available reference data within 10% was confirmed. Measurement uncertainties were estimated to be about 15% at 95% probability level...*”
- 3) [...] Is your List of Nomenclature (a) in alphabetical order, (b) complete (all symbols from Equations, Tables, Figures, elsewhere), (c) unique (different symbol for different quantities and not multiple symbols for the same quantity), (d) efficient (using subscripts, superscripts, etc, for similar quantities, inputs, outputs, etc.), and (e) with SI units (other system units may be given along with SI units if needed)?
- 4) [...] Are your Equations sequentially numbered, so that you could refer to them if needed? You should give equations needed for results calculation and uncertainty analysis and avoid equations that are not used.
- 5) [...] Are your Figures numbered and with specific titles? For example: “*Fig.1: Apparatus schematics,*” is too general, not good if the same title could be used for every project, but it should be specific: “*Fig.1: Schematic of soda can strain gage setup with instrumentations.*” You should also label typical components within a figure if appropriate.
- 6) [...] Are your Tables numbered and with specific titles as explained above?. Note that the Titles are below Figures and above Tables (look at good textbooks and good technical papers as models).
- 7) [...] Do you have a complete schematics of your apparatus with test specimen and all instrumentations labeled?
- 8) [...] Do you have a detailed drawing(s) with bill-of-materials and dimensions of your test specimen (if fabricated) or make, model and specifications of the off-shelf test specimen (if purchased)?
- 9) [...] Did you presented graphically and in scale your measured data points as point-symbols, not connected-line without points, but your fitted-curve through the measured data points as a smooth line without points?
- 10) [...] Have you performed uncertainty analysis and expressed your input/measured uncertainties in both dimensional and percentage form (to “validate” if reasonable)?
- 11) [...] Are you aware and listed any(all) uncertainty(is) that you (a) could not account for and/or (b) assumed to be negligible?
- 12) [...] Have you expressed your final-result(s) uncertainty(es) in both dimensional and percentage form and do they look reasonable (usually 1-10% in professional world), or (5-25% in “students’ world)?
- 13) [...] Have you evaluate, justify and interpret your measured results? Are they reasonable, physically possible and logical? How they agree with your expectations, and/or available theoretical results or available reference data (or the closest reference data you could find)?
- 14) [...] Have you summarized your (a) results, (b) week points, and, (c) recommendations for possible improvements?
- 15) [...] Have you listed all references cited in your report in proper format/style?
NOTE: Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. If the document is available electronically, the Website address also should be identified.