

# MATH 257/316: PARTIAL DIFFERENTIAL EQUATIONS / ELEMENTARY DIFFERENTIAL EQUATIONS II

UBC, 2017-2018 Summer Term 1 (May 14, 2018 to June 21, 2018), Section: 921

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**Lectures:** Mon, Wed: 10:30-12:30; Tue, Thu: 12:30-14:00  
Leonard S. Klinck 201 (LSK 201)

**Office Hours:** Tue, Thu: 14:30-15:30 in LSK 300

## Course description:

- *Partial Differential Equations:*  
Introduction to partial differential equations; Fourier series; the heat, wave and potential equations; boundary-value problems; numerical methods.
- *Elementary Differential Equations II:*  
Power series methods, ordinary and regular singular points, Bessel's equation; boundary value problems and Sturm-Liouville Theory.

## Texts:

- Partial Differential Equations, UBC M257/316 lecture notes free on the web, *Richard Froese*: <http://www.math.ubc.ca/~rfroese/notes/Lecs316.pdf>
- Recommended but not required
- Elementary Differential Equations and Boundary Value Problems (10th Ed), *W.E. Boyce & R.C. DiPrima*, John Wiley & Sons, 2012.
- Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (4th Ed), *R. Haberman*, Pearson, 2004

## Prerequisite:

One of MATH 215, MATH 255, MATH 265

**Grading Scheme:**

- **Final grade:**  
Homework $\times$ 20% + Midterms $\times$ 30% + Final Exam $\times$ 50%
- **Homework:** Five homework sets, will be assigned each week (Tuesday) and will be due on (next) Monday.
  - Your homework should be written up neatly. If you use more than one piece of paper, they must be stapled together.
  - Homework assignments are to be handed in at the beginning of classes. Late homework will not be accepted.
- **Midterms:** There will be two in-class midterms, tentatively scheduled for May 29th and June 14th.
- The **Final exam** is scheduled in June (TBA) and will cover the entire course.

The Final exam schedule for Term 1 of 2018S runs from June 25th to June 29th inclusive. All students are responsible for being here during that entire period. They should only make plans AFTER they know their exam schedule dates and times. The exam schedule will be published by the beginning of June.

**Policies:**

- Notes, calculators, cell phones and other electronic devices are not allowed in the exams.
- A score of 0 will be given for the missed midterm/homework.

If you are unable to attend one of the midterms, you must notify with a legitimate reason or provide professional documentation of any medical emergency. In either of these two cases your other midterm and final exam grade will be scaled accordingly. Undocumented absences from midterms will result in a score of zero.

- **Regrading:** Please indicate which problems you would like to have regraded and why on a sticky note/stapled piece of paper attached to the homework or midterm in question.