

Partial Differential Equations - Homework Day 3

Professor:

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Homework

1. *Farlow* - Do all problems at the end of Lesson 5.
2. *Additional Problem - Challenge* - Use Separation of variables to solve the following PDE:

$$\begin{aligned}U_t &= \alpha^2 U_{xx} \\U(0, t) &= 0 \\U_x(1, t) &= 0 \\U(x, 0) &= \phi(x)\end{aligned}$$

Similar to what we did in class you will end up with a family of solutions and a condition on the A_n constants that depends on an integral.

Read and Take Notes (prep for next class)

1. *Farlow* - Lessons 6
2. **Submit your class prep notes on Canvas.**

Other Notes:

1. Make sure to be reading ahead of the class and taking notes! You don't have to understand everything, but please get a lay of the land. See if maybe there is some review you need to do or mathematical terms you need to look up.