ACADEMIC AFFAIRS COMMITTEE
November 9, 2007
Minutes

Present: Paul Matney, Bob Austin, Toni Gordy, Ann Hamblin, Judy Jackman, Michael Kopenits, Duane Lintner, Shawna Lopez, Courtney Milleson, Jerry Moller, Jim Powell, Rathna Prabhakar

Absent: LaVon Barrett, Robert Boyd, Diane Brice, Sally Evans, Ed Nolte

Announcements: Matney shared numbers from the bond election.

BEHAVIORAL STUDIES
History 2322

Matney briefly reviewed the Core Curriculum requirements in the Academic Course Guide Manual.

Moller gave background on the addition of both **HIST 2311-Western Civilization** and **HIST 2322-Comparative World History Since 1500** to the Social/Behavioral Sciences section of the General Education list through Academic Affairs in February 2004. Moller passed out a list of acceptable Humanities courses at Texas Tech University which includes any history course not used to fulfill Core Curriculum American history requirement. HIST 2322 also meets Multi-Cultural requirements at TTU. Matney agreed that there is a precedent set at another institution for allowing history to meet Humanities requirements.

Powell shared with the committee the course content taught in HIST 2322. The course is typically taken by education majors who intend to specialize in social science.

There is a discrepancy in course title between the course description in the back of the catalog (HIST 2322-Comparative World History Since 1500) and the General Education course list (HIST 2322-Comparative World History).

Prabhakar moved, seconded by Jackman, to approve the addition of HIST 2322-Comparative World History Since 1500 to the Humanities General Education list and add "Since 1500" to the title. The motion carried.

Matney moved, seconded by Jim Powell, to re-work and separate the heading of HUMANITIES/FINE ARTS in the General Education section of the catalog. The motion carried.

BUSINESS DIVISION
Real Estate

Lintner reported that with dramatic changes in technology, the Real Estate curriculum is offering courses that are no longer applicable to the industry. The proposal submitted seeks to eliminate **RELE 1191-Special Topics in Real Estate** and **RELE 1223-Real Estate Computer Application** because they no longer meet the needs of the industry.

Lopez moved, seconded by Austin, to remove RELE 1191- Special Topics in Real Estate and RELE 1223- Real Estate Computer Application from the Real Estate curriculum (RELE.AAS, RELE.CERT, RELE.CERT.SAL) and from the Real Estate course list. The motion carried.

The committee tabled the request to add RELE 1207 as an option in RELE curriculum until Lintner speaks with Beverly Vinson.

SCIENCES & ENGINEERING

Engineering

Moore reported that Kathy Wetzel has received letters of transferability from Texas Tech University and West Texas A&M University for **ENGR 1371-Introduction to Engineering**. The forms are ready to be submitted to the Coordinating Board. She hopes to receive approval quickly in order to offer the class in the Spring 2008 semester.

Prabhakar is working with Wetzel to develop a course description and pre-requisites for **ENGR 2332-Mechanics of Materials.**

No action was taken by the committee on either item. We are waiting for Coordinating Board approval of ENGR 1371-Introduction to Engineering as a unique needs course.

Geology

Prabhakar reported that Mary Graff wants to add **GEOL 1445-Oceanography** because there are very few lab science courses available online. The cost of the course is $144.99/semester to offer the course and can be paid by the department. The course will have a $25 distance education fee per student. They hope to offer the course in Spring 2008.

Powell moved, seconded by Kopenits to add GEOL 1445-Oceanography to the catalog. The motion carried.

CRIMINAL JUSTICE

Corrections

Gordy indicated that the Corrections degrees were created to market primarily to prison correctional personnel. Since the prison system began training personnel in-house, the

Amarillo College programs no longer have significant enrollment to support the programs.

Hamblin moved, seconded by Milleson, to delete CJLE.AAS.CORR, CJLE.CERT.CORR degrees and CJCR 1491-Correctional Officer I and CJCR 1391-Correctional Officer II courses. The motion carried.

Gordy requested, for the CRIJ.AS degree, the removal of SOCI 2319-Minority Studies as a specific Humanities requirement and allow students to choose from the approved Humanities list; require SOCI 1301-Introduction to Sociology OR PSYC 2301-General Psychology for the Social/Behavioral Sciences; remove CRIJ 2301-Community Resources in Corrections and CRIJ 2323-Legal Aspects of Law Enforcement from the Related Course Requirements options.

Gordy indicated the Criminal Justice program at Amarillo College is working closely with the program at West Texas A&M University to make transition from AC easier by aligning courses more directly.

Hamblin moved, seconded by Prabhakar, to approve requested changes to the CRIJ.AS program. The motion carried.

Gordy requested, for the CJLE.AAS.LENF degree, the removal of SOCI 2319-Minority Studies as a specific Humanities requirement and allow students to choose from the approved Humanities list; remove CRIJ 2301-Community Resources in Corrections and CRIJ 2323-Legal Aspects of Law Enforcement from the Related Course Requirements options.

Austin moved, seconded by Powell, to approve requested changes to the CJLE.AAS.LENF program. The motion carried.

SCIENCES & ENGINEERING
Electronics Technology

Jack Stanley and Doug Pickle submitted changes for Electronics Technology curriculum.

Powell moved, seconded by Milleson, to table the Electronics Technolgy curriculum revision until the committee has had sufficient time to review the submitted changes and Prabhakar can speak to Stanley The motion carried.

Prior to dismissal, donut designee was requested for the next meeting; Lintner volunteered.

ACADEMIC AFFAIRS COMMITTEE
Friday, November 9, 2007
Library 112, 9:00am

Tabled items from prior Academic Affairs meeting (please bring documentation):

- BEHAVIORAL STUDIES
  - ✓ History
- BUSINESS DIVISION
  - ✓ Real Estate
- SCIENCES & ENGINEERING
  - Engineering
  - ✓ Geology

New items:

- ✓ CRIMINAL JUSTICE
- Late submission
  Electronics Technology

Attachments

Green Handout

CURRICULUM REVISIONS
Criminal Justice Corrections Degree and Certificate
CJLE.AAS.CORR and CJLE.CERT.COR

1. **Division/Department/Program:**
   Workforce & Economic Development Division/Criminal Justice Programs

2. **Prepared by:**
   Toni Gordy

3. **Request:**
   Deactivate the following programs:
   ✓Criminal Justice Corrections AAS CJLE.AAS.CORR
   Criminal Justice Corrections Certificate CJLE.CERT.CORR

   Sunset the following WECM local needs courses:
   ✓CJCR 1491: Correctional Officer I
   CJCR 1391: Correctional Officer II

4. **Rationale:**
   The Criminal Justice Corrections AAS and Certificate were once popular options due to the large contract with the Texas Department Institutional Division – Institutional Division. The contract was not renewed in 2002 and enrollment in these options has declined. Even when there were contracts very few pursued the degree past CJCR 1491 and CJCR 1391. There are only 8 declared majors in the degree and 2 in the certificate.

   In the *Perkins Local Plan 2006-2007 page 16-17 – Degree Attainment Concerns* there was only 1 graduate recorded. The Criminal Justice Advisory Committee met 11/14/06 and voted to discontinue the Criminal Justice Corrections Degree and Certificate.

   These options were for state prison personnel only and confusing to many. Students wanting to be probation officers were often placed in this degree instead of the Criminal Justice Associate Degree.

   Many students apply for CJCR 1491 and CJCR 1391 to go towards the 12 academic hours necessary to get in the Panhandle Regional Law Enforcement Academy. This was not the intent when creating this certificate and the related courses and caused an unintended loop hole.

5. **Effects of Revision:**
   A. **Faculty and Staff.** The classes were initially taught by part-time faculty and TDCJ-ID employees. They are no longer needed.
   B. **Equipment Required.** N/A
   C. **Facilities.** N/A
   D. **Support Areas.** Less confusing when advising.
   E. **Income Projections.** N/A

F. **Program Promotion and recruitment.** Students majoring in the programs will be advised of the deactivation and the need to complete the degree or certificate in three years or change to the CRIJ.AS.

