Electrical Engineering Student Handbook

The University of Texas at Tyler

Department of Electrical Engineering

Handbook for academic year 2016-2017

Revised 10 August 2016
(supersedes previous editions)

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INTRODUCTION

Welcome to the Electrical Engineering (EE) Department at the University of Texas at Tyler. Within these pages you will find information that should help you complete a degree within our program. Specifically, you should find information on the mission, objectives and outcomes of the EE program, on advising, and on curriculum. In this handbook, we introduce you to the ethics expected of a professional engineer. We also provide an overview of societies and activities within the College. Finally, in order to get to know your faculty, we've provided a brief biographical sketch of each of us.

ELECTRICAL ENGINEERING MISSION STATEMENT

The Department of Electrical Engineering supports the mission of the College of Engineering and Computer Science through its teaching, research, and community service activities. The Department is committed to excellence in undergraduate electrical engineering education and provides its students with a strong theoretical foundation, practical engineering skills, experience in communication and teamwork, and training in ethics and professional conduct. Graduates are prepared for successful engagement in industrial enterprises, research and development, graduate study, and practice as professional engineers. The Department also provides advanced studies in support of the graduate programs of the College of Engineering and Computer Science.

CONDUCT AND ETHICS

University *Handbook of Operating Procedures* and *Manual of Policies and Procedures for Student Affairs*

The guiding principles governing operation of the University are set forth in the *Handbook of Operating Procedures* (*HOP*). The section of the *HOP* concerned specifically with student affairs is found at http://www.uttyler.edu/ohr/hop/hopseries500.php.

The University publishes a detailed guide to student affairs in its *Manual of Policies and Procedures for Student Affairs* (*MOPP*), available at http://www.uttyler.edu/mopp/index.php. Included are such subjects as student organizations, programs for new students, leadership opportunities, Greek life, counseling services, health services, and disciplinary procedures. Subchapter 8-800 of the *MOPP* (http://www.uttyler.edu/mopp/documents/8Student%20Conduct%20and%20Discipline.pdf) describes specific expectations of student conduct. In particular, this subchapter describes actions that fall within the scope of academic dishonesty. These include cheating, plagiarism, collusion, falsification of academic records, or any act intended to give a student an unfair academic advantage (such as giving an instructor false or misleading information to receive a postponement or extension on an assignment).

Department of Electrical Engineering Code of Student Conduct

The goal of this Code of Student Conduct is to foster the atmosphere of professionalism, mutual respect, and open communication necessary to the fulfillment of the educational mission of the Department of Electrical Engineering.

Student contributions to maintaining this atmosphere include but are not limited to:

- attending the classes for which they are enrolled;
- coming to class prepared to learn and to contribute;
- avoiding behaviors that cause distraction (e.g., having private conversations with other class members, engaging in in-class cellular telephone conversations or text messaging, eating or sleeping in class);
- arriving on time and remaining in the classroom for the entire class period;
- avoiding academic misconduct;
- treating faculty, staff, and peers with respect.

A student whose behavior is detrimental to the learning environment in the classroom may be removed from the classroom at the discretion of the instructor. Repeated problems may result in disciplinary action, including possible dismissal from the class.

The importance of attending classes cannot be overstated. Students who fail to attend class regularly are inviting scholastic difficulty. The *Handbook of Operating Procedures* specifies in Section 5.10.2 (http://www.uttyler.edu/ohr/hop/documents/5.10.2ClassAttendance.pdf) that an instructor may, with the concurrence of his or her academic dean, notify a student that he or she is to be dropped from a course in which excessive absences have jeopardized the student's chances of academic success. Instructors will inform their students if their courses have specific attendance requirements.

Professional Engineering Ethics

As a professional engineer, you will be asked to uphold ethical standards of conduct. The Code of Ethics of the National Society of Professional Engineers (NSPE) sets an example of the standards to which engineers are expected to adhere; other engineering societies also publish similar codes. A complete on-line listing of the Code can be found at http://www.nspe.org/resources/ethics/code-ethics. Below we have listed the Fundamental Canons of a Professional Engineer; we also ask you to visit the website to review the Rules of Practice and Professional Obligations of a Professional Engineer.

NSPE Code of Ethics for Engineers

Preamble

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

Fundamental Canons

Engineers, in the fulfillment of their professional duties, shall:

1. Hold paramount the safety, health and welfare of the public.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

ELECTRICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

Program Educational Objectives are statements of the roles and responsibilities graduates are expected to assume in the years following graduation. They were developed by the Electrical Engineering faculty based on input from the program's constituents and have been reviewed by the College of Engineering and Computer Science, program alumni, and the Executive Advisory Board.

