Financial Ratios, Analytical Techniques, and Definitions
as they are used in Capstone

1. Asset Turnover: Sales, generated in a particular year, divided by the value of total assets for the same period.

2. Bond Rating: If your firm has no debt at all, your short term interest rates are the prime rate and you are awarded an AAA bond rating. As your debt-to-assets ratio increases, your short term interest rates increase. Your bond rating slips one level for each additional 0.5% in short term interest. For example, if the prime rate is 10%, and your short term interest rate is 10.5%, then you would be given an AA bond rating instead of an AAA.

3. Book Value: Equity divided by Shares Outstanding. Equity is Common Stock plus Retained Earnings. Shares Outstanding are the number shares that have been issued. For example, if Equity is $50 million and there are 2 million shares outstanding, Book Value is $25 per share.

4. Closing Value: Closing price of the bond last year. Bonds are bought and sold in the marketplace, but since their interest payment is fixed, the price of the bond fluctuates. A risk assessment is made for each firm, ranging from “AAA” to “D.” For each lower grade, investors expect an additional 0.5% yield. The spreadsheet adjusts the closing price of the bond so that the yield reflects current interest rates and an appropriate risk.

5. Common-sizing (typically of an accounting statement such as the Income Statement): Typically done in vertical format, every line item in a statement such as an Income statement is divided by annual sales. Thus, Sales / Sales would equal 100%. In subsequent fashion then, each remaining line item is rendered as a percent of sales by dividing the item by sales. This technique allows comparison of firms of different sizes and from different industries.

6. Contribution Margin: Contribution Margin = Sales - (Direct Labor + Direct Materials + Inventory Carry)
   a. Contribution Margin % = Sales - (Direct Labor + Direct Materials + Inventory Carry) / Sales

7. Cumulative Profit: Cumulative total of all profits (losses) generated since the game's inception (includes Round 0 profits).

8. Earnings before Interest and Taxes (EBIT): Profits before loan interest payments, broker fees, write-offs, and bonus income are taken into account.

9. Earnings per Share (EPS): Earnings Per Share = Net Profit for the year divided by the number of Shares Outstanding. Faster-growing or less-risky firms tend to have higher price-earnings ratios than slower growing or more risky firms.
10. Emergency Loan: A cash injection during the year automatically triggered when the company runs out of cash. Typical causes: sales projections not met, new plant & equipment ordered without proper funding, excessive inventories. Emergency Loans have an interest rate 7.5% above current rates. The Emergency Loan creditor is commonly referred to as “Big Al.”

11. Face Value: For each outstanding bond, Face ($000): Principal of the issue. If the face is $11,040,000 then $11.04M in bonds were issued (unless a portion of the bond was paid off before maturity). Using the 15.4S2013 bond with a face value of $11.04M as an example, coupons of 15.4% or a total of $1,700,160 will be paid each year until the bond becomes due in 2013. In 2013, the last coupon and the principal are due. The principal is converted automatically to Current (short term) Debt on December 31 of the year it is due.

   a. Free Cash Flow is the money left after investment that a company can either put in the bank or give to shareholders in the form of a dividend.
   b. Even if Profit is small, Depreciation can deliver a Cash Flow from Operations since you never actually write a check for Depreciation. The money is sitting in the Cash account like a check that has not been cashed. It follows that Free Cash Flow must subtract Capital Expenditures, the investments in plant and equipment.
   c. If it turns out that you are plowing money back into plant at the same rate you are depreciating it, the whole business reduces back to profits. If the result is a positive number, then the company is creating wealth. The Free Cash Flow can be used to pay dividends, repurchase stock, or reinvest in the company, any of which delights Owners. If negative, then the company needs to consume somebody's wealth, and there are only three places to get it — working capital (our own wealth), a new stock issue (Owner's wealth), or more debt (Lender's wealth).

13. Leverage: Total assets at the end of the period under review divided by owners' equity for the same period. (Assets / Equity) There are other versions of the leverage ratio that emphasize the role of creditors (Debt / Equity or Debt / Assets). These measure the funds provided by creditors versus the funds provided by owners as well as the sharing of risk.

14. Market Capitalization: Total Shares outstanding multiplied by the price of each share. Example, if a company issues 2,000,000 and shares trade at $50.00 per share, the Market Capitalization would be $100,000,000.


16. Retained Earnings: Profits the company chose to keep rather than pay to shareholders as dividends. Technically, Retained Earnings belong to the shareholders; as such Retained Earnings are a Liability, not an Asset.

17. Return on Assets (ROA): Net profit, generated each year, divided by the value of total assets for the same period. (N.I. / Tot Assets)
18. **Return on Equity (ROE):** Net profit, generated each year, divided by the value of owners' equity for that year.

19. **Return on Sales (ROS):** Net profit, generated each year, divided by total sales for the same period. It shows after tax profits per dollar of sales. Subpar profit margins indicate that the firm's sales prices are relatively low or that costs are relatively high, or both.

20. **Series number (#):** The label given to a bond when it was issued. The first numbers are the interest rate. “S” means series, and the last two digits refer to the year the bond is due. 15.4S2013 means that the bond pays a coupon 15.4% each year and that the principal is due in 2013.

21. **SG&A:** stands for “Sales, General and Administrative expenses”. This figure includes all R&D, Marketing, and TQM costs (however, TQM is used only after year 3 in team practice, team competition, and in the individual competition). To compare the efficiency of different firms, with potentially different portfolios and sizes you should express these and other measures of operating efficiency as percentages of sales (common-sizing them).

22. **Trend analysis:** Divide the difference between periods of a measure such as Sales (2006 Sales – 2005 Sales), by the earlier period’s value (2005 Sales) and express the result as a percent. An example might be: $\frac{2,584,000-2,125,000}{2,125,000} = 21.6\%$

23. **Variable Costs:** Costs that vary in direct proportion to the number of units sold.

24. **Working Capital:** Several ratios measure working capital and its elements. They include
   - Working Capital = Current Assets – Current Liabilities
   - Current Assets = Cash + Inventory + Accounts Receivable
   - Current Liabilities = Accounts Payable + Current Debt.
   - Days of Working Capital = Working Capital / (Sales/365)

25. **Yield:** A measure of what the bond is worth at current interest rates. To calculate, the stated interest rate is divided by the closing bond price. For example, if the stated interest is 15.4% and the closing price is $115.80 then $15.40 divided by $115.80 gives a yield of 13.3%.

**Note for using financial ratios in industry:**
Industry-average ratios against which a particular company’s ratios may be judged are available in *Modern Industry* and *Dun's Reviews* published by Dun & Bradstreet (14 ratios for 125 lines of business activities), Robert Morris Associates, Annual Statement Studies (11 ratios for 156 lines of business), and the FTC-SEC's *Quarterly Financial Report* for manufacturing corporations.

Source: Online Manager’s Guide>Definitions and other financial publications.