MEMORANDUM

TO: University Undergraduate Council

FROM: Dr. Heidar Malki
Chair, Engineering Technology Department

DATE: October 5, 2009

RE: Changes to Electrical Power Engineering Technology Degree Plan

**Electrical Power Engineering Technology**: EPTE is submitting a curriculum change. This is in response to the state mandated 120 credit hours. ABET, the accrediting body for EPTE, specifies a minimum of 124 credit hours. The curriculum submitted for approval drops the number of required credits from 126 to 124. This was accomplished by moving TELS 3363 - Technical Communication from departmental/college requirements to university core requirements as it has been submitted for approval as a "Writing in the Discipline" course. This drops the number of hours from 126 to 123. The faculty have created a new lab, ELET 4126 – Power Converter Circuits to allow a more in-depth study of power converters, which will bring the total credits required to 124.
Electrical Power Engineering Technology Major

The goal of the Electrical Power Engineering Technology program is to provide students with a high quality applications-oriented undergraduate education based on state-of-the-art technological equipment associated with electrical technology. This goal is achieved through several objectives such as continuing to update specific courses in the program to ensure relevance to the latest industrial changes, supporting the development of appropriate computer facilities, promoting the integration of advanced technology in all courses, and encouraging professional growth and development of the faculty.

The program is designed to satisfy the educational needs of the urban Houston community by providing a climate that fosters self-awareness, personal growth, and a desire for lifelong learning.

Students completing a major in Electrical Power Engineering Technology receive a strong foundation in measurement systems, analog and digital signal conditioning, microprocessor hardware and software, industrial electronics, and rotating machinery.

Students have the opportunity to select additional coursework in either control systems, power electronics, or electrical power.

Although analog electronics remain important, one of the newest and fastest growing areas is in the application of computers for control; this may be control within some manufactured product or control of some manufacturing process.

The manufacturers of electrical systems and machines need electrical power technologists who are familiar with machines and machine controls, both traditional and computer-controlled.

The electrical industry provides and controls the transformers, motors, generators, switch gear, and protection equipment required to power homes, businesses, and industries. Electrical power technologists plan electrical systems and modifications to existing electrical systems that generate and use large amounts of electricity required for distribution networks that are economical, safe, and functional.

Graduates of the Electrical Power Engineering Technology major understand design, analyze, and work effectively in industrial settings utilizing
product/process control systems and electrical power systems. Graduates are working in petrochemical companies, food manufacturing, steel processing, utilities, electrical equipment, sales, manufacturing and testing, and a host of other diverse industries.

Majors in Electrical Power Engineering Technology may use no grade below C- in junior and senior level ELET courses to satisfy major degree requirements.

Students pursuing a major in Electrical Power Engineering Technology must complete the following requirements, in addition to university core and general college requirements:

Electrical Power Engineering Technology Major Requirements

- ELET 1390, 1100. Electrical Circuits I, Laboratory
- ELET 1391, 1101. Electrical Circuits II, Laboratory
- ELET 2301, 2101. Poly-Phase Circuits and Transformers, Laboratory
- ELET 2303, 2103. Digital Systems, Laboratory
- ELET 2305, 2105. Semiconductor Devices and Circuits, Laboratory
- ELET 3301. Linear Systems Analysis
- ELET 3405. Microprocessor Architecture
- ELET 3307, 3107. Electrical Machines, Laboratory
- ELET 3312, 3112. Programmable Logic Controllers and Motor Control Systems, Laboratory
- ELET 4303. Computer-Based Power Distribution and Transmission
- ELET 4306. Project Management and Economic Considerations for Power Systems
- ELET 4310. Alternative Electrical Energy Sources and Power Quality Issues
- ELET 4311. Computer-Based Communications and Security Issues for Electrical Power Systems
- ELET 4317. Computer-Based Electrical System Protection and Safety
- ELET 4319. Electrical Power Systems and Industry Practices
- ELET 4326, ELET 4126. Power Converter Circuits, Laboratory