The electrical engineering program of the University of Texas at Tyler is committed to excellence in electrical engineering education. Graduates should demonstrate a strong foundation in the area of electrical engineering, practical engineering skills, ethics and professional conduct through successful engagement in industrial enterprises, practice as professional engineers, research and development, graduate studies and teaching.

Graduates of the electrical engineering program, i.e., alumni who have earned a Bachelor of Science in Electrical Engineering (BSEE) from the University of Texas at Tyler, will:

1. be involved in professional practice through the application of problem solving skills, using relevant technology in their field;
2. demonstrate professional leadership skills through effective communication, critical thought, creativity and teamwork;
3. be able to integrate engineering principles and social, business, and ethical issues in modern society in the process of decision making;
4. be professionally engaged in serving the needs of business, industry, government, and academic organizations;
5. grow professionally through activities such as graduate study, continuing education, professional licensure, and participation in technical societies.

Program Educational Objective Evaluation

After your graduation from the Electrical Engineering program, we plan to contact you periodically to determine how well we are meeting our Program Educational Objectives. We hope you will share with us how well you were prepared for your new job or graduate school and what you are doing to continue to learn and grow professionally. Your feedback will help us improve the program.

ELECTRICAL ENGINEERING STUDENT OUTCOMES

EE Student Outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. EE Student Outcomes are developed by the EE faculty and the College of Engineering and Computer Science based on recommendations from the program's constituencies. Student Outcomes are supported by coursework. Each engineering course will state in its syllabus which Student Outcomes it supports.

Electrical engineering students at the time of graduation are expected to:

1. have the ability to apply knowledge of the fundamentals of mathematics, science, and engineering;

2. have the ability to use modern engineering tools and techniques in the practice of electrical engineering;

3. have the ability to analyze electrical circuits, devices, and systems;

4. have the ability to design electrical circuits, devices, and systems to meet application requirements;

5. have the ability to design and conduct experiments, and analyze and interpret experimental results;

6. have the ability to identify, formulate, and solve problems in the practice of electrical engineering using appropriate theoretical and experimental methods;

7. have effective written, visual, and oral communication skills;

8. possess an educational background to understand the global context in which engineering is practiced, including:
   a. knowledge of contemporary issues related to science and engineering;
   b. the impact of engineering on society;
   c. the role of ethics in the practice of engineering;

9. have the ability to contribute effectively as members of multi-disciplinary engineering teams;

10. have a recognition of the need for and ability to pursue continued learning throughout their professional careers.

<u>Student Outcome Assessment</u>

Assessment of Student Outcomes is based upon coursework. Each course's syllabus contains Course Learning Outcomes (CLOs) which are statements of specific skills or knowledge that will be presented in the course. Each CLO is related to a specific Student Outcome. Embedded performance indicators (assignments or exam questions that relate specifically to CLOs) are used to assess achievement of CLOs. Attainment of Student Outcomes is assessed from the attainment of supporting CLOs. You will also be asked for your self-assessment of Student Outcomes in your senior survey and senior exit

interview. Your evaluations are a vital source of information that will be used to continually improve the quality of the program.

COURSE AND GRADUATION REQUIREMENTS

The instruction and experiences built into the Electrical Engineering Curriculum are the primary means by which you achieve the ten Program Educational Outcomes described above. Courses provide the foundation upon which the curriculum rests.

Graduation Requirements

You must comply with the following requirements to graduate with a Bachelor of Science degree in Electrical Engineering:

1. satisfactorily complete a minimum of 128 semester hours of coursework;
2. complete the general baccalaureate degree requirements of the University;
3. earn a grade of "C" or better in all EENG, MENG, or ENGR courses;
4. complete the coursework specific to the electrical engineering curriculum;
5. Provide evidence of having taken the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Engineering examination.

You must also earn a grade of "C" or better in any prerequisite course before you attempt a subsequent course. You may apply for a waiver of this requirement if you believe a waiver is justifiable. However, it is your responsibility to initiate a waiver request and to explain its justification. Waiver requests will not be approved unless the justifications are compelling.

Detailed information about the FE exam content, exam schedule, and registration for the exam is available through the Office of the Dean of Engineering and Computer Science.

Persons who take the FE examination in Texas will receive letters from the Texas Board of Professional Engineers (TBPE) notifying them of their examination results. All students are required to furnish evidence of having taken the FE examination before their degrees may be issued.

Curriculum

The 2014 BSEE curriculum comprises 128 semester credit hours. The courses and recommended sequence are shown in Appendix A. Course descriptions can be found in the UT Tyler catalog available at http://www.uttyler.edu/catalog/. Students should be aware that most courses have prerequisite requirements, and deviations from the recommended sequence may have consequences for the date of expected graduation. The curriculum contains a number of electives; acceptable elective course are listed in Appendix B. Transfer students must fulfill the same degree requirements as four-year students except those who hold Texas Associate of Science in Engineering Science (ASES) degrees. These students may earn BSEE degrees by successfully completing the EE Completion Program for ASES Transfer Students in Appendix C.