6. **Effective Date:** Deactivate Fall 2007 with teach out by Fall 2010.

DELETE

CRIMINAL JUSTICE CORRECTIONS

Program Advisor: Sarah Uselding, 356-3618 (uselding-se@actx.edu) or contact Criminal Justice Programs at 354-6081.

Associate in Applied Science
Major Code - CJLE.AAS.CORR

Equips correctional officers with knowledge and skills necessary for career development and advancement. Specifically for students entering or employed in the corrections field seeking a supervisory or mid- management position.

GENERAL EDUCATION REQUIREMENTS* 24

Communication
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- SPCH*

Humanities/Fine Arts
- SOCI 2319: Minority Studies

Mathematics/Natural Sciences
- MATH 1333: Contemporary Mathematics (or any MATH*)

Social Behavioral Sciences
- GOVT 2305: Government of the United States
- GOVT 2306: Government of Texas
- PSYC 2302: Psychology of Human Relations

CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CRIJ 2328: Police Systems and Practices

MAJOR CORE REQUIREMENTS 19

CJCR 1491: Correctional Officer I
CRIJ 1307: Crime in America
CJCR 1391: Correctional Officer II
CRIJ 2314: Criminal Investigation
CRIJ 2323: Legal Aspects of Law Enforcement
CRIJ 2301: Community Resources in Corrections

RELATED COURSE REQUIREMENTS 6

BCIS 1305: Business Computer Applications
PHED 1306: Standard First Aid/CPR Training

TOTAL 64

DELETE

CRIMINAL JUSTICE CORRECTIONS

Program Advisor: Sarah Uselding, 356-3618 (uselding-se@actx.edu) or contact Criminal Justice Programs at 354-6081.

Certificate of Completion
Major Code - CJLE.CERT.COR

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Equips correctional officers with knowledge and skills necessary for career development and advancement. Specifically for students entering or employed in the corrections field seeking a supervisory or mid-management position.

MAJOR REQUIREMENTS 19

CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CJCR 1491: Correctional Officer I
CJCR 1391: Correctional Officer II

CURRICULUM REVISIONS
Criminal Justice Associate in Science
CRIJ.AS

1. **Division/Department/Program:**
   Workforce & Economic Development Division/Criminal Justice Programs

2. **Prepared by:**
   Toni Gordy

3. **Request:**
   A. Remove SOCI 2313: Minority Studies as the Humanities requirement. The student may choose from the approved list.

   B. Social/Behavioral Sciences – designate the student take SOCI 1301: Introduction to Sociology or PSYC 2301: General Psychology.

   C. Remove CRIJ 2301: Community Resources in Corrections and CRIJ 2323 Legal Aspects of Law Enforcement

4. **Rationale:**
   A. The student will have more options when registering for classes.

   B. To better prepare the student for a four year degree. These are requirements at WT and would assist them with transfer.

   C. CRIJ 2301: Community Resources in Corrections and CRIJ 2323: Legal Aspects of Law Enforcement are only electives at universities and similar to other courses taught in the Criminal Justice AS Degree.

5. **Effects of Revision:**
   - **A. Faculty and Staff.** N/A
   - **B. Equipment Required.** N/A
   - **C. Facilities.** N/A
   - **D. Support Areas.** Less confusing when advising.
   - **E. Income Projections.** N/A
   - **F. Program Promotion and recruitment.** N/A

6. **Effective Date:** Fall 2008

Current
CRIMINAL JUSTICE

Program Advisor: Sarah Uselding, 356-3618 (uselding-se@actx.edu) or contact the Criminal Justice Programs at 354-6081.

ssociate in Science
MAJOR CODE - CRIJ.AS

Designed to transfer to senior institutions which offer a 4-year degree in Criminal Justice.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS* **42**

Communication
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- SPCH*

Mathematics/Natural Sciences
- MATH*
- NATURAL SCIENCES*

Humanities/Fine Arts
- ~~SOCI 2319: Minority Studies~~
- ~~Visual and Performing Arts*~~

Social/Behavioral Sciences
- HIST 1301: History of the United States I
- HIST 1302: History of the United States II
- GOVT 2305: Government of the US
- GOVT 2306: Government of TX
- ~~Social/Behavioral Sciences Elective*~~

Lifetime Fitness*

MAJOR CORE REQUIREMENTS **15**
CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CRIJ 2328: Police Systems and Practices

RELATED COURSE REQUIREMENTS **9**
?IS 1305: Business Computer Applications

~~**The student must choose two classes from the following list or other SOPHOMORE level electives as approved by the advisor:**~~

CRIJ 1307: Crime in America
CRIJ 2314: Criminal Investigation
~~CRIJ 2323: Legal Aspects of Law Enforcement~~
~~CRIJ 2301: Community Resources in Corrections~~

TOTAL ..... **~~66~~**

Proposed
CRIMINAL JUSTICE

Program Advisor: Sarah Uselding, 356-3618 (uselding-se@actx.edu) or contact the Criminal Justice Programs at 354-6081.

Associate in Science
MAJOR CODE - CRIJ.AS

Designed to transfer to senior institutions which offer a 4-year degree in Criminal Justice.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS* **42**

Communication
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- SPCH*

Mathematics/Natural Sciences
- MATH*
- NATURAL SCIENCES*

Humanities/Fine Arts* — Humanities / Fine Arts

Social/Behavioral Sciences
- HIST 1301: History of the United States I
- HIST 1302: History of the United States II
- GOVT 2305: Government of the US
- GOVT 2306: Government of TX
- SOCI 1301: Introduction to Sociology
  - or
- PSYC 2301: General Psychology

Lifetime Fitness*

MAJOR CORE REQUIREMENTS **15**
CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CRIJ 2328: Police Systems and Practices

RELATED COURSE REQUIREMENTS **9**
BCIS 1305: Business Computer Applications
CRIJ 1307: Crime in America
CRIJ 2314: Criminal Investigation

TOTAL **66**

CURRICULUM REVISIONS
Criminal Justice Law Enforcement
CJLE.AAS.LENF

1. **Division/Department/Program:**
   Workforce & Economic Development Division/Criminal Justice Programs

2. **Prepared by:**
   Toni Gordy

3. **Request:**
   A. Remove SOCI 2313: Minority Studies as the Humanities requirement. The student may choose from the approved list.

   B. Remove CRIJ 2301: Community Resources in Corrections and CRIJ 2323: Legal Aspects of Law Enforcement

4. **Rationale:**
   A. The student will have more options when registering for classes.

   B. CRIJ 2301: Community Resources in Corrections and CRIJ 2323: Legal Aspects of Law Enforcement are only electives at universities and similar to other courses taught in the Criminal Justice AS Degree.

5. **Effects of Revision:**
   - **A. Faculty and Staff.** N/A
   - **B. Equipment Required.** N/A
   - **C. Facilities.** N/A
   - **D. Support Areas.** Less confusing when advising.
   - **E. Income Projections.** N/A
   - **F. Program Promotion and recruitment.** N/A

6. **Effective Date:** Fall 2008

Current

⁻RIMINAL JUSTICE LAW ENFORCEMENT

ogram Advisor: ~~Alex Chancia, 356-3680 (chancia-ae@actx.edu)~~ or contact Criminal Justice Programs, 354-6081.

Associate in Applied Science
MAJOR CODE - CJLE.AAS.LENF

For persons wishing to pursue a career in law enforcement and includes TCLEOSE requirements for basic licensure examination. Students desiring entrance into this program must contact the Program Advisor or the Criminal Justice Programs for instructions.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS*..... 18

Communication
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- SPCH*

Humanities/Fine Arts
- SOCI 2319: Minority Studies

Mathematics/Natural Sciences
- MATH 1333: Contemporary Mathematics (or any MATH*)

Social Behavioral Sciences
- GOVT 2306: Government of Texas

MAJOR CORE REQUIREMENTS 15

CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CRIJ 2328: Police Systems and Practices

MAJOR COURSE REQUIREMENTS..... 24

.ne following classes include the Texas Commission on Law Enforcement Officers Standards and Education (TCLEOSE) approved Basic Peace Officer Academy and can only be taken as a Unit. The classes are a total of 700 clock hours and will enable students who complete all five classes to sit for the state licensing (TCLEOSE) exam.