APPROVED ELECTIVES

(5 semester hours)

- ELET 4304. Control Systems
- ELET 4310. Alternative Electrical Energy Sources and Power Quality issues
- ELET 4311. Computer-Based Communications and Security Issues for Electrical Power Systems

Approved ELET elective (3 advanced semester hours)

PROGRAM REQUIREMENTS
Mathematics (14 semester hours which includes university core)
Students are required to have credit for MATH 1310, College Algebra, by Math Placement Exam, CLEP, or completion of course.
MATH 1330, Precalculus
MATH 1431, Calculus I
MATH 1432, Calculus II

Natural Sciences (8 semester hours which includes university core)
PHYS 1301, 1101, Introductory General Physics I, Laboratory
PHYS 1302, 1102, Introductory General Physics II, Laboratory

Social Sciences (3 semester hours)
Selected from core approved list.

Writing in the Discipline (3 semester hours)
TELS 3363, Technical Communications

General Technology Requirements
ELET 2300, Introduction to C++ Language Programming
TELS 3340, Organizational Leadership and Supervision
or
HDCS 3300, Organizational Decisions in Technology

MECT 1364, Materials and Processes I
ITEC 2334, Information Systems Applications
Free electives (3 semester credit hours)

Degree awarded: Bachelor of Science
Major: Electrical Power Engineering Technology
ELECTRICAL POWER ENGINEERING TECHNOLOGY (EPET)

UNIVERSITY OF HOUSTON
COLLEGE OF TECHNOLOGY

NAME

ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE

UH ID

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**UNIVERSITY CORE REQUIREMENTS (55 SH)**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>GR</th>
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<tr>
<td><strong>Communication (9 SH)</strong></td>
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<tr>
<td>ENGL 1303 English Composition I</td>
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<td>ENGL 1304 English Composition II</td>
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<td><em><em>Writing in the Discipline</em> (3 SH)</em>*</td>
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<td><strong>History/Government (12 SH)</strong></td>
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<td>HIST 1376 or 1377 US History to 1867</td>
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<td>HIST 1378 or 1379 US History since 1867</td>
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<td>POLS 1336 US &amp; TX Const/Politics</td>
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<td>POLS 1337 US Government</td>
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<td><em><em>Humanities</em> (3 SH)</em>*</td>
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<td><em><em>Visual/Performing Arts</em> (3 SH)</em>*</td>
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<td><em><em>Social/Behavioral Science</em> (3 SH)</em>*</td>
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<td><strong>Math/Reasoning (14 SH)</strong></td>
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<tr>
<td>MATH 1330 Precalculus</td>
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<td>MATH 1431 Calculus I</td>
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<td>MATH 1432 Calculus II</td>
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<tr>
<td>TMTH 3360 Applied Statistics</td>
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<td>or MATH 3307 Statistical Applications</td>
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*Students will be expected to place out of MATH 1310 by either Math Placement Exam, CLEP or have taken MATH 1310.

**Natural Sciences (8 SH)**

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<tr>
<td>PHYS 1301/1101 Intro. Gen. Physics I &amp; Lab</td>
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<tr>
<td>PHYS 1302/1102 Intro. Gen. Physics II &amp; Lab</td>
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**DEPARTMENTAL AND COLLEGE REQUIREMENTS**

**General Technology and College Core (15 SH)**

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<tr>
<th>Requirement</th>
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<tr>
<td>ELET 2300 Intro. C++ Lang Programming†</td>
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<tr>
<td>TELS 3340 Org Leadership &amp; Supervision</td>
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<td>TELS 3363 Technical Comm.</td>
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<td>MECT 1364 Materials and Processes I</td>
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<td>ITEC 2334 Information Systems Appl.</td>
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†Refer to class schedule for lists of courses which satisfy University requirements.

Texas Success Initiative requirements must be met.

For graduation with Honors, see Undergraduate Catalog.