Grade Forgiveness

A student who re-takes a course for a grade replacement must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in *both* the original *and* the repeated grade being used to calculate overall grade point average. A student will receive grade forgiveness for only three undergraduate or two graduate course repeats during his/her career at UT-Tyler.

Six-Drop Rule

Any student who began college for the first time as a freshman in the fall of 2007or thereafter may not drop more than six courses during his or her entire undergraduate career. This includes dropped courses at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course from which the student withdrew after the published census date published in the Schedule of Classes. Exceptions to the six-drop rule include:

1. withdrawing completely from the University;
2. being administratively dropped from a course by the University;
3. dropping a course due to a provable illness or disability, to care for a sick or injured person, or due to a death in the immediate family;
4. dropping a course due to a documented change of work schedule, or
5. dropping a course for active-duty service with the U.S. armed forces or Texas National Guard.

Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

Computer Engineering Specialization

The Department of Electrical Engineering has initiated a computer engineering specialization within the BSEE curriculum. This specialization is accomplished through the choice of appropriate technical electives. See the Department Chair for details.

Core Curriculum

Since 1999, students earning four-year degrees from Texas state-supported colleges have been required to complete a set of foundational coursework known as the core curriculum. The core curriculum was extensively revised for implementation in fall, 2014, and comprises 42 semester credit hours. Full details of the core curriculum may be found at www.thecb.state.tx.us/corecurriculum2014.

Texas Associate of Science in Engineering Science (ASES) Degree and EE Completion Curriculum

Students who have completed the prescribed Texas Associate of Science in Engineering Science (ASES) degree with an overall grade-point average of 2.5 (on a scale of "A" = 4.0) and no grades below "C" are automatically admitted to the baccalaureate program with no further testing or evaluation. The BSEE is

awarded to ASES transfer students who satisfactorily complete the EE Completion Curriculum (see Appendix C). Holders of ASES degrees who finish the EE Completion Curriculum will automatically satisfy the requirements of the core curriculum.

Important Information for non-ASES Transfer Students

There are several important considerations for students who have not completed the Texas ASES degree transferring to the UT-Tyler electrical engineering program.

- **Transfer credits from junior colleges for engineering courses:** Transfer credit is usually *not* given in 3000- or 4000-level engineering courses for coursework taken at junior colleges. Exceptions applying to EENG 3304 (Linear Circuit Analysis I), EENG 3104 (Linear Circuit Analysis I Laboratory), and EENG 3302 (Digital Systems) are described below.

- **Differential equations:** A 3-credit course in differential equations is a prerequisite for both EENG 3305 (Electric Circuits II) and EENG 3303 (Electromagnetic Fields), both scheduled for the fall semester of the junior year. It is also a prerequisite or co-requisite for EENG 3304 (Linear Circuit Analysis I). Transfer students should earn credit in differential equations *before* enrolling at UT-Tyler. *Students who do not have credit in differential equations prior to the start of the junior year can expect significant delays in their graduations*.

- **EENG 3304** (Linear Circuit Analysis I) is a gateway course in the electrical engineering program. Most EENG courses cannot be taken until credit has been earned in EENG 3304. UT-Tyler offers EENG 3304 in the spring semester. Texas junior college students may earn credit in this course by taking ENGR 2305, an equivalent course recognized under the Texas Field of Study Curriculum for Engineering. *Students who do not have credit in EENG 3304 or equivalent prior to the beginning of the junior year can expect significant delays in their graduations*.

- **EENG 3104** (Linear Circuits Analysis I Laboratory) is a required companion course to EENG 3304 and is a gateway course in the electrical engineering laboratory sequence. EENG 3104 is offered by UT-Tyler in the spring semester. Texas junior college students may earn credit in this course by taking ENGR 2105, an equivalent course recognized under the Texas Field of Study Curriculum for Engineering. *Transfer students who begin the junior year without credit in EENG 3104 should take it in the spring semester of the junior year to avoid delays in their graduations*.

- **EENG 3302** (Digital Systems) is offered in the fall semester at UT-Tyler and is a prerequisite to the required course EENG 3307 (Microprocessors), which is offered in the spring semester of the junior year. Texas junior college students may earn credit in this course by taking both ENGR 2306 (Digital Systems) and ENGR 2106 (Digital Systems Laboratory), courses recognized under the Texas Field of Study Curriculum for Engineering. *Transfer students who enter as juniors but without credit in EENG 3302 should take it in their first semester of study at UT-Tyler.*

- **EENG 1301** (Engineering the Future) is an introduction to electrical engineering offered in the fall semester which emphasizes practical laboratory experience. *Credit in EENG 1301 is required of all electrical engineering students, including non-ASES transfer students*. Junior

colleges may not offer a course equivalent to EENG 1301, but combinations of certain junior-college courses may be used as substitute credit (see Appendix D for details).

