

Course	MTH 415/615, Partial Differential Equations
Semester/Year	Spring 2018
Days/Time	TR 9:30 to 10:45
Location	WAEC 3121
Instructor	Dr. Scott Sarra
Office	WAEC 3227
E-Mail	sarra@marshall.edu
Office/Hours	3:00 to 5:00 on TR by appointment
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802

Course Description: From Catalog

Elementary partial differential equations. Heat Equation, Laplace's Equation, separation of variables, Fourier series, vibrating strings, eigenvalue problems, finite differences, Bessel functions, Legendre polynomials. **PR:** MTH331 and MTH335. *3 hours*

Course Student Learning Outcomes

After completing the course the student will understand 1) how PDEs are used in modeling, 2) the fundamental techniques that are used to construct analytical solutions of PDEs, and 3) basic numerical techniques used to approximate PDE solutions.

Required Texts, Additional Reading, and Other Materials

Basic Partial Differential Equations by D. Bleecker and G.Csordas. ISBN-13: 978-1571460363

Grading Policy

40% homework, 40% in class exams, and 20% final project.

Attendance Policy

Borderline grades will be decided by class attendance and participation.

Homework:

Approximately 6 homework sets will be given in 2 to 3 week intervals. A follow up oral questioning may be given after HW solutions are submitted. This is to both clear up any misunderstandings on the HW solutions and to ensure that the solutions submitted are indeed the work of the particular student. HW due dates may be extended due to rare circumstances for the class as a whole, but not for individuals.

Due dates/Makeup exams

If you are unable to take an exam due to an excused absence, you must contact me prior to the exam time and furnish the proper written verification of the absence as defined by the [MU catalog](#) in order to take a make-up exam.