COMPUTER ENGINEERING ELECTIVES ADVISING SHEET

Bachelor of Science Computer Engineering **(BS CpE)**
The University of Oklahoma - Gallogly College of Engineering
School of Electrical and Computer Engineering

The information below provides information and restrictions about the different types of required electives for the BS CpE Degree (B225). **Note:** All CpE electives are 3-hour courses. See the check sheet for more information about the Accelerated Master's Degree programs (A225: BS-CpE/MS-CS & A226: BS-CpE/MS-ECE).

Gen Ed Electives: Each of the four Gen Ed elective courses (labeled with a 5 on the flowchart) must be selected from the University-wide lists of courses found at: http://www.ou.edu/content/gened/courses.html One course must be taken from each of the following categories: **Social Science**, **Understanding Artistic Forms**, **Western Civilization & Culture**, and **Non-western Culture**. One Gen Ed elective is required to be upper division (i.e. 3000 level or higher level). Gen Ed questions should be addressed to Williams Student Services advisors.

Professional Elective: One professional elective course must be taken from the list of categories below:

1. ENGL 3153, MGT 3013, ENT 4503, MS 4223, or NS 4633
2. Any non-required, upper division course in PHYS, ECE, CS, ENGR, AME, BME, CEES, CHE, CHEM, DSA, ISE, P E
3. Any non-required, upper division course in MATH except MATH 4733 or MATH 4753
4. Other non-required 3000-level or higher course with ECE Undergraduate Studies Committee Approval

Degree Restrictions: The majority of your technical and professional electives should be classroom-based lecture courses that are focused on technical subject matter. To ensure this, the following restrictions apply to 4 technical electives and 1 professional elective:

✓ *No more than 6 total hours (2 of the 5 technical/professional elective courses) can be from the following courses: AME 3013, ECE 3440, ECE 3960, ECE 3970, ECE 3980, ECE 3990, ECE 4960, ECE 4970, ECE 4973, ECE 4990, ECE 5283, ECE 5880, ECE 5960, ECE 5970, ECE 5973, ECE 5990, ENGL 3153, MGT 3013, ENT 4503, NS 4633, ENGR 4003, ENGR 4013, or ENGR 4510.*

Technical Electives: CpE students must take four ECE/CS technical elective courses (see information below).

- At least one of the technical electives must be an ECE upper division, non-required course.
- The other 3 technical electives can be any ECE or CS upper division, non-required course.
- Up to two of the technical electives may be at the 3xxx level.
- Undergraduates can enroll in 5xxx level graduate courses if they have a GPA of 3.0 or better.
- BS/MS accelerated program students must enroll in the 5xxx level section of slash listed (4xxx level/5xxx level) courses. Other undergraduate students should enroll in the 4xxx level section of slash listed courses.

The following are some of the electives (separated by area of study) that are usually offered at least once per year.

- **Digital Systems** – ECE 4/5623: Computer Hardware Design, ECE 4/5833: VLSI Digital System Design, ECE 5463 Advanced Computer Architecture
- **Communications** – ECE 4523: Communications, ECE 5123: Wireless Communication
- **Controls** – ECE 4413: Intro to Control Theory, ECE 4/5433: Measurement and Automation, ECE 5403: Linear Systems Analysis, ECE 5413: Control Theory
- **Bio-Medical Engineering** – ECE 4823: Principles of the Human Body, ECE 4/5853: Biomedical Signals & Systems, ECE 4/5863 Biomedical instrumentation, ECE 5843: Medical Imaging Systems
- **Electronics and Optics** – ECE 4/5363: Optical Engineering, ECE 4813: Electronics
- **Signals and Systems** – ECE 4/5213: Digital Signal Processing, ECE 5273: Digital Image Processing, ECE 5523: Random Signals
- **Radar/Applied Electromagnetics** – ECE 3613: Electromagnetic Fields I, ECE 4/5653: Digital Radar Systems, ECE 4/5663: Radar Engineering, ECE 4/5703 EM Fields and Wave Propagation
- **Software** – CS 3113: Intro to Operating Systems, CS 3823: Theory of Computation, CS 4/5013: Artificial Intelligence, CS 4/5023 Intelligent Robotics, CS 4/5033: Machine Learning, CS 4/5133: Data Networks, CS 4413: Algorithm Analysis