- **Introductory Engineering or Science Elective** is an introductory-level course in engineering or science chosen from an approved list. As of this writing, the only UT-Tyler course on the list is ENGR 1201 (Engineering Methods). *Credit in this course is required of all electrical engineering students, including non-ASES transfer students*. Junior colleges may not offer a course equivalent to ENGR 1201, but combinations of certain junior-college courses may be used for substitute credit (see Appendix D for details).

- **EENG 2101** (MATLAB for Engineers) is a one-credit course in MATLAB, a software package widely used in upper-level courses in electrical engineering. An equivalent course may not be available at junior colleges. EENG 2101 is offered in the spring semester at UT-Tyler; non-ASES transfer students should plan to take EENG 2101 in the spring of the junior year.

- **UT-Tyler core curriculum requirements for non-ASES transfer students:** Non-ASES transfer students who have completed the core curriculum requirements of another Texas state-supported college or university prior to transfer to UT-Tyler are exempted from the requirement to complete the UT-Tyler core curriculum. However, certain courses that appear in the curriculum (Appendix A) are departmental requirements in addition to counting toward fulfillment of the core curriculum. Students transferring to UT-Tyler with a completed core curriculum are not exempted from courses that are also departmental requirements.

- **Pre-engineering courses not required in the BSEE program:** Non-ASES transfer students should be aware that certain courses which may be required in a junior college pre-engineering program may not transfer for credit to the UT-Tyler BSEE program. Examples of such courses are Chemistry II and Dynamics. Certain other transfer course combinations may substitute for required UT-Tyler freshman-level courses in the four-year EE degree plan; see Appendix D.

STUDENT RESPONSIBILITY FOR MEETING DEGREE REQUIREMENTS

You have the ultimate responsibility for meeting degree requirements. It is *your* responsibility to know the degree requirements and to be actively involved in developing a plan of study to meet these requirements.

ADVISORS

Upon your admission to the University of Texas at Tyler as an electrical engineering major, you will be assigned an academic advisor. At a minimum, you must visit your advisor before you enroll in courses for the following semester. You should feel free to visit your advisor at any time if you have questions about your program. Your advisor may be willing to provide advice and guidance in matters affecting your academic performance and your career plans.

ADVISING PROCEDURE FOR COURSE ENROLLMENT

Each currently-enrolled EE student must be advised for the following semester or summer term by an advisor. An advising "window" will be available during each term for this purpose. The advising window for spring semester occurs in November; the advising window for fall is in April.

You will have a "hold" placed on your registration each term. This will prevent your registration for courses until the hold is removed. The department will remove the hold after you have been advised. *You will not be allowed to register for courses without advising*.

Your responsibilities:

- *Verify who is your advisor*. A list of EE students and advisors will be posted.

- *Make an appointment to meet with your advisor during the advising window.* You should make an appointment at least 24 hours in advance. Your advisor is not obligated to provide drop-in advising. You are strongly encouraged to complete your advising during the advising window and to not postpone advising until the week before classes begin.

- *Complete your part of the Registration Advising Form* (*RAF*). The Department office will provide copies of the RAF. A sample of the RAF is found in Appendix E. Completing your part of the RAF requires that you:

    1. Review the EE program and determine the courses you need;
    2. List those courses *and their prerequisites or co-requisites* on the RAF in the spaces provided (consult the current Catalog for course prerequisites and co-requisites);
    3. Develop your course schedule;
    4. Complete the RAF by adding section numbers, meeting days and times, room assignments, and computer call numbers.

- *Keep your appointment.*

- *Sign* the RAF at the end of your advising session; make certain your advisor signs it and makes a copy for you. *Keep* the copy for your records.

Your advisor's responsibilities

- Your advisor will post an advising schedule before the advising window opens.

- Your advisor will sign the RAF and make a copy for you. The original of the RAF will go in your file along with the Degree Audit Transcript you brought to your advising session.

- Your advisor will notify the department to remove the registration hold after your advising session.

Other important things to know

- *You should not expect your advisor to be able to give you an immediate response whether a particular course from another institution will transfer for credit.* This is especially true if the course(s) in question come from institutions that do not participate in the Texas common course-numbering system or the Texas Higher Education Coordinating Board's Common Field of Study Curriculum for Engineering, which is described on pp. 102-113 of the following publication:

  http://www.thecb.state.tx.us/reports/pdf/3312.pdf

  Questions about transferability of core curriculum courses which are not prerequisites to engineering coursework should be directed to the Registrar. *It is your responsibility to obtain evidence of transferability to UT-Tyler for credits earned elsewhere.*

- *You must obtain transcripts from other institutions for coursework you intend to transfer to UT-Tyler.* Federal law requires *you* to authorize the release of your transcripts; UT-Tyler *cannot* obtain your transcripts for you.

