

16 September 2002

To: What is Engineering? Section 2

From: Dr. Schafer (based on College Ranking by Mike Karweit, What is Engineering?, JHU)

**Re: College Ranking Virtual Lab**

**Task**

Develop, professionally report, explain, and compare a novel college ranking system based on the raw data used by US News and World Report. i.e., make your own ranking system!

**Learning Objectives (Why am I doing this?)**

Exposure to 'loose' estimation problems with no one right answer

Every member of the team needs proficiency in Word and Excel, today is the day to get it

Consensus building in esti

Professional communication skills: writing, tables, figures

**Procedural/getting started (check list)**

- ❑ Get the raw data from the class web site  
[www.ce.jhu.edu/whatis2](http://www.ce.jhu.edu/whatis2)
- ❑ You will want to highlight the data and paste it into Excel.
- ❑ Now you need to clean up your data so you can actually use it! (a common 1<sup>st</sup> step in analysis)
  - Select all of your data
  - Then go under format cells, and remove all the fancy formatting (no borders, no patterns, center the text, turn word wrap off – everything!)
- ❑ Now you need to manually add the column headings from the webpage
- ❑ Note that student/faculty ratio is not right! You need to fix this. Excel has interpreted the data as a date, so highlight the column and go to Format – cells then the number tab and select date. Although the data now visually looks right, you cannot manipulate it. Insert a new column next to the old one and type in the ratio make 11/1 simply 11, 16/1 simply 16 etc., that is data you can use!
- ❑ You may also want to fill in the US News ranking for those schools that have ties.
- ❑ Anything that is called a “rank” is already interpreted by US News and is not raw data – you should delete or ignore the columns that have the word “rank.”
- ❑ Now you are ready to work on your data.
- ❑ Get more information on how US News completes their work from their web site  
[www.usnews.com/usnews/edu/college/rankings/rankindex\\_brief.php](http://www.usnews.com/usnews/edu/college/rankings/rankindex_brief.php)

**Expected items in your report (not a complete list)**

- A clear statement of the objective of your ranking system
- A thorough explanation of your selected ranking system
- A neat table of the raw data for your top 20 schools
- An ordered explanatory figure of the rankings (no more than 20 schools)
- A comparison (of some kind) with the existing US News Ranking