To: The Engineering Faculty  
From: Charles D. Davidson School of Chemical Engineering  
Re: New Concentration in Data Science

The Charles D. Davidson School of Chemical Engineering has approved the following addition of the new Data Science concentration to the Chemical Engineering Professional Master’s Program. This action is now submitted to the Engineering Faculty with recommendation for approval.

**Concentration Description**

The mission of the Professional Master’s Concentrations in Chemical Engineering is to provide advanced technical education combined with the development of professional management skills in the key areas of chemical engineering related to industry sectors of regional, national, and international importance. The concentration in data science will provide skills in analysis of structured and unstructured data sets, big and small, associated with the optimal design and operation of modern chemical processes.

**Justification**

The combined elements of computer programming, statistics, business and chemical engineering knowledge is becoming an increasingly important skill set in industry. This new concentration is likely to be attractive to a much wider range of potential students.

There are three target audiences for these new concentrations.

1. *Existing Purdue BS students* who, upon graduation, wish to take further study to improve their skills and increase their employability in key industry sectors.
2. *International and domestic students at other institutions* who, upon graduation, wish to take the Professional Masters concentration at Purdue to gain a professional degree from a top U.S. engineering school to improve their skills and increase employability in key industry sectors.
3. *Practicing professional engineers* with the target industry sectors wishing to improve their skills and improve their career development pathways.

Students from target audiences 1 and 2 are likely to be full-time students, while practicing professional engineering are likely to enroll in a part-time manner. The program can be completed in one calendar year of full-time study (including a summer session).

Dr. Sangtae Kim  
Distinguished Professor and Head  
Davidson School of Chemical Engineering