

Math 4413
Fourier Analysis
Syllabus
Spring, 2014
Tim Olson, Professor

Topics:

1. Fourier Series
2. The Discrete Fourier Transform
3. The Fourier Transform
4. Sampling and Interpolation
5. Digital Communications
6. Radar Processing
7. Image Processing
8. Medical Imaging
9. Numeric Methods for PDE's

Suggested Books:

- **Applied Fourier Analysis: Tim Olson... supplied free electronically.**

Grading Policy:

- **Projects 1 and 2, over topics 1 and 2: 15 points apiece**
- **Projects 3-6: (do at least 3): 10 points apiece**
 - **Projects must look professional, rather than a couple pages of code and scribbles**
 - **Students may collaborate, but must write up their projects and do the coding individually**
- **Test: Primarily over Chapter 4, or Topic 3. 15 points**
- **Total Points: 75**
- **Grading will be 90, 80, 70 % etc.**

Honesty and Honor Code: Students should be aware of the honor code of the university and must behave appropriately