L26: Solution of Partial Differential Equations via Separation of Variables -- Example Problems (2nd Lecture)

Thursday, December 3, 2020 5:38 PM

50/100 am OK

Start Video Recording

This is wrong... Not bad.

Announcements

- **Today, Lecture 26, Linear Partial Differential Equations (PDEs)** will be last new material of course:
  - **Review Lecture 25**:
    - Laplaces Equation in Cylindrical Equations. Finish example distributed on D2L.
  - **Continued Examples**, Solution of Linear PDEs by Separation of Variables.
    - Examples: Parabolic Equations: 1D Diffusion Equation; Schrodinger's Equation.
    - Examples: Hyperbolic Equations: 1d Vibrating String.
    - L25_mathematica.nb updated and in D2L lecture 25 directory. Will review illustrations therein plotting/animating class solutions.
    - Supplemental Example: Hyperbolic Equation, EM Waves in a Cylindrical Conducting Pipe.
- Distributed Lecture 25 notes in advance on D2L and announced so any students wanting to get ahead in homework 11 can.
  - Notes more detailed (so a little longer) than usual lecture.
- **Homework 11,** due Thursday, Dec 10.
  - Cover solutions of PDEs.
  - Lectures 25 and 26 Notes and L25_mathematica.nb will help with homework
  - D2L upload locked Saturday, Dec 12 at 10 pm. Cannot go beyond this. Will post solution.
- **Project Presentation Slides**: Due **Thursday, Dec. 10**, last lecture.
  - Deliverable in 10 minutes or less, max 15 slides.
  - Please submit in pdf format.
- **Lecture 28, Thursday**, Final Review
  - If needed, continue example solutions of PDEs.
  - Review for Final.
- **Final Instructions** (online) listed below.
  - Format same as for Tests. Note deviations in time: Exam will be 1:50.

Final Exam, Thursday, Dec 17

12:45 - 2:45 pm scheduled: 1:50 total exam time

Test Distributed on D2L at specified time, Turn in via D2L

- **12:50 pm Release on D2L**, See "Tests" folder: Tests > Final Exam > Final.pdf
- **12:55 pm Start**
- **2:45 pm Stop**
  Upload Scan of Work to D2L (20 min)
- **3:05 pm** D2L Locked. **PLEASE DO NOT BE LATE TURNING IN**

Instructions for Final:

- **Remain logged into Zoom Classroom during Final**
  - Will announce any issues/corrections
  - If for any reason have connection issues, follow guidelines and turn in on time on D2L
  - If finish early, you can scan and upload on D2L early
- **No help from anyone.** Do your own work. Clarification questions to professor permitted
  - Professor will take questions in chat (will monitor)
  - Will use Zoom breakout room "Questions" to avoid distractions if discussion needed
- **Permitted to use:**
  - **Class Text** (Boas only)
  - **Class Notes** (Professor's and your own)
  - **Homework/Test Solutions** (your own and those distributed)
- **Not Permitted:**

    - **Mathematical Software:** Mathematica, Maple, Python/symbolic-Python, etc
    - **Any Additional References:** Online, Other Textbooks including supplemental class text Arken, Webber and Harris, References, etc.
- **Timer:** Will run countdown timer to make clear how much time till stop.
- **Visa Students**: Extra time accommodation granted by extended time till turn in (50% extension => 165 min total => 3:40 Adjusted Stop)
    - Please continue working when time is called and remain in Zoom classroom
    - I will announce extended time end time later
    - In the event of distracting turn in noise at end of regular interval, please temporarily silence speaker (turn back on after 3:10 pm)