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EE641 - Model-Based Image and Signal Processing
Fall 2021: The Pandemic Edition Again

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Instructor: Charles A. Bouman
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    E-mail: bouman@purdue.edu
    Course Hours: MWF 1:30 to 1:20
    Classroom: Neil Armstrong Hall of Engr 1021
    Class Helpers: TBD
    Additional Helpers: TBD
    Office Hours: after class or by appointment via Zoom
    Course Web Page: https://engineering.purdue.edu/∼bouman/ee641/
    Lab Web Page: https://engineering.purdue.edu/∼bouman/grad-labs/

Primary Reference:

1. Class notes: C. A. Bouman, *Model Based Image Processing.*

Supplementary References:

1. T. Hastie, R. Tibshirani, and J. Friedman, *The Elements of Statistical Learning: Data Mining, Inference, and Prediction,* Springer, 2009.

2. R. Chellappa and A. Jain, *Markov Random Fields: Theory and Application,* Academic Press, 1993.

3. S. D. Silvey, *Statistical Inference,* Chapman & Hall, 1975.

4. A. K. Jain, *Fundamentals of Digital Image Processing,* Prentice-Hall, 1989.

5. A. Rosenfeld and A. Kak, *Digital Picture Processing,* volumes 1 and 2, Academic Press, 1982.

6. R. Kindermann and J. L. Snell, *Markov Random Fields and their Applications,* Providence: American Mathematical Society, 1980.

7. A. Tikhonov V. Arsenin and F. John, *Solutions of Ill-Posed Problems,* V. H. Winston & Sons, 1977.

Course Description:

    This course will cover topics in Computational Imaging and Inverse Problems at the level of current research. Reference material will be primarily in the form of the class notes and journal publications. The course will include computer homework assignments, computer projects, one midterm and a final. Final grades will use the following weighting.

Course Grading:

Homework and computer projects	30%
Midterm #1	30%
Final exam (may be a project)	40%

Lab/Homework submission:

Submit all assignments and labs in pdf format to "hwbouman@gmail.com". Clearly label the submission (i.e., "homework 1" or "Lab 2"). The submitted pdf document should include all requested code.

Special Considerations:

This is obviously a very special semester due to the Covid-19 pandemic. If you have any concerns or questions, please just email, text, or call me. I will make my cell number available to students in the class, but please don't post publicly. Please read all and follow all directions information at the Protect Purdue web site: `https://protect.purdue.edu`

Thanks, and stay safe! Prof. Bouman