CJLE 1506: Basic Peace Officer I
CJLE 1512: Basic Peace Officer II
CJLE 1518: Basic Peace Officer III
CJLE 1524: Basic Peace Officer IV
CJLE 1429: Basic Peace Officer V

RELATED COURSE REQUIREMENTS..... 9

BCIS 1305: Business Computer Applications

The student must choose two classes from the following list or other SOPHOMORE level electives as approved by the advisor:

CRIJ 1307: Crime in America
CRIJ 2314: Criminal Investigation
~~CRIJ 2323: Legal Aspects of Law Enforcement~~
~~CRIJ 2301: Community Resources in Corrections~~

TOTAL..... 66

Proposed

CRIMINAL JUSTICE LAW ENFORCEMENT

Program Advisor: Sondra Beighle, 356-3680 (Beighle-sk-ae@actx.edu) or contact Criminal Justice Programs, 354-6081.

Associate in Applied Science
MAJOR CODE - CJLE.AAS.LENF

For persons wishing to pursue a career in law enforcement and includes TCLEOSE requirements for basic licensure examination. Students desiring entrance into this program must contact the Program Advisor or the Criminal Justice Programs for instructions.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS*..... 18

Communication
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- SPCH*

Humanities/Fine Arts*

Mathematics/Natural Sciences
- MATH 1333: Contemporary Mathematics (or any MATH*)

Social Behavioral Sciences
- GOVT 2306: Government of Texas

MAJOR CORE REQUIREMENTS 15

CRIJ 1301: Introduction to Criminal Justice
CRIJ 1306: Court Systems and Practices
CRIJ 1310: Fundamentals of Criminal Law
CRIJ 2313: Correctional Systems and Practices
CRIJ 2328: Police Systems and Practices

MAJOR COURSE REQUIREMENTS..... 24

The following classes include the Texas Commission on Law Enforcement Officers Standards and Education (TCLEOSE) approved Basic Peace Officer Academy and can only be taken as a Unit. The classes are a total of 700 clock hours and will enable students who complete all five classes to sit for the state licensing (TCLEOSE) exam.

CJLE 1506: Basic Peace Officer I
CJLE 1512: Basic Peace Officer II
CJLE 1518: Basic Peace Officer III
CJLE 1524: Basic Peace Officer IV
CJLE 1429: Basic Peace Officer V

RELATED COURSE REQUIREMENTS..... 9

BCIS 1305: Business Computer Applications
CRIJ 1307: Crime in America
CRIJ 2314: Criminal Investigation

TOTAL..... 66

maximum SCH per course 4
maximum contact hours per course 96

CRIJ (Criminal Justice)

CRIJ 1301 Introduction to Criminal Justice

History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures.

Approval Number 43.0104.51 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 1306 Court Systems & Practices

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures.

Approval Number 22.0101.54 24
CIP Area ..... Law
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 1307 Crime in America

American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

Approval Number 45.0401.52 25
CIP Area ..... Social Sciences
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 1310 Fundamentals of Criminal Law

Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility.

Approval Number 22.0101.53 24
CIP Area ..... Law
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 1313 Juvenile Justice System

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

Approval Number 43.0104.52 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 2301 Community Resources in Corrections

An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment.

Approval Number 43.0104.53 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 2313 Correctional Systems & Practices

Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues.

Approval Number 43.0104.54 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 2314 Criminal Investigation

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

Approval Number 43.0104.55 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 80

CRIJ 2323 Legal Aspects of Law Enforcement

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; police liability.

Approval Number 43.0104.56 24
CIP Area ..... Protective Services
maximum SCH per student 3
maximum SCH per course 3
maximum contact hours per course 48

CRIJ 2328 Police Systems & Practices

The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.

Approval Number.....43.0104.57 24
CIP Area.....Protective Services
maximum SCH per student.....3
maximum SCH per course.....3
maximum contact hours per course.....48

Field of Study Curriculum for Criminal Justice

The Criminal Justice Field of Study Curriculum Advisory Committee reviewed the lower-division (freshman and sophomore) requirements of all public four-year colleges and universities in the state of Texas for students seeking a Bachelor of Arts (BA) or Bachelor of Science (BS) degree with a major in criminal justice, including all specializations, concentrations, etc. The Committee compiled and compared the findings in an attempt to develop a set of courses that could constitute a Field of Study Curriculum for Criminal Justice; the curriculum would apply to institutions that award the BA or BS degree with a major in criminal justice, including all criminal justice specializations.

Based on that information, the Committee recommends the following set of courses (totaling 15 semester credit hours (SCH) of fully transferable and applicable lower-division courses) and up to an additional 6 "discretionary" SCH to be considered as a Field of Study Curriculum for Criminal Justice. Staff concurs with that recommendation.

Courses

TCCNS*	SCH	COURSE TITLE
CRIJ 1301	3	Introduction to Criminal Justice
CRIJ 1306	3	Court Systems & Practices
CRIJ 1310	3	Fundamentals of Criminal Law
CRIJ 2313	3	Correctional Systems & Practices
CRIJ 2328	3	Police Systems & Practices

*Texas Common Course Numbering System

NOTE: Up to a total of 6 additional semester credit hours of criminal justice-related lower-division course work may be transferred by local agreement **OR** required by the receiving institution, as long as the additional credit does not duplicate any other requirement within the field of study curriculum. Standards of instruction accepted for courses in the *Lower-Division Academic Course Guide Manual* (ACGM) will apply unless course-equivalent status has been developed by local agreement.

Electronics Technology Department
Curriculum Revision

1. **Division:** Sciences and Engineering
   Department: Electronics Technology

2. **Request:**

   To make name changes to course rubrics and/or titles. To delete pending **WECM** courses and delete NT option in the Network Specialist certificate (CETT.CERT.NET) and degree (CETT.AAS.NT). To replace deleted **WECM** courses with new titles and descriptions.

   As noted by a **highlight** throughout this packet (~~highlight~~ denotes strikeouts).

3. **Rationale:** This curriculum revision will meet the required changes made by the **WECM** maintenance program.

6. **Curriculum:** Please refer to attached pages.

7. **Page References:** 18, 19, 63, 64, 71, 72, 122, 123, 133 of the 2007/2008 Catalog

8. **Effective Date:** Fall 2008

9. **Faculty and Staff Requirements:** Existing faculty will teach all courses.

10. **Facilities:** No change. All courses will be taught in existing labs and classrooms as well as Moore County Campus.

11. **Income Projections:** None.

12. **AC Catalog** Please refer to attached pages for curriculum pattern and course descriptions.