- *You should carefully check your UT-Tyler transcript and degree plan for errors.*

- *You must obtain prior approval to take coursework elsewhere while you are enrolled at UT-Tyler if you plan to transfer that work to UT-Tyler for credit.* Students admitted to UT Tyler should not register for any course(s) at any other institution until approval is granted. Approval by the student's advisor, department chair, dean and the University Registrar is required to assure that the courses taken at another institution will count toward the student's degree. Application for approval is made through the undergraduate transient admission form available at the Enrollment Services Center or on-line at http://www.uttyler.edu/registrar/forms/index.php.

- *You should be aware that deviations from the degree plan require written approval.* Typical deviations include taking a course without a specified prerequisite or substitution of one course for another.

- *You should develop an alternate schedule each semester.* This is a good idea in the event that a particular course section is filled when you try to register.

- *You should be aware of the requirement to sign the degree plan.*

ELECTRICAL ENGINEERING LABORATORY POLICIES

The following policies are mandated for all laboratories over which the Department of Electrical Engineering has jurisdiction. Laboratory supervisors (faculty members or appointed graduate laboratory assistants) have the authority to expel from the laboratory those users whose behavior contravenes these policies.

Laboratory Security

- A University laboratory supervisor must be present in the laboratory when students are working.
- Students must leave the laboratory when told to do so by the laboratory supervisor. Laboratory supervisors are to ensure that all students are out of the laboratory and that the door is locked before leaving.
- Removal of any equipment from a laboratory without prior written approval constitutes theft and may be prosecuted as such. Students wishing to borrow equipment from a laboratory must submit a written request; equipment will not be loaned until such request is approved. Students receiving loaned equipment assume all liability for its repair or replacement. Equipment will NOT be loaned if this will impede the educational mission of the laboratory.

Laboratory Safety Regulations

- Only employees of the University Physical Plant may alter the wiring of any ac line or outlet.
- Only authorized laboratory supervisors may remove covers from laboratory equipment, including test instruments (bench-mounted or portable) and computers. Any repair (including fuse replacement) of bench equipment may be performed only by laboratory supervisors.
- Appropriate clothing must be worn at all times in the laboratory. "Appropriate" clothing is clothing that will provide proper protection in the laboratory environment.
- Laboratory users must exercise care in energizing circuits. Appropriate current limits must be set before energizing circuits connected to bench dc power supplies. Circuits connected directly to the ac power line must include a circuit breaker or fuse and may be energized only with direct supervision of the laboratory supervisor.
- Students are expected to act in a professional manner at all times while in the laboratory. Practical jokes and horseplay are unacceptable behaviors.
- Appropriate care must be exercised when soldering/de-soldering equipment is in use. Students are not to use this equipment without permission of a laboratory supervisor. Safety glasses must be worn. Common electronic solders contain lead; soldering must be done with adequate ventilation, and persons who have been handling solder must wash their hands before eating or drinking.

General Laboratory Policies

- Engineering students with a valid UT Tyler student ID card are allowed to use the laboratory facilities only during posted laboratory hours and under the supervision of a responsible laboratory supervisor (faculty member or appointed graduate laboratory assistant). Non-students are permitted in the laboratory only with permission of a faculty member.
- Food, drink, and tobacco are not permitted in any laboratory. *This includes candy, gum, bottled water, and soft drinks in re-sealable bottles.*
- Users of the laboratory are expected to be respectful and use common courtesy. Loud talk and the use of cell phones are not permitted in the laboratory.
- Offensive or inappropriate materials are not permitted in the laboratory. Use of laboratory computers to access such materials may result in disciplinary action.
- Laboratory users must avoid excessive or unnecessary printing. Laboratory supervisors may report abuses of the printing privilege to CECS administrators.

- Students may not install software on University computers, including software supplied with textbooks.
- No copying or duplication of copyrighted software will be permitted. This prohibition includes both program files and data files. Making copies of copyrighted software is a violation of Federal law and may result in criminal charges.
- Shared workspaces must be cleaned and experimental apparatus and tools must be returned to storage at the end of a laboratory session.
- All bench equipment is to be turned off at the conclusion of a laboratory session, including computers and monitors. The test leads of digital multimeters must be configured for voltmeter/ohmmeter connection at the end of a laboratory session.
- Test equipment may not be moved from one bench to another without permission of the laboratory supervisor. Any equipment moved from one bench to another must be returned to its original location at the conclusion of the laboratory session.
- Students are expected to show up for laboratory classes at their scheduled times.
- Damaged components and equipment must be reported to the laboratory supervisor.
- The laboratory supervisor is to be informed when the last component in a bin or drawer is removed.
- By entering and using the laboratory, the user agrees to observe all policies and regulations, as well as all UT System policies and regulations.
- Faculty members may make exceptions to these general policies if warranted. Graduate laboratory assistants are NOT authorized to make exceptions.

