1086-H1-2406   **Charles Bergeron*** (`chbergeron@gmail.com`), **Lisa Morkowchuk** and **David Clarke**.

Strengthening data analysis knowledge and skills through practice. Preliminary report.

We teach 'Introduction to Laboratory Data' to our first-semester Bachelor of Science students. We aim to reinforce fundamental mathematical and statistical concepts by giving students the opportunity to practice them in a scientific setting. The course cornerstone is weekly laboratory activities that engage students in making measurements and thinking critically about experimental data. Examples include estimating the volume of air in a classroom, describing the distribution of the mass of ibuprofen capsules, propagating measurement error in estimating the density of a penny, assessing variations in body temperature, regressing speed from times and positions, and analyzing the Michaelis-Menten enzyme kinetics equation. We also focus on using spreadsheet software to organize and present data using appropriate tables and graphs. Through these labs, students learn about significant figures, scales of data, exponential models and logarithmic manipulations. This course prepares students for all laboratory courses in their curriculum and provides a gentle transition leading to statistics and calculus. In this talk, we discuss this course's motivation and structure, and present several lab activities that engage students in harnessing mathematics and statistics when doing science. (Received September 25, 2012)