12/10/07 - Sent memo

WECM CHANGES 2007

CURRENT COURSES TO BE DELETED	COURSES TO BE ADDED OR REPLACED: (Degree course)
	12/10/07 - Created course / updated catalog / updated D.A. - Added to index
CETT 2248/2249 – Research & Project Design I & II	**CETT 2449** – Research & Project Design 3 lec, 2 lab
INTC 1305 – Introduction to Electronic Instrumentation SP08 14 enrolled Fall section EXP 8/31/07	~~Equivalent~~ **INTC 1350** – Digital Measurement and Controls Add new Create $24.00 lab fee
Delete **INTC 1312** – Introduction to Instrumentation and Safety not in spring replaces	~~Equivalent~~ New **INTC 1305** – Introduction to Instrumentation new 9/1/07 2 lec, 2 lab Delete lab + fee
ITNW 1342 – Information Technology Security EXP 8/06	No replacement Possible Misprint. Unable to locate in WECM Technical Course Inventory. ITSY 1342 is also named Information Technology Security (possible previous number change.) ✓
ITNW 1300 – Network Technologies (Novell 565) EXP 8/08	**No Replacement** 12/13/07 - Inactive in CRSE - marked in catalog
ITNW 2301 – Administering Microsoft Windows NT EXP 8/07 Sp2008 - No enrollment	**No Replacement** 12/13/07 - Inactive in CRSE - marked in catalog
ITNW 2339 – Advanced Network Administration for Novell Netware Active but not teaching	**No Replacement** 12/13/07 - Inactive in CRSE
ITNW 2353 – Supporting Proxy Services EXP 8/07	~~**INTW 2300**~~ ITSY - Operating System Security $24 fee ~~4/8 until~~ fall effective 9/1/08 co - fall 2008 12/12

11/6/2007 if

2/10/07 – ADVR – Catalog noted

ELECTRONICS SYSTEMS TECHNOLOGY

Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

ASSOCIATE IN APPLIED SCIENCE
MAJOR CODE - CETT.AAS.EST

Through this program the student will become competent in Safety Practices, Laws and Theories of Electricity, Test Equipment, Electronic Servicing, Digital Troubleshooting, Microprocessor Applications, in addition to a chosen area of specialization.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS*.....18

Communication
ENGL 1301: Freshman Composition I
SPCH*

Humanities/Fine Arts*

Mathematics/Natural Sciences
MATH 1332: Contemporary Mathematics (or any MATH*)
Natural Science* Elective

Social and Behavioral Sciences
Social/Behavioral Sciences* Elective

Delete: MATH 1333

Replace with: MATH 1332 (New number)

MAJOR REQUIREMENTS.....30
CETT 1403: DC Circuits

■ **Denotes areas to be changed**

CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals
CETT 1329: Solid State Devices
CETT 1341: Solid State Circuits
CETT 1345: Microprocessors
CPMT 1349: Computer Networking Technology
LOTT 1301: Introduction to Fiber Optics
QCTC 1303: Quality Control

MAJOR OPTIONS.....18 - 19
The student must choose one of the following specialties.

Microcomputer Service Specialist..... 18
A Computer Service Technician installs, maintains, and repairs computers, computer controlled equipment and systems. They keep records of maintenance, fill out time and expense reports, keep parts inventories, and order parts. Students gain practical experience in upgrading, expanding, maintaining, and repairing on a variety of personal computers.

CETT 2335: Advanced Microprocessors
CPMT 1343: Microcomputer Architecture
CPMT 1347: Computer System Peripherals
CPMT 2349: Advanced Computer Networking Technology
ITCC 1302: CCNA 1: Networking Basics
ITSY 1342: Information Technology Security

Electronics Application Specialist.....19
This option allows the student, to take courses for a more broad-based electronics program.

CPMT 1343: Microcomputer Architecture
CPMT: 1347 Computer System Peripherals
CPMT 2349: Advanced Computer Networking Technology
EECT: 2435 Telecommunication suits
INTC: 1305 Introduction to Electronic Instrumentation
INTC 2336: Distributed Control & Programmable Logic

TOTAL.....66 - 67

CETT 1380 Cooperative Education - Computer Engineering Technology/Technician and CETT 1391 Special Topics in Computer Engineering Technology/Technician may be substituted for an EST required course with departmental advisor approval.

12/11/07
- ADVR
- Noted in Catalog ✓

ELECTRONICS SYSTEMS TECHNOLOGY

Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

Certificates of Completion ..... MAJOR CODE - BELOW
Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

General Electronics Systems Assistant

MAJOR CODE - CETT.CERT.GEN
This program is designed to prepare a person to enter the fast-growing electronic field. The program will train a person who performs a variety of routine tasks to assist with the maintenance and installation of electronic systems.

AJOR REQUIREMENTS.....30
CETT 1403: DC Circuits
CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

■ **Denotes areas to be changed**

SEMESTER HOURS

CETT 1329: Solid State Devices
CETT 1341: Solid State Circuits
CETT 1345: Microprocessors
CPMT 1349: Computer Networking Technology
LOTT 1301: Introduction to Fiber Optics
QCTC 1303: Quality Control

Microcomputer Service Specialist
MAJOR CODE - CETT.CERT.MICR
Prepare students to be a troubleshooting technician in the Microcomputer Repair field. Emphasis on practical, hands-on training. Work experience, Equivalent Post Secondary Education, or a combination thereof may substitute for all or part of the certificate in General Electronics Systems Assistant as approved by the department chair.

SEMESTER HOURS

MAJOR REQUIREMENTS.....41
CETT 1329: Solid State Devices
CETT 1341: Solid State Circuits
CETT 1403: DC Circuits
CETT 1425: Digital Fundamentals
CETT 1345: Microprocessors
CPMT 1343: Microcomputer Architecture
CPMT 1347: Computer System Peripherals
CPMT 1349: Computer Networking Technology
CPMT 2349: Advanced Computer Networking Technology
INTC 2336: Distributed Control & Programmable Logic
ITCC 1302: CCNA 1: Networking Basics
ITSY 1342: Information Technology Security
LOTT 1301: Introduction to Fiber Optics

TOTAL.....41

Electronics Application Specialist
MAJOR CODE - EECT.CERT.EAS
This certificate allows the student to take courses for a more broad based electronics program.

SEMESTER HOURS

MAJOR REQUIREMENTS.....40
CETT 1403: DC Circuits
CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals
CETT 1329: Solid State Devices
CETT 1345: Microprocessors
CPMT 1343: Microcomputer Architecture
CPMT 1347: Computer System Peripherals
CPMT 1349: Computer Networking Technology
EECT 2435: Telecommunications
INTC 1305: Introduction to Electronic Instrumentation
INTC 2336: Distributed Control & Programmable Logic
LOTT 1301: Introduction to Fiber Optics

TOTAL.....40

12/11/07
- ADVR
- Noted in Catalog

ELECTRONICS SYSTEMS TECHNOLOGY NETWORKING TECHNOLOGY OPTION

Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu or contact the Electronics Technology office, 371-5972

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

ASSOCIATE IN APPLIED SCIENCE
Major Code - CETT.AAS.NT
Through this program the student will become competent in automating access to the network, corporate security strategies, and handling routine hardware maintenance. Student

■ **Denotes areas to be changed**

may choose one of three specialty areas: Cisco, Microsoft NT, or General Networking.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS* 18
Communication
ENGL 1301: Freshman Composition I
SPCH*
Humanities/Fine Arts*
Mathematics/Natural Sciences
~~MATH 1314: College Algebra~~ Math 1332 ✓
Natural Science* Elective
Social and Behavioral Sciences
Social/Behavioral Sciences* Elective
MAJOR REQUIREMENTS 38
CETT 1403: DC Circuits
CETT 1425: Digital Fundamentals
CIS Elective
BCIS 1305: Business Computer Applications
CPMT 1343: Microcomputer Architecture
CPMT 1347: Computer Systems Peripherals
CPMT 1349: Computer Networking Technology
CPMT 2349: Advanced Computer Networking Technology
ITCC 1302: CCNA 1: Networking Basics
ITSY 1342: Information Technology Security
LOTT 1301: Introduction to Fiber Optics
QCTC 1303: Quality Control
MAJOR OPTIONS 9
The student must choose one of the following specialties:
Cisco Specialist
ITCC 1306: CCNA 2: Router & Routing Basics
ITCC 1342: CCNA 3: Switching Basic & Intermediate Routing
ITCC 1346: CCNA 4: WAN Technologies
General Networking Specialist
ITCC 1306: CCNA 2: Router & Routing Basics
~~ITNW 2301: Administering Servers~~ → ITSY 2301
ITNW 2305: Network Administration
Network Security Specialist
ITSY 2301: Firewalls and Network Security
ITSY 2341: Security Management Practices
~~ITNW 2353: Supporting Proxy Services~~
ITSY 2300: Operating System Security
~~NT Specialist~~
~~CETT 1345: Microprocessors~~
~~ITNW 1300: Network Technologies~~
~~ITNW 2301: Administering Servers~~
TOTAL 65

per Jack Stanley

Effective 2008-09 Catalog

12/11/07
- Created REQ for 2008 Catalog
DM.EST.NIT.OPT.2008

Delete:
ITNW 2301: Administering Servers

Delete:
ITNW 2353: Supporting Proxy Services
Replace with:
ITSY 2300: Operating System Security — Add to requirement.