Further Information about UT System Policies

INFORMATION RESOURCES USE AND SECURITY POLICY
http://www.utsystem.edu/bor/procedures/policy/policies/UTS165.pdf

UT SYSTEM REGENTS' RULES
http://www.utsystem.edu/bor/rules/

INTELLECTUAL PROPERTY POLICY
http://www.utsystem.edu/ogc/IntellectualProperty/IPpolicy_english.htm

COMPUTER CRIMES LAW
http://security.utexas.edu/policies/computercrimes.html

CORONA STUDENT CHAPTER OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC. (IEEE)

The IEEE promotes the process of creating, developing, integrating, sharing, and applying knowledge about electrical, electronic, and information technologies for the benefit of humanity and the profession. Participating in IEEE will permit you to meet your classmates and faculty members in a social environment. It also will help in building professional networks and in identifying career opportunities. Upon graduation, you may become a full member of IEEE and continue to develop professional connections and technical competencies through your involvement with the society.

Dr. Hassan El-Kishky is the faculty advisor for IEEE. Contact him for more information.

ELECTRICAL ENGINEERING FACULTY

Hassan El-Kishky, PE, MBA
Associate Professor of Electrical Engineering
Ph.D., Arizona State University
RBN 2014, 903-565-5580

Dr. El-Kishky's interests are in high voltage rotating machines, electrical and electronic insulation, modeling of high voltage phenomena, computational models in engineering, lightning modeling, neural/physiological modeling, and electromagnetic phenomena. Dr. El-Kishky worked as an R&D Manager at National Electric Coil, Inc. prior to joining UT-Tyler. Dr. El-Kishky is a licensed professional engineer in Texas.

Mukul Shirvaikar
Professor of Electrical Engineering
Ph.D., University of Tennessee
RBN 2004, 903-565-5620

Dr. Shirvaikar's interests are embedded systems, systems-on-a-chip designs, image and signal processing, robotics and computer vision, pattern recognition, and neural networks. Prior to joining UT Tyler, Dr. Shirvaikar had 8 years of industrial experience and 2 years of academic experience, including 5 years at Texas Instruments Inc. as a senior engineer.

David Beams
Associate Professor of Electrical Engineering
Ph.D., University of Wisconsin
RBN 2010, 903-565-5587

Dr. Beams' interests are in circuit analysis, linear and nonlinear electronics, semiconductor devices, instrumentation systems, medical electronics, and power electronics. Prior to joining UT Tyler, he worked as an engineer primarily in the area of electronic instrumentation design for more than 16 years with DICKEY-john Corporation of Auburn, IL, and Norland Corporation of Ft. Atkinson, WI.
Dr. Beams is a licensed Professional Engineer (PE) in Wisconsin.

Premananda P. Indic
Associate Professor of Electrical Engineering
Ph.D., Cochin University
RBN 1008, 903-566-

Dr. Indic's research has focused on developing systems and methods for the prevention of life threatening events, such as apnea in premature infants, and suicidal ideation in individuals with major depression. Prior to joining UT Tyler, with a Ph.D. in Nonlinear Signal Processing, he worked with a

team of engineers and scientists at the Wyss Institute-Harvard University to develop a product that could reduce life threatening events.

Ronald J. Pieper
Associate Professor of Electrical Engineering
Ph.D., University of Iowa
RBN 2015, 903-566-7383

Dr. Pieper worked in industry as a semiconductor process engineer prior to completing his PhD. He has over 14 years of academic experience and is a registered professional engineer (PE) in the state of Virginia. His research interests include semiconductor devices and circuits, engineering optics, fiber optics and image processing.

Anusha Papasani
Lecturer in Electrical Engineering
MS, University of Texas at Tyler
HEC A217, 903-566-7383

Ms. Papasani's research interests are energy conversion, renewable energy systems, smart grids, energy storage, and power electronics systems. She is currently enrolled in a PhD program at the University of Texas at Arlington.

Melvin Robinson
Assistant Professor
PhD, University of Texas at Arlington
HEC A212, 903-565-6567

Dr. Robinson's has many years of experience in Information Technology within the chemical and oil and gas industries. His research interests include pattern recognition, numerical optimization, high performance computing and signal and image processing.

