TEET 5238G Industrial Electronics
3 Credit Hours. 2 Lecture Hours. 3 Lab Hours.
A study of industrial applications of electronic devices including SCR's, triacs, switching circuits, timers, logic control circuits, optical devices, and sensors. The course also includes laboratory activities. Graduate students will complete an additional independent research project that involves a written report with an oral presentation. **Prerequisite(s):** TEET 3243 or TMAE 5132. **Cross Listing(s):** TEET 5238.

TEET 5245G Electronic Communication Systems
4 Credit Hours. 3 Lecture Hours. 2 Lab Hours.
In this course students will study basic principles, devices and circuits in modern electronic communications systems. Topics include systems and signal analysis, spectrum analysis, amplitude modulation and detection, frequency modulation and detection and oscillators. Graduate students will complete an additional independent research project. **Prerequisite(s):** TMAE 5132 or ENGR 2341 or TEET 3241 and TEET 3145. **Cross Listing(s):** TEET 5245.

TEET 5340G Digital Communications
4 Credit Hours. 3 Lecture Hours. 2 Lab Hours.
Students will investigate digital modulation techniques including ASK, FSK, BPSK, QAM and M-ary schemes; gain indepth knowledge of analog-to-digital conversion principles; and explore practical real-world communication applications including wireless communications, cell phone technology, and consumer communications systems. The course also includes laboratory activities in support of instruction. Graduate students will be required to complete an independent research project, not required of undergraduate students. **Prerequisite(s):** TMAE 5132. **Cross Listing(s):** TEET 5340.

TEET 5531G Programmable Logic Controllers
3 Credit Hours. 2 Lecture Hours. 3 Lab Hours.
A study of sequential programmable logic controllers (PLCs) as applied to industrial processes with emphasis on ladder diagrams, input/output devices, application programming design of beginning through advanced functions, systems and networking. Also includes laboratory activities in support of instruction. Graduate students will complete an independent research project which involves a written and oral presentation. **Prerequisite(s):** TENS 2146. **Cross Listing(s):** TEET 5531.

TEET 5542G Computer System Design
4 Credit Hours. 3 Lecture Hours. 2 Lab Hours.
This course is an in-depth study of the inner-workings of modern digital computer systems and trade offs present at the hardware-software interface. Activities will include the design process in the context of a complex hardware system and practical experiences with computer-aided design tools. Topics include: instruction set design, computer arithmetic, controller and data path design, memory systems, input-output systems, pipelining, performance and cost analysis. Graduate students will be required to complete an additional research project. **Prerequisite(s):** TMAE 5132 or TEET 2443 or ENGR 2332. **Cross Listing(s):** TEET 5542.