Delete:
NT Specialist
CETT 1345: Microprocessors
ITNW 1300: Network Technologies
ITNW 2301: Administering Servers

ELECTRONICS SYSTEMS TECHNOLOGY
NETWORKING TECHNOLOGY OPTION
Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu or contact the Electronics Technology office, 371-5972

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

CERTIFICATE OF COMPLETION

Major Codes - BELOW
Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

NETWORKING SPECIALIST CERTIFICATE
Major Code - CETT.CERT.NET
Networking Specialist provides on-site administrative support for networking users in a variety of work environments.

■ **Denotes areas to be changed**

Typical job tasks include automating access to the network, implementing corporate security strategies, customizing and optimizing the software, and handling routine software/ hardware maintenance. Students may earn one of the three specialty areas: Cisco or General Networking, or Microsoft NT.

MAJOR REQUIREMENTS 41
CETT 1403: DC Circuits
CETT 1425: Digital Fundamentals
CPMT 1343: Computer Architecture
CPMT 1347: Computer Systems Peripherals
CPMT 1349: Computer Networking Technology
CPMT 2349: Advanced Computer Networking Technology
ITCC 1302: CCNA 1: Networking Basics
ITSY 1342: Information Technology Security
LOTT 1301: Introduction to Fiber Optics
QCTC 1303: Quality Control

The student must choose one of the following specialties:
Cisco Specialist
ITCC 1306: CCNA 2: Router & Routing Basics
ITCC 1342: CCNA 3: Switching Basic & Intermediate Routing
ITCC 1346: CCNA 4: WAN Technologies
General Networking Specialist
ITCC 1306: CCNA 2: Router & Routing Basics
~~ITNW 2301: Administering Servers~~ ITSY 2301
ITNW 2305: Network Administration
Network Security Specialist
ITSY 2301: Firewalls and Network Security
ITSY 2341: Security Management Practices
~~ITNW 2353: Supporting Proxy Services~~
ITSY 2300: Operating System Security
~~NT Specialist~~
~~CETT 1345: Microprocessors~~
~~ITNW 1300: Network Technologies~~
~~ITNW 2301: Administering Servers~~
TOTAL 41

– 12/4/07

Delete:
ITNW 2301: Administering Servers

Delete:
ITNW 2353: Supporting Proxy Services
Replace with:
ITSY 2300: Operating System Security

Delete:
NT Specialist
CETT 1345: Microprocessors
ITNW 1300: Network Technologies
ITNW 2301: Administering Servers

ELECTRONICS ENGINEERING TECHNOLOGY

Program Advisor Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu or contact the Electronics Technology office, 371-5972

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

Associate in Applied Science
MAJOR CODE - EECT.AAS.EET
Provides a strong foundation in electronics. Students may specialize in one of three areas: Biomedical, Computer, or General Electronics. Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, Maryland, 21202, Phone: (410) 347-7700.

SEMESTER HOURS

GENERAL EDUCATION REQUIREMENTS*.....19
Communications
ENGL 1301: Freshman Composition I
SPCH 1318: Interpersonal Communication
Humanities/Fine Arts*
Mathematics/Natural Sciences
MATH 1314: College Algebra
PHYS 1301/1101: College Physics I/Lab
Social/Behavioral Sciences
Social and Behavioral Sciences* Elective

MAJOR COURSE REQUIREMENTS 33
CETT 1403: DC Circuits
CETT 1405: AC Circuits

■ **Denotes areas to be changed**

CETT 1425: Digital Fundamentals
CETT 1329: Solid State Devices
CETT 1345: Microprocessors
CETT ~~2248/2249~~ 2449: Research and Project Design ~~1 and 2~~
CETT 2439: Amplifier Analysis
EECT: 2439: Communications Circuits
MATH 1316: Trigonometry

12/10/07

Delete: 2248/2248
Replace with: 2449

Delete: 1 and 2

RELATED COURSE REQUIREMENTS 17-19
MATH 1348: Analytic Geometry
PHYS 1302/1102: College Physics II/Lab II

(Student must select one of the following three specialties.)

Biomedical Specialty
BIOM 2335/2339: Physiological Instruments I and II
HITT 1305: Medical Terminology I
HITT 1303: Medical Terminology II

Computer Specialty
CETT 2335: Advanced Microprocessors
ENGR 1371: Introductory Software Development
INTC 2336: Distributed Control & Programmable Logic

General Electronics Specialty
DFTG 1358: Electrical/Electronics Drafting
INTC 2336: Distributed Control & Programmable Logic
PSYC 2302: Psychology of Human Relations

TOTAL 69-71

■ **Denotes areas to be changed**

INSTRUMENT and CONTROL TECHNOLOGY

Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu or contact the Electronics Technology office, 371-5972

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

Associate in Applied Science
MAJOR CODE - CETT.AAS

Instrumentation is the applied science of measuring and controlling variables in the petroleum, chemical, power generating, and manufacturing industries. Due to the rapid increase in the industrial use of instrumentation devices, there is a great demand for technicians.

	SEMESTER HOURS
GENERAL EDUCATION REQUIREMENTS*	**18**

Communication

ENGL 1301: Freshman Composition I
SPCH*

■ **Denotes areas to be changed**

Humanities/Fine Arts*
Mathematics/Natural Sciences
MATH 1333: Contemporary Mathematics (or any MATH*)
Natural Sciences*
Social/Behavioral Sciences
Social/Behavioral Sciences* Elective

MAJOR REQUIREMENTS.....18
CETT 1403: DC Circuits
CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals
CETT 1345: Microprocessors
INTC ~~1305~~: ~~Introduction to Electronic~~ Instrumentation
1350 - Digital Measurement & Controls

MAJOR OPTIONS.....27
The student must choose one of the following specialties.

Instrument and Control Technology.....27
This curriculum provides a specialized program of study to prepare an individual for entry level positions with the skills necessary to install, operate, troubleshoot and maintain instruments and controls in a variety of industrial settings.

INTC 1301: Principles of Industrial Measurements
INTC ~~1312~~: Introduction to Instrumentation ~~& Safety~~
1305 ~~Technology~~
INTC 1315: Final Control Elements
INTC 1348: Analytical Instrumentation
INTC 1355: Unit Operations
INTC 1356: Instrumentation Calibration
INTC 1358: Flow and Measurement Calibration
INTC 2336: Distributed Control and Programmable Logic
INTC 2339: Critique of Instrument and Control

Telecommunication Technology 27
This program is designed to provide a student with a solid foundation in electronics and the field of communications by computer, voice and video that are utilized in industrial workplaces. The students will receive training to prepare them for entry level positions in manufacturing or commercial service settings.

CETT 1329: Solid State Devices
CETT 1341: Solid State Circuits
CSIR 1355: Industry Certification (F.C.C.)
EECT 2433: Telephone Systems
EECT 2435: Telecommunications
EECT 2439: Communications Circuits
EECT 1380: Cooperative Education-Electrical, Electronic and Communications Engineering Technology/ Technician
or
EECT 1391: Special Topics in Electrical, Electronic and Communications Engineering Technology/Technician
LOTT 1301: Introduction to Fiber Optics

TOTAL 63

OPTIONAL COURSES .....N/A
EECT 1380: Cooperative Education-Electrical, Electronic and Communications Engineering Technology/ Technician
or
EECT 1391: Special Topics in Electrical, Electronic and Communications Engineering Technology/Technician

These courses may be substituted for a INTC or EECT required course with departmental advisor approval.

