

ELEG 305 SIGNALS AND SYSTEMS

EXTRA CREDIT (20 points) due Monday May 20

Fourier Analysis and Contemporary Issues

Choose one of the topics below and answer (one page, double-spaced, using 12-point font).

- A. Cellular phones have become ubiquitous in today's world. However, there are numerous concerns related to their use, such as effects on society and health. Name a current cell-phone issue that might require Fourier analysis to obtain a full understanding of this issue and its implications. Provide a discussion of how Fourier analysis might be used to better understand this issue.
- B. Consider a current technology or process that we use everyday, such as cellular phones, or a time series that has relevance in contemporary life, such as the stock market. Choose an example and explain how Fourier analysis plays an important role in the design and/or understanding of this technology or process.