

## GRADING RUBRIC FOR DESIGN PROJECT

1. Douglas Hierarchy (5 points)
  - 5 step procedure
  - Justification for using the PFD
2. Mass Balances via spread-sheet calculations (10 points)
  - Equations used for each unit operation
  - Sample calculations
  - Table of results
  - Explanation of results
3. Base case mass balance calculation in CHEMCAD (6 points)
  - Description of reactor equations, appropriate unit conversion
  - Description of column design using short-cut column and SCDS column
  - Table of results
  - Explanation of results
4. Energy balance calculation in CHEMCAD (3 points)
  - Description of how this calculation was done
  - Table of results and interpretation of results
5. Comparison between spread-sheet and CHEMCAD calculations (3 points)
  - Description of which results are the same and which are different and why
6. Specification of heuristics for choosing degrees of freedom in PFD (3 points)
  - Which heuristics were used and can I find these easily from the information in your report
7. Equipment sizing calculations (3 points)
  - Which equations were used
  - Table of results
  - Discussion on whether the sizes are reasonable
8. Selection of equipment type and material of construction (3 points)
  - Which type of equipment was chosen and why
  - Which material of construction was chosen and why
9. Effect of varying temperature (4 points)
  - Discussion on the effect of temperature on quality and quantity of product with appropriate tables and graphs

If the report is unreadable or is not in the format specified, all points will be deducted. If the report has some writing deficiencies (e.g. grammatical mistakes, missing tables etc.), a fraction of the points for the appropriate section will be deducted.