12/17/08 - Catalog noted - 2008 REA created

Delete: 1312
Replace with: 1305

Delete: & Safety Technology

■ **Denotes areas to be changed**

INSTRUMENT & CONTROL TECHNOLOGY

Program Advisor: Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu or contact the Electronics Technology office, 371-5972

Certificates of Completion ..... MAJOR CODE - BELOW
Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Cathodic Protection Technician
Major Code – INTC.CERT.CATH
This program is designed to provide a student with a solid foundation in the internal, external, and atmospheric corrosion related to various industry applications. An emphasis on regulatory compliance in Cathodic Protection is stressed.

SEMESTER HOURS

MAJOR REQUIREMENTS 20

CETT 1403: DC Circuits
CETT 1425: Digital Fundamentals
METL 1313: Introduction to Corrosion
METL 2301: Internal Corrosion Control
METL 2305: Atmospheric Corrosion Control
METL 2341: Cathodic Protection

TOTAL 20

Electronic Instrument and Control Technician
MAJOR CODE - INTC.CERT.EICT
Instrumentation that focuses on electronic equipment. Deals with the calibration and installation of equipment with a general understanding of troubleshooting techniques.

SEMESTER HOURS

MAJOR REQUIREMENTS 42
CETT 1403: DC Circuits
CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals
CETT 1345: Microprocessors
INTC 1301: Principles of Industrial Measurements
~~INTC 1305: Introduction to Electronic Instrumentation~~ — INTC 1350
INTC 1350: Digital Measurement and Control
INTC ~~1312~~: Introduction to Instrumentation ~~& Safety~~
1305 ~~Technology~~
INTC 1315: Final Control Elements
INTC 1348: Analytical Instrumentation
INTC 1355: Unit Operations
INTC 1356: Instrumentation Calibration
INTC 1358: Flow and Measurement Calibration
QCTC 1303: Quality Control

TOTAL 42

Process Technology Specialist
Major Code - INTC.CERT.PT

The Process Technology Program offers students core courses related to the Process Operations that will prepare them to develop a career in an operational environment in the petrochemical and manufacturing industry. Students entering this program should realize that Process Operators generally work rotating shifts, perform tasks requiring good mental and physical aptitude and work with a variety of equipment.

SEMESTER HOURS

MAJOR REQUIREMENTS 20

Delete:
Jack B. Stanley, 371-5972 (Stanley-jb@actx.edu) or contact the Sciences and Engineering Division, 371-5092.

Replace with:
Dr. Douglas L. Pickle, 371-5984 (pickle-dl@actx.edu) or contact the Electronics Technology office, 371-5972

12/17/07 - Catalog noted - CM. INTC. EICT. 2008 created

Delete:
INTC 1305: Introduction to Electronic Instrumentation

Delete:	1312
Replace with:	1305
Delete:	& Safety Technology

■ **Denotes areas to be changed**

MAJOR REQUIREMENTS **20**
BCIS 1305: Business Computer Applications
INTC ~~1312~~: Introduction to Instrumentation ~~& Safety~~
1305 ~~Technology~~
INTC 1315: Final Control Elements
INTC 1355: Unit Operations

Delete: 1312
Replace with: 1305

Delete: & Safety Technology

■ **Denotes areas to be changed**

PTAC 2420: Process Technology II Systems
PTAC 2438: Process Technology III Operations
TOTAL **20**

Telecommunication Specialist
Major Code - CETT.CERT.TEL
Prepares students to be able to install, operate, troubleshoot and maintain telecommunication equipment in a variety of industrial settings.
MAJOR REQUIREMENTS **42**
CETT 1403: DC Circuits
CETT 1405: AC Circuits
CETT 1425: Digital Fundamentals
CETT 1329: Solid State Devices
CETT 1345: Microprocessors
CPMT 1349: Computer Networking Technology
CSIR 1355: Industrial Certification (F.C.C.)
EECT 2433: Telephone Systems
EECT 2435: Telecommunications
EECT 2439: Communications Circuits
~~INTC 1305: Introduction to Electronic Instrumentation~~
INTC 1350: Digital Measurement and Control
LOTT 1301: Introduction to Fiber Optics
TOTAL **42**

12/11/07 - Catalog noted - CM. CETT.TEL.2008

Delete:
INTC 1305: Introduction to Electronic Instrumentation
Replace with:
INTC 1350: Digital Measurement and Control

■ **Denotes areas to be changed**

BIOM 2335: Physiological Instruments I
Prerequisite: Consent of department advisor
Introduction to electrocardiograph equipment. Emphasis on the theory of operating circuit analysis, and trouble shooting techniques including physiology of the cardiovascular system.
(3 sem hrs; 3 lec) (ELTRO 4723)

BIOM 2339: Physiological Instruments II
Prerequisite: BIOM 2335
Continuation of Physiological Instruments I, emphasizing graphic display recording devices. A study of defibrillators and multi-purpose diagnostic equipment. The theory of respiratory care equipment, laboratory equipment, and surgical equipment.
(3 sem hrs; 3 lec) (ELTRO 4733)

CETT 1403: DC Circuits
Prerequisite: MATH 1314 or consent of instructor
A study of the fundamentals of direct current including OHM=s law, Kirchoff=s laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. Accompanying Computer Assisted instruction lab exposes students to a safe working environment to further instruction through Aperformance based@ activities.
(4sem hrs; 3 lec; 2 lab) (EST 3023)#

CETT 1405: AC Circuits
Pre-requisite: CETT 1403 or consent of instructor
A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance.
(4 sem hrs; 3 lec; 2 lab) (EST 3113or ELTRO 3113)#

CETT 1425: Digital Fundamentals
An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits.
(4 sem hrs; 3 lec; 2 lab) (EST 3123)#

CETT 1329: Solid State Devices
Pre-requisite: MATH 1314 or consent of Instructor
A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, bi techniques, and thermal considerations of solid state devices.
(3 sem hrs; 2 lec; 2 lab) (EST 3043 or ELTRO 3023)#

CETT 1341: Solid State Circuits
Pre-requisite: CETT 1329
A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit construction, measurements, and analysis. Introduction to basic audio amplifiers, radio frequency, amplifiers and OP amps.
(3 sem hrs; 2 lec; 2 lab) (EST 3163)#

CETT 1345: Microprocessors
Prerequisite: CETT 1425 or consent of instructor
An introductory course in digital microprocessor software and hardware; its architecture, timing sequence, operation, and programming; and discussion of appropriate software diagnostic language and tools.
(3 sem hrs; 2 lec; 2 lab) (EST 3083 or ELTRO 4603) #

CETT 1380: Cooperative Education - Computer Engineering Technology/Technician
Pre-requisite: EST Core or Instructor Approval
Career related activities encountered in the student=s area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.
(3 sem hrs; 1 lec; 20 hrs work/week) (EST 5013)

CETT 1391: Special Topics in Computer Engineering Technology/Technician
Pre-requisite: EST Core or Instructor Approval
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.
(3 sem hrs, 3 lec.) (EST 5003)

CETT 2189/2289/2389: Education Work Experience (Internship)
Prerequisite: Permission of Instructor.
Integrates on-campus study with practical, hands-on, experience in the student's specialty area. The student and instructor will set specific goals and objectives for the internship.
(1 sem hr; 6 hrs work/week - 2 sem hrs; 12 hrs work/week - 3 sem hrs; 18 hrs work/week)

CETT ~~2248/ 2249~~:2449: Research and Project Design ~~I and II~~
Prerequisite: Sophomore standing in Electronics Engineering Technology or consent of instructor.
Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. Laboratories to accompany the material in sophomore Electronics Engineering Technology courses. The capstone courses for the Electronics Engineering Technology program.
~~(2 sem hrs; 5 lab) (ELTRO 4343/4353)~~ (4 sem hrs; 2 lecture, 2 lab)

Delete: 2248/2249
Replace with: 2449

Delete: I and II

Delete:
(2 sem hrs; 5 lab) (ELTRO 4343/4353)

