

## *STUDENT PROJECT ON SPORTS SCORES DATA*

(The attached PDF file has better formatting.)

### *DATA*

The student project applies statistical techniques to actual data. Statisticians spend much time compiling data, and they use sophisticated software packages to analyze them.

- You are not required to compile your own data.
- You need no statistical software besides Excel.

We provide project templates with data for the student projects.

- The project templates do much of the preparatory work for the student project: compiling data, setting up Excel spread-sheets, and writing the code for cell functions.
- You focus on the student project: forming hypotheses, applying statistical techniques to the data, evaluating significance, forming conclusions, and writing the report.

You can do your student project from the data on the NEAS web site.

The data are in Excel files in the format needed for the project template on sports won-loss records. The won-loss records are compiled and sorted by sport, team, and year, with a code for League or division. You select a portion of the data for your student project.

- ~ If you are proficient with Excel and you understand the statistical techniques, you don't need the extensive guidance in this posting. Form hypotheses, test them, evaluate significance, derive conclusions, write up your results. You may test any reasonable hypothesis; you are not restricted to the prototypes in the project templates.
- ~ You can use other statistical software for the student project, such as SAS or Minitab. You are not restricted to Excel.
- ~ The illustrative work-sheets assume limited knowledge of Excel functions and add-ins. They are extensively documented with call-outs and comments. The discussion forum postings explain the steps in the student project and the work required.

The statistical techniques in your student project depend on the hypotheses you test and the analyses you perform.

- The illustrative worksheets provide Excel formulas for many techniques.
- Excel does the number crunching; you design the analysis.

We provide some VBA macros to automate certain work. The macros are optional; the work can be done with cell formulas (also provided).

You *may* use other data to do your student project. Your student project is more interesting if you choose your own data and your own hypotheses. Use the internet search engines (Google, MSN, Yahoo) to find topics and data for your student project. Tens of thousands of web sites have suitable data. An hour surfing the internet turns the student project into an enjoyable task.

We list web sites on the discussion forum that other students have used. You can use the same web sites for your own student project. Surfing these sites gives you ideas for your project. Many web sites have data in Excel format that you can download.

*Take heed:* The web is vast, and new sites appear daily. If you have visited a site with data that is suitable for a student project, add a comment on the discussion forum. This helps other candidates looking for data, and their comments help you in your search for data.

*Illustration:* You find a site with soccer statistics for Latin American teams, rugby statistics for British, South African, and Indian teams, or baseball statistics for Japanese teams. Place a link to the web site (or its URL) on the discussion forum thread for sports statistics.