EGN 181 – Computing with Mathematica

When: Spring 2016, Tuesdays, 4:10 -5:50 PM
Where: JMC 270 (Computer Laboratory)
Instructor: Dr. Mariusz Jankowski, 780-5580, mariusz.jankowski@maine.edu

Introduction to computing with Mathematica. Learn how to effectively and efficiently use Mathematica to solve typical computational problems encountered in undergraduate mathematics, the sciences and engineering. Topics include the Wolfram programming language and programming styles, symbolic and numerical computations, visualization and graphics.

Prerequisite: Quantitative Reasoning or permission. Lecture 1 hr. Cr 1.

Syllabus:

1. An introduction to the Mathematica system; the notebook interface, expression syntax, basic calculations and the help browser.
2. Introduction to the Wolfram programming language and programming styles.
3. Visualization and graphics.
4. Symbolic computation.
6. Working with data.

Prerequisites:

None.

Textbook:

None

About the Instructor:

Dr. Jankowski is an Associate Professor of Electrical Engineering at USM, and has been with the department since the fall of 1990. He has developed and taught 11 courses in the signals and systems area, analysis and design of digital and analog circuits, and microprocessor systems architecture. His research focus is in the design and implementation of algorithms for signal and image processing primarily in the area of image segmentation and image analysis. He has authored or co-authored over 30 papers and presentations and has served as PI or co-PI on several research grants. He is also the author of several papers on using computers in the engineering classroom and has received funding from the National Science Foundation, and awards from Department of Energy, Wolfram Research and USM for innovations in teaching.