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**MAJOR REQUIREMENTS (50 SH)**

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<th>Requirement</th>
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<tbody>
<tr>
<td>ELET 1300 Electrical Ckts I</td>
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<td>ELET 1100 Electrical Ckts I Lab</td>
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<td>ELET 1301 Electrical Ckts II</td>
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<td>ELET 1101 Electrical Ckts II Lab</td>
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<td>ELET 2301 Poly-Phase Ckts &amp; Transform</td>
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<td>ELET 2101 Poly-Phase Circuits lab</td>
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<td>ELET 2303 Digital Ckts &amp; Sys</td>
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<td>ELET 2103 Digital Ckts &amp; Sys Lab</td>
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<td>ELET 2305 Discrete &amp; IC Ckts</td>
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<tr>
<td>ELET 2105 Discrete &amp; IC Ckts Lab</td>
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<td>ELET 3405 Microprocessor Arch©</td>
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<td>ELET 4319 Elec Pwr Sys /Industry Prac ©</td>
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<td>ELET 4326 Power Converter Circuit©</td>
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**Approved Electives (6 SH)**

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<tr>
<td>ELET 4304 Control Systems ©</td>
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<tr>
<td>ELET 4310 Alt. Electrical Energy Sources©</td>
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<tr>
<td>ELET 4311 Comm. &amp; Security Issues©</td>
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<tr>
<td><strong><em>3</em></strong> Approved ELET Elective©</td>
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**Elective courses not listed by number must be approved by an EPET faculty member.

© No grade lower than C- will be accepted for these courses.

Free Elective (3 SH)

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Total hours required: 126 semester hours

36 advanced (3000- or 4000-level) semester hours must be completed.

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Student ___________________________ Date _____________

Advisor ___________________________ Date _____________

Department Chair ___________________ Date _____________

Fall 2008
UNIVERSITY OF HOUSTON
COLLEGE OF TECHNOLOGY

ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE

NAME ________________________________

UHID ________________________________

UNIVERSITY CORE REQUIREMENTS (55 SH) GR SH AH

**Communication (9 SH)**
- ENGL 1303 English Composition I
- ENGL 1304 English Composition II

**Writing in the Discipline* (3 SH)**
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**History/Government (12 SH)**
- HIST 1376 or 1377 US History to 1867
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  or HDCS 3300 Orgntnl Decisions in Tech.
- MECT 1364 Materials and Processes I
- ITEC 2334 Information Systems Appl.

**MAJOR REQUIREMENTS (51 SH) GR SH AH**

- ELET 1300 Electrical Ckts I
- ELET 1100 Electrical Ckts I Lab
- ELET 1301 Electrical Ckts II
- ELET 1101 Electrical Ckts II Lab
- ELET 2301 Poly-Phase Ckts & Transform
- ELET 2101 Poly-Phase Circuits lab
- ELET 2303 Digital Ckts & Sys
- ELET 2103 Digital Ckts & Sys Lab
- ELET 2305 Discrete & IC Ckts
- ELET 2105 Discrete & IC Ckts Lab
- ELET 3301 Linear Systems Analysis©
- ELET 3405 Microprocessor Arch©
- ELET 3307 Electrical Machines©
- ELET 3107 Elec. Machine Lab©
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- ELET 4317 Elec Sys Protection & Safety©
- ELET 4319 Elec Pwr Sys/Industry Prac ©
- ELET 4326 Power Converter Circuit©
- ELET 4126 Power Converter Circuits lab©

**Apporved Electives (6 SH)**
- ELET 4304 Control Systems ©
- ELET 4310 Alt. Electrical Energy Sources©
- ELET 4311 Comm. & Security Issues©
- ELET 3__ Approved ELET Elective**©

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- **© No grade lower than C- will be accepted for these courses.**

**Free Elective (3 SH)**

Total hours required: 124 semester hours

36 advanced (3000- or 4000-level) semester hours must be completed.

**Student ____________________________ Date ____________________________
Advisor ______________________________ Date ____________________________
Department Chair ______________________ Date ____________________________

Fall 2010