CHM 325/635: Mathematical Methods for Chemists (4)

Prerequisites: *MTH 101, MTH 102, MTH 201, MTH 202*

Learning Objectives**:**

The main objective of this course is to provide students of chemistry the necessary skills and confidence to apply simple ideas and methods in mathematics.

Course Contents**:**

Differentiation and integration; seried and limits, vector calculus; linear algebra and vector spaces; determinants, matrices and eigenvalue problems; curvilinear coordinates; functions of a complex variable; ordinary and partial differential equations; Fourier series, integral transforms; introduction to probability and statistics.

Suggested Readings **:**

- McQuarrie, D. A., *Mathematical methods for scientists and engineers*, University Science Books, **2003**.
- Arfken, G., Weber, H., and Harris, F., *Mathematical methods for physicists*, Academic Press, Ed. 7th, **2012**.
- Boas, M. L, *Mathematical methods for the physical sciences*, Kaye Pace, Ed. 3rd, **2006**.
- Matthews, J., and Walker, R. L., *Mathematical methods of physics*, Addison Wesley Longman, Ed. 2nd, **1971**.