APPENDIX A: 2016-2018 ELECTRICAL ENGINEERING FOUR-YEAR CURRICULUM

Freshman Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
ENGL 1301	Grammar and Composition I	3	COSC 1336	Programming Fundamentals	3
MATH 2413	Calculus I	4	PHYS 2325	University Physics I	3
CHEM 1311	General Chemistry I	3	PHYS 2125	University Physics I Lab	1
CHEM 1111	General Chemistry I Lab	1	MATH 2414	Calculus II	4
( )	Intro. Eng/Science Elective [1]	2	ENGL 1302	Grammar and Composition II	3
EENG 1301	Engineering the Future	3	EENG 2101	MATLAB for Engineers	1
	Semester credit hours:	16		Semester credit hours:	16

Sophomore Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
PHYS 2326	University Physics II	3	MATH 3305	Differential Equations	3
PHYS 2126	University Physics II Lab	1	HIST 1303	History of Innovation and Tech	3
PHIL 2306	Intro to Ethics	3	( )	Principles of Economics [2]	3
HIST 1301	United States History I	3	SPCH 1315	Fundamentals of Speech	3
MATH 3404	Multivariate Calculus	4	EENG 3304	Linear Circuits Analysis I	3
EENG 3302	Digital Systems	3	EENG 3104	Linear Circuits Analysis I Lab	1
	Semester credit hours:	17		Semester credit hours:	16

Junior Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
MATH 3203	Matrix Methods for Engr. [3]	2	EENG 3314	Design Methodology in Elec. Eng.	3
MATH 3351	Probability and Statistics	3	EENG 4308	Automatic Controls	3
EENG 3303	Electromagnetic Fields	3	EENG 3307	Microprocessors	3
EENG 3305	Linear Circuits Analysis II	3	EENG 4309	Electronic Circuit Analysis II	3
EENG 3306	Electronic Circuit Analysis I	3	EENG 4109	Electronic Circuit Analysis II Lab	1
EENG 3106	Electronic Circuit Analysis I Lab	1	EENG 4311	Signals and Systems	3
	Semester credit hours:	15		Semester credit hours:	16

Senior Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
POLS 2305	Introductory American Government	3	EENG 4315	Senior Design II	3
ENGR 4009	FE Exam Preparation	0	( )	Creative Arts	3
ENGR 4109	Senior Seminar	1	POLS 2306	Intro. Texas Politics	3
EENG 4115	Senior Design I	1	( )	Technical Elective [1]	3
EENG 4310	Electric Power Systems	3	( )	Technical Elective [1]	3
EENG 4312	Communications Theory	3			
( )	Technical Elective [1]	3			
( )	Eng/Science Elective [1]	3			
	Semester credit hours:	17		Semester credit hours:	15

[1] Selected from approved departmental list

[2] ECON 2301 or ECON 2302

[3] May be replaced by MATH 3315 (Linear Algebra and Matrix Theory)

Total program credit hours: 128

APPENDIX B: ELECTIVES IN THE ELECTRICAL ENGINEERING CURRICULUM

Revised 2 June 2014

Area	Credit Hours	Acceptable Courses
Technical Electives	9	Any 4000-level EENG, MENG, ENGR, or COSC course that is not required. However, at least six hours of technical electives must be in electrical engineering courses. Students must meet prerequisites for courses taken as technical electives. No more than three hours of technical elective credit may be earned through undergraduate research (ENGR 4395), independent study (ENGR 4199–4399), or Undergraduate Internship (ENGR 4370).
Introductory Engineering or Science Elective	2	ENGR 1201 is the only approved course at this time
Engineering or Science Elective	3	2000-level or above course outside of electrical engineering in science, engineering, or mathematics. May be used toward a minor.
Creative Arts	3	To be determined

APPENDIX C: ASES CURRICULUM AND EE COMPLETION CURRICULUM

ASES Curriculum

Freshman Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
CHEM 1311	General Chemistry I	3	PHYS 2325	University Physics I	3
CHEM 1111	General Chemistry I Lab	1	PHYS 2125	University Physics I Lab	1
ENGL 1301	Grammar and Composition I	3	ENGL 1302	Grammar and Composition II	3
MATH 2413	Calculus I	4	MATH 2414	Calculus II	4
ENGR 1201	Introduction to Engineering	2	POLS 2306	Introductory Texas Politics	3
HIST 1301	United States History I	3	ENGR 1204	Engineering Graphics	2
	Semester credit hours:	16		Semester credit hours:	16

Sophomore Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
ENGR 2301	Engineering Mechanics and Statics	3	( )	Creative Arts	3
MATH 2415	Multivariate Calculus III	4	MATH 2320	Differential Equations	3
PHYS 2326	University Physics II	3	COSC 1420	Programming Fundamentals	4
PHYS 2126	University Physics II Lab	1	ENGL ( )	World/European Literature	3
ECON 230X	Economics	3	ENGR 2305	Circuits Analysis I	3
ENGR 2304	Programming for Engineers	3	ENGR 2105	Circuits Analysis I Lab	1
	Semester credit hours:	17		Semester credit hours:	17