Replace with: (4 sem hrs; 2 lecture, 2 lab)

■ **Denotes areas to be changed**

CETT 2439: Amplifier Analysis
Prerequisite: CETT 1329 or consent of instructor.
Advanced study of electronic amplifiers applications including operational amplifiers, audio amplifiers, video amplifiers, and other high frequency amplifiers. Problem solving techniques required for operational amplifiers and field-effect transistor ircuits.
(4 sem hrs; 3 lec. 4 lab) (ELTRO 3104)

CPMT 1343: Microcomputer Architecture
An intermediate level course in computer characteristics and subsystem operations, timing, control circuits, and internal input/output controls. Expands systems to add memory, additional drives, monitor, modem, printer.
(3 sem hrs; 2 lec; 2 lab) (EST 4023)#

CPMT 1347: Computer System Peripherals
Principles and practices involved in computer system troubleshooting techniques, programs, and the use of specialized test equipment. Expands systems to add memory, additional drives, monitors, modems, printers or plotters.
(3 sem Hrs; 2 lec; 2 lab) (EST 4033)#

CPMT 1349: Computer Networking Technology
A beginning course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations of operations.
(3 sem hrs; 2 lec; 2 lab) (EST 4313 or TCC 4153)#

CPMT 2349: Advanced Computer Networking Technology
An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware, and oftware. Mastery of implementation, troubleshooting, and maintenance of LAN and/or WAN network environments.
(3 sem hrs; 2 lec; 2 lab) (EST 4373)#

EECT 2439: Communications Circuits
Prerequisite: CETT 1329
A study of communications systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters and transceivers. Includes noise transmission lines, antennas, and propagation.
(4 sem hrs; 3 lec, 2 lab) (ELTRO 4303)

INTC 2336: Distributed Control and Programmable Logic
Prerequisite: CETT 1329
An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital system in a process control environments.
(3 sem hrs; 2 lec; 2 lab) (ICT 4203)

ITCC 1302: CCNA 1: Networking Basics
Instruction in networking essential concepts including the OSI reference model, proper selection and installation of network cable. Define the five steps of data encapsulation and the function of the TCP/IP Network-Layer Protocol.
(3 sem hrs; 3 lec, 2 lab) (ITNW 1333)

▒ **Denotes areas to be changed**

ITCC 1306: CCNA 2: Router and Routing Basics
Prerequisite: ITCC 1302
Preparation to set-up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP). Create routers to manage subnets and install security measures on routers.
(3 sem hrs; 2 lec; 2 lab) (ITNW 2321)

ITCC 1342: CCNA 3: Switching Basic & Intermediate Routing
Prerequisite: ITCC 1306
Configure router for networks in the IPX environment. Describe and implement LAN segmentation bridges, switches, and routers. Identify and solve networking congestion problems.
(3 sem hrs; 2 lec; 2 lab) (ITNW 2313)

ITCC 1346: CCNA 4: WAN Technologies
Prerequisite: ITCC 1342
Describe and configure Wide Area Network (WAN) services. Encapsulate Wide Area Network data. Identify and use the ISDN and HDLC.
(3 sem hrs; 2 lec; 2 lab) (ITNW 2335)

~~**ITNW 2301: Administering Servers**~~
~~Development of knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Windows NT based network.~~
~~(3 sem hrs; 2 lec; 2 lab) (EST 4353)#~~

Delete:
ITNW 2301: Administering Servers
Development of knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Windows NT based network.
(3 sem hrs; 2 lec; 2 lab) (EST 4353)#

ITNW 2305: Network Administration
Preparation to effectively manage a Novell NetWare network. Topics include network components, user accounts and groups, network file systems, file system security, and network printing.
(3 sem hrs; 2 lec; 2 lab) (EST 4363)#

ITNW 2309: Network Administration for Novell IntraNetWare
Preparation to competently perform the role of network administrator or system manager in a Novell IntraNetWare network. (
3 sem hrs; 2 lec; 2 lab) (EST 4323)#

~~**ITNW 2339: Advanced Network Administration for Novell NetWare**~~
~~Introduction to advanced administrative concepts and tasks related to server and client management and performance. Enhancement of network management and monitoring skills and preparation to install and configure a network operating system.~~
~~(3 sem hrs; 2 lec; 2 lab) (EST 4343)#~~

Delete:
ITNW 2339: Advanced Network Administration for Novell NetWare
Introduction to advanced administrative concepts and tasks related to server and client management and performance. Enhancement of network management and monitoring skills and preparation to install and configure a network operating system.
(3 sem hrs; 2 lec; 2 lab) (EST 4343)#

~~**ITNW 1300: Network Technologies**~~
~~Foundation course for supporting a network operating system. Skill development in installing, configuring, customizing, optimizing, networking, integrating, and troubleshooting a network operating system.~~
~~(3 sem hrs; 2 lec; 2 lab)~~

Delete:
ITNW 1300: Network Technologies
Foundation course for supporting a network operating system. Skill development in installing, configuring, customizing, optimizing, networking, integrating, and troubleshooting a network operating system.
(3 sem hrs; 2 lec; 2 lab)

~~**ITNW 1342: Information Technology Security**~~
~~Instruction in security for network hardware, software, and data including physical security, backup procedures, firewalls, encryption, and protection from viruses.~~
~~(3 sem hrs; 3 lec)~~

Delete:
ITNW 1342: Information Technology Security
Instruction in security for network hardware, software, and data including physical security, backup procedures, firewalls, encryption, and protection from viruses.
(3 sem hrs; 3 lec)

■ **Denotes areas to be changed**

ITNW 2300: Operating System Security
Prerequisite: ITSY 1342 or consent of instructor
Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices to configure operating systems to industry security standards. (3 sem hrs; 2 lec; 2 lab)

ITSY 1342: Information Technology Security
Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.
(3 sem hrs; 3 lec, 1 lab)

ITSY 2341: Security Management Practices
Prerequisite: ITSY 2301 or consent of instructor
In-Depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan.
(3 sem hrs; 3 lec, 1 lab)

~~ITNW 2341:~~ ITSY 2300**: Supporting Proxy Services**
Prerequisite: ITSY 2341 or consent of instructor
An introduction to Network Proxy Services including installation, configuration, and troubleshooting basic architecture, controlling Internet access, administration, configure the cache, and methods of improving performance.
(3 sem hrs; 3 lec, 1 lab)

ITSY 2301: Firewalls and Network Security
Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.
(3 sem hrs; 3 lec, 1 lab)

LOTT 1301: Introduction to Fiber Optics
Introductory course in fiber optics and its application including advantages for fiber, light transmission in fiber, types of fiber, sources, sectors, and connectors.
(3 sem hrs; 2 lec; 2 lab) (EST 3193)

QCTC 1303: Quality Control
Information on quality control principles and applications. Designed to introduce the student to the quality control profession.
(3 sem hrs; 3 lec) (EST 4203)#

Replace with:
ITNW 2300: Operating System Security
Prerequisite: ITSY 1342 or consent of instructor
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Delete: ITNW 2341

Replace with: ITSY 2300

■ **Denotes areas to be changed**

CSIR 1355: Industry Certification
Preparation for the certifications required by industry. In-depth study of FCC Commercial License exam, test questions and subjects will be reviewed.
3 sem hrs; 2 lec; 2 lab) (TCC 4133)#

EECT 1380: Cooperative Education - Electrical, Electronic and Communications Engineering Technology/Technician
Prerequisite: Instructor Approval
Career related activities encountered in the student=s area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.
(3 sem hrs; 1 lec; ext 20) (TCC 5002)#

EECT 1391: Special Topics in Electrical, Electronic and Communications Engineering Technology/Technician
Prerequisite: Instructor Approval
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.
(3 sem hrs; 2 lec; 2 lab)
(TCC 4163)#

