

# EE445S Instructional Staff and Web Resources

## 1 Background of the Instructors

Brian L. Evans is Professor of Electrical and Computer Engineering at UT Austin. He is an IEEE Fellow “for contributions to multicarrier communications and image display”. At the undergraduate level, he teaches Linear Systems and Signals and Real-Time Digital Signal Processing Lab. His BSEECs (1987) degree is from the Rose-Hulman Institute of Technology, and his MSEE (1988) and PhDEE (1993) degrees are from the Georgia Institute of Technology. He joined UT Austin in 1996. His first programming experience on digital signal processors was in Spring of 1988.

Teaching assistants (TAs) will run lab sections, grade lab reports, answer e-mail and hold office hours. The TAs are Mr. Chao Jia and Ms. Zeina Sinno. Both conduct research in reducing rolling shutter artifact in smart phone cameras. Both have been TAs for this course before. A grader will grade homework assignments for the lecture component of the class.

## 2 Supplemental Information

**Wireless Networking & Communications Seminars** generally meet Fridays in ENS 637.

You can search for a topic in Google scholar to find papers and patent applications on the topic. Web address is <http://scholar.google.com>.

Sometimes, an article found on Google scholar is only available through a specific database, e.g. IEEE Explore. You can access these databases from an on-campus computer. If you are off campus, then you can access these databases by first connecting to [www.lib.utexas.edu](http://www.lib.utexas.edu), then selecting the database under Research Tools, and finally logging in using your UT EID.

### INDUSTRIAL

- *Circuit Cellar Magazine* <http://www.circuitcellar.com>
- *Electronic Design Magazine* <http://electronicdesign.com>
- *Embedded Systems Design Magazine* <http://www.eetimes.com/design/embedded>
- *Inside DSP* <http://www.bdti.com/insideDSP>
- *Sensors Magazine* <http://www.sensorsmag.com>
- *Sensors and Transducers Journal* [http://www.sensorsportal.com/HTML/DIGEST/New\\_Digest.htm](http://www.sensorsportal.com/HTML/DIGEST/New_Digest.htm)

### ACADEMIC

- *IEEE Communications Magazine*
- *IEEE Computer Magazine*
- *EURASIP Journal on Advances in Signal Processing*
- *IEEE Signal Processing Magazine*
- *IEEE Transactions on Communications*
- *IEEE Transactions on Computers*
- *IEEE Transactions on Signal Processing*
- *Journal on Embedded Systems*
- *Proc. IEEE Real-Time Systems Symposium*
- *Proc. IEEE Workshop on Signal Processing Systems*
- *Proc. Int. Workshop on Code Generation for Embedded Processors*

## 3 Web Resources (by Ms. Ankita Kaul)

MIT OpenCourseWare:

<http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-341-discrete-time-signal-processing-fall-2005/>

\*Advantages: Exceptional Lecture Notes! The readings are more in depth than lecture material, but still quite fascinating.

\*Disadvantages: The homework assignments and solutions were Advantages for practice, but many problems outside the scope of the 445S class

### **UC-Berkeley DSP Class Page:**

<http://www-inst.eecs.berkeley.edu/~ee123/fa09/#resources>

\*Advantages: The articles and applets under 'Resources' are quite interesting and useful

\*Disadvantages: Seemingly no actual Berkeley work actually on website, everything taken from other sources ...

### **Carnegie Mellon DSP Class Page:**

<http://www.ece.cmu.edu/~ee791/>

\*Advantages: Lectures had a lot of Matlab code for personal demonstration purposes

\*Disadvantages: The lecture notes themselves are far more math-y than the context of 445S - still interesting though

### **Purdue DSP Class Lecture Notes Page:**

<http://cobweb.ecn.purdue.edu/~ipollak/ee438/FALL04/notes/notes.html>

\*Advantages: the notes are super simple and easy to understand

\*Disadvantages: only covers first half of 445S coursework

*Doing a search on Apple's iTunes U[niversity] for DSP provided numerous FREE lectures from MIT, UNSW, IIT, etc. for download as well.*

### **Youtube Video Resources:**

<http://www.youtube.com/watch?v=7H4sJdyDztI&feature=related>

Signal Processing Tutorial: Nyquist Sampling Theorem and Anti-Aliasing (Part 1)

\*Advantages: visuals

\*Disadvantages: ... a bit slow

<http://www.youtube.com/watch?v=Fy9dJgGCWZI>

Sampling Rate, Nyquist Frequency, and Aliasing

\*Advantages: visualization of basic concepts

\*Disadvantages: very short, would have liked more explanation

[http://www.youtube.com/watch?v=RJrEaTJuX\\_A&feature=related](http://www.youtube.com/watch?v=RJrEaTJuX_A&feature=related)

Simple Filters Lecture, IIT-Delhi Lecture

\*Advantages: explanations of going to and from magnitude/phase

\*Disadvantages: watch out for lecturer's accent

<http://www.youtube.com/watch?v=Xl5bJgOkCGU&feature=channel>

FIR Filter Design, IIT-Delhi Lecture

\*Advantages: significantly deeper explanations of math than in class

\*Disadvantages: lecturer's accent, video gets stuck about 30 seconds in

<http://www.youtube.com/watch?v=vyNyx00DZBc>

Digital Filter Design

\*Advantages: quite Advantages information - especially on design TRADEOFFs

\*Disadvantages: sound quality, better off just reading slides while he lectures