

# **Required books for Masters program in Electrical and Computer Engineering**

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All books mentioned on the website of the respected courses are categorized according to the different fields. Those books that are required but not necessary are prefixed by (optional).

**\*\* The first name of a book in each area indicates a basic textbook for this field. If you plan to major in one particular area and choose another as a secondary area, you are suggested to have at least a basic book of your secondary field. If you think any book you referred during your previous education is important, bring them over!**

### **VLSI and Computer Architecture:**

- \* J. M. Rabaey, A. Chandrakasan, and B. Nikolic, “*Digital Integrated Circuits: a Design Perspective*”, 2nd edition, Prentice Hall 2003
- \* (Optional) Reference: N. H. E. Weste and K. Eshraghian, “*Principles of CMOS VLSI Design: A Systems Perspective*”, 2nd edition, Addison-Wesley, 1993
- \* G. D. Michelli “*Synthesis and Optimization of Digital Circuits*”, McGraw-Hill 1994.
- \* John L. Hennessy, David A. Patterson “*Computer Architecture: A Quantitative Approach*” Morgan Kaufmann, 3<sup>rd</sup> edition

### **Digital and Wireless Communication:**

- \* Bernard Sklar, *Digital Communications, Fundamentals and Applications*, Second Edition, Prentice Hall, 2001.
- \* T. S. Rappaport, *Wireless Communications, Principles and Practice*, 2nd Ed., Prentice Hall, 2002.
- \* (Optional) Simon Haykin, *Communication Systems*, 4th Ed., John Wiley & Sons, Inc., 2001.
- \* Simon Haykin, *Adaptive Filter Theory*, 4th Ed., Prentice Hall, 2002.

### **Signal Processing:**

- \* B. Porat, *A Course in Digital Signal Processing*, Wiley, 1997
- \* (Optional) *Fundamentals of Statistical Signal Processing, Volume I: Estimation Theory* by Steven Kay (Published by Prentice Hall)
- \* (Optional) B. P. Lathi, *Modern Digital and Analog Communication Systems* (The Oxford Series in Electrical and Computer Engineering)

### **Computer Networks:**

- \* Andrew S. Tanenbaum, “*Computer Networks*,” 4th edition, Prentice Hall, 2003.
- \* Jim Kurose and Keith Ross, “*Computer Networking: A Top-Down Approach Featuring the Internet*,” 2nd edition, Addison-Wesley, 2002.
- \* (optional) Bertsekas and Gallary, *Data Networks*, 2<sup>nd</sup> Edition, Prentice-Hall, 1992.

### **Mathematics (core course for MS – you can get this one from seniors):**

- \* Erwin Kreyszig, *Advanced Engineering Mathematics*, 8th Ed., John Wiley & Sons, Inc., 1999