UT-Tyler Completion Curriculum

Junior Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
MATH 3203	Matrix Methods for Engr.	2	EENG 3314	Design Methodology in Elec Eng.	3
EENG 3302	Digital Systems	3	EENG 4308	Automatic Controls	3
EENG 3303	Electromagnetic Fields	3	EENG 3307	Microprocessors	3
EENG 3305	Linear Circuits Analysis II	3	EENG 4309	Electronic Circuit Analysis II	3
EENG 3306	Electronic Circuit Analysis I	3	EENG 4109	Electronic Circuit Analysis II Lab	1
EENG 3106	Electronic Circuit Analysis I Lab	1	EENG 4311	Signals and Systems	3
	Semester credit hours:	15		Semester credit hours:	16

Senior Year					
First (Fall) Semester		Hrs	Second (Spring) Semester		Hrs
POLS 2305	Introductory American Government	3	EENG 4315	Senior Design II	3
ENGR 4109	Senior Seminar	1	PHIL 2306	Intro to Ethics	3
EENG 4115	Senior Design I	1	HIST 1302	United States History II	3
ENGR 4009	FE Exam Preparation	0	( )	Technical Elective [1]	3
EENG 4310	Electric Power Systems	3	( )	Technical Elective [1]	3
EENG 4312	Communications Theory	3			
( )	Technical Elective [1]	3			
MATH 3351	Probability and Statistics	3			
	Semester credit hours:	17		Semester credit hours:	15

[1] Selected from approved departmental list

Total program credit hours: 128

APPENDIX D: TRANSFER SUBSTITUTIONS FOR FRESHMAN ENGINEERING COURSEWORK

Transfer students may be granted substitution credit for ENGR 1201, EENG 1301, COSC 1436, and the introductory engineering/science elective from coursework taken at their previous schools. The table below outlines these substitutions. Substitution is not automatic; students must ask their advisors to write substitution requests in order to take advantage of these substitutions. Numbers in parentheses indicate notes following the table.

Junior College Coursework					UT-Tyler Coursework Credit (4)
Intro to Engr (1)	Tech. Comm (2)	Eng. Des. Graphics	Computer Apps (3)	Structured Programming	
		■		■	COSC 1436
			■	■	COSC 1436
	■	■			EENG 1301
	■		■		EENG 1301
		■	■		EENG 1301
■	■				ENGR 1201
■		■			ENGR 1201
■			■		ENGR 1201
■	■			■	ENGR 1201, COSC 1436
■		■		■	ENGR 1201, COSC 1436
■			■	■	ENGR 1201, COSC 1436
■	■	■			ENGR 1201, EENG 1301
■	■		■		ENGR 1201, EENG 1301
■		■	■		ENGR 1201, EENG 1301
	■	■		■	EENG 1301, COSC 1436
	■		■	■	EENG 1301, COSC 1436
		■	■	■	EENG 1301, COSC 1436
■	■	■		■	ENGR 1201, EENG 1301, COSC 1436
■	■		■	■	ENGR 1201, EENG 1301, COSC 1436
■		■	■	■	ENGR 1201, EENG 1301, COSC 1436

Notes:
(1). Often listed as ENGR 1101.
(2). Some junior-college programs permit pre-engineering students to substitute a course in technical communications for the second required course in English grammar and composition (ENGL 1302). Transfer students may use their credit in technical communications as a part of one of the substitutions listed above *or* for credit in ENGL 1302, *but not both*.
(3). This is a course in applications of business or office software (e.g., Microsoft Office applications).
(4). The total number of transfer credits given by UT-Tyler for the junior college coursework listed above may not exceed the number of credits given by the junior college.

APPENDIX E: REGISTRATION ADVISING FORM

Departments of Electrical and Mechanical Engineering

REGISTRATION ADVISING FORM

Directions: The student must complete this advising form each semester in consultation with his/her advisor before registering for classes. Any changes, except possibly section changes, must be discussed with the advisor.

Student: _____ ID No. _____

Semester (check one): ☐Fall ☐Spring ☐SS1 ☐SS2 ☐SS 10 Week ☐Other (explain): Year: _____

Advisor: _____

Courses			Prerequisite / Co-requisites *	Schedule	
Computer Call No.	Course & Section	Course Title	✓	Days	Times

**Students are to fill in prerequisites and co-requisites. Advisor must verify completion of all prerequisites with a grade of C or better before approving a course selection.*

Student Comments: _____

_____

_____

Signature: _____ Date: _____

Advisor Comments: _____

_____

_____

Signature: _____ Date: _____