

Spring 2013

ME 6200 Math Methods 1:

Mainly for those students needing a refresher and some extension of the topics in UG ODEs (includes power series and Laplace Transform, Linear Algebra and Vector Field Theory (emphasis on curvilinear systems, integral theorems). There is no treatment of PDEs, Fourier Series, Sturm-Liouville problems etc.

Directed toward the new MS student and advanced undergraduates.

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ME 6201 Math Methods 2.

Linear Analysis, function spaces, eigenfunctions expansions, Sturm-Liouville theory, Fourier Series, Fourier Integral and Transform. Applications to PDEs; elliptic, parabolic and hyperbolic, but with emphasis on the Laplace Equation, Diffusion Equation and the wave equation. More emphasis on power series solutions to 2nd order ODEs and special functions than in 6200. Some Laplace transform solutions to PDEs and an introduction to similarity methods.

Mainly for new PhD students, some MS students with the proper UG background. The student should be very comfortable with ODEs and vectors, and have some knowledge of linear algebra of finite dimensional vector spaces (or at least matrices and linear equations).

These courses are taught by Professor Cipolla (jwc@coe.neu.edu) in the Spring 2013 semester. Usually MS students take ME 6200. If you are uncertain, please communicate with Professor Cipolla about which course is most appropriate for you.