EECT 2433: Telephone Systems
Prerequisite: CETT 1329 and LOTT 1301
A study of installation and maintenance systems including telephone set, public switched networks, local exchanges, networks, two and four wire systems, tip and ringing requirements, and digital transmission techniques.
(4 sem hrs; 3 lec; 2 lab) (TCC 4023)#

EECT 2435: Telecommunications
Prerequisite: EECT 2439
A study of modern telecommunications systems incorporating microwave, satellite, optical, and wire/cable-based communications systems, advanced FM transmitters, receivers, repeaters, trunking, paging and cellular systems. Instruction in installation, testing, and maintenance of fixed and mobile equipment communications systems components and various antenna systems
(4 sem hrs; 3 lec; 3 lab) (TCC 4123)#

EECT 2439: Communications Circuits
A study of communication systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters, and transceivers.
(4 sem hrs; 3 lec; 2 lab) (TCC 4013)#

ENTC 1301: Robotics I
An introduction to Robots/Automation. Topics include history, terminology, classification of robots, basic components, control systems, AC and hydraulic servomechanisms, programming, sensors, types of drive, end-of-arm tooling, end effectors, safety and design procedures.
(3 sem hrs; 2 lec, 2 lab)

ENTC 2301: Robotics II
The study of industrial robots, programming languages, and software integrated to develop work cells and complete robotic systems. Topics include automation basics, interfacing, safety, and design procedures.
(3 sem hrs; 2 lec, 2 lab)

INTC 1301: Principles of Industrial Measurements
Prerequisite: INTC 1312 or Instructor Approval
A study of the principles and devices for the measurement of control variables such as temperature, pressure, flow, level, weight flow level, and basic control functions.
(3 sem hrs; 2 lec; 2 lab) (ICT 4403)#

~~**INTC 1305: Introduction to Electronic Instrumentation**~~
~~*Prerequisite: CETT 1303*~~
~~A survey of the instrumentation field and the professional requirements of the instrumentation technicial, including an introduction to computer and calculator applications involved in basic electronic circuit analysis. Basic operation and application of electronic circuit analysis. Basic operation and application of~~

Delete:
INTC 1305: Introduction to Electronic Instrumentation
Prerequisite: CETT 1303
A survey of the instrumentation field and the professional requirements of the instrumentation technicial, including an introduction to computer and calculator applications involved in basic electronic circuit analysis. Basic operation and application of electronic circuit analysis. Basic operation and application of

■ **Denotes areas to be changed**

electronic process equipment, temperature measuring systems and devices explained. Various electronic calibration devices are used in lab environment.
(3 sem hrs; 2 lec; 2 lab) ~~(ICT 4103)~~#

ITC 1350: Digital Measurement and Controls
Prerequisite: CETT 1303
Basic digital concepts. Includes movement of digital data through common systems employing parallel and serial transfers.
(3 sem hrs; 2 lec; 2 lab)

INTC 1309: Critique of Instrument and Control
An overview of instruments and control stressing preparation for industry employment testing and the National Institute of Engineering Technologist Certification.
(3 sem hrs; 2 lec; 2 lab) (ICT 4303)#

INTC ~~1312~~ 1305: Introduction to Instrumentation ~~& Safety Technology~~
~~An overview of industries employing instrumentation technicians. A study of hazardous industrial locations and safe work practices, instruments, transmitters, and devices for measurement of temperature, pressure flow, level and transmissions or signal for measurement.~~ A survey of the instrumentation field and the professional requirements of the instrumentation technician. Includes computers and calculators applications.
(3 sem hrs; 3 lec) ~~(ICT 3003)~~#

INTC 1315: Final Control Elements
An study of the various designs of control valves including disassembly, assembly, calibration, troubleshooting, and required documentation. Instruction in basic techniques and calculations for proper liquid and gas valve sizing.
(3 sem hrs; 2 lec; 2 lab) ~~(ICT 4003)~~#

INTC 1348: Analytical Instrumentation
Prerequisite: INTC 1312 or Instructor Approval
A study of analytical instruments emphasizing their utilization in continuous process applications including gas chromatography pH, conductivity, and spectrophotometry instruments.
(3 sem hrs; 2 lec; 2 lab) (ICT 3403)#

INTC 1355: Unit Operations
An in-depth study of industrial processes including fluid flow and material transport, distillation, extraction, and automatic control requirements of these processes. Instruction in control system design and control loop adjustments and analyses.
(3 sem hrs; 2 lec; 2 lab) (ICT 3203)#

INTC 1356: Instrumentation Calibration
A study of techniques for calibrating electronic and pneumatic transmitters, controllers, recorders, valves, valve positioners including tear down, assembly, alignment, and calibration of equipment. Students are introduced to control loops utilizing various equipment and auxiliary devices in a process. The use of calibration equipment is stressed.
(3 sem hrs; 2 lec; 2 lab) (ICT 3103)#

Delete:
electronic process equipment, temperature measuring systems and devices explained. Various electronic calibration devices are used in lab environment.
(3 sem hrs; 2 lec; 2 lab) (ICT 4103)#

Replace with:
INTC 1350: Digital Measurement and Controls
Prerequisite: CETT 1303
Basic digital concepts. Includes movement of digital data through common systems employing parallel and serial transfers.
(3 sem hrs; 2 lec; 2 lab)

Delete:
INTC 1312 1305: Introduction to Instrumentation & Safety Technology
An overview of industries employing instrumentation technicians. A study of hazardous industrial locations and safe work practices, instruments, transmitters, and devices for measurement of temperature, pressure flow, level and transmissions or signal for measurement. A survey of the instrumentation field and the professional requirements of the instrumentation technician. Includes computers and calculators applications.
(3 sem hrs; 3 lec) (ICT 3003)#

Delete: (ICT 4003)#

■ **Denotes areas to be changed**

INTC 1358: Flow and Measurement Calibration
Prerequisite: INTC 1312 or Instructor Approval
A study of the practical methods of flow measurements and flow integration. Emphasis on orifice selection and calculation methods in accordance with the American Gas Association (AGA) and American Petroleum Institute (API) standards.
3 sem hrs; 2 lec; 2 lab) (ICT 3303)#

Denotes areas to be changed

INTC 1380: Cooperative Education - Instrumentation Technology/Technician
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.
(3 sem hrs; 1 lec; 20 ext hours)

INTC 1391: Special Topics in Instrumentation Technology /Technician
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.
(3 sem hrs)

INTC 2336: Distributed Control and Programmable Logic
Prerequisite: INTC 1305 or Instructor Approval
An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environments.
(3 sem hrs; 2 lec; 2 lab) (ICT 4203)#

METL 1313: Introduction to Corrosion
An introduction to internal, external, and atmospheric corrosion including terminology, causes of common corrosion problems in industry and general remedies such as cathodic protection, protective coatings, material selection, and chemical treatments.
(3 sem hrs; 3 lec)

METL 2301: Internal Corrosion Control
An in-depth study of internal corrosion found in oil and gas wells, pipelines, refineries, process plants, and other industrial installations including the common forms of nondestructive testing, internal corrosion monitoring techniques, and chemical corrosion treatment methods.
(3 sem hrs; 3 lec, 1 lab)

METL 2305: Atmospheric Corrosion Control
Prerequisite: METL 2301 or consent of instructor
An in-depth study of atmospheric corrosion control by coatings, which
include surface preparation, coating selection, coating application,
inspection, and failure analysis.
(3 sem hrs; 2 lec, 2 lab)

METL 2341: Cathodic Protection
Prerequisite: METL 2301 or consent of instructor
An in-depth study of corrosion control of buried or submerged metallic structures utilizing both impressed and galvanic cathodic protection systems. Emphasis on regulatory compliance for pipelines and underground storage tanks.
(3 sem hrs; 2 lec, 2 lab)

▒ **Denotes areas to be changed**

PTAC 2420: Process Technology II - Systems
Study of the interrelation of process equipment and process systems including related scientific principles. The student will arrange process equipment into basic systems; describe the purpose and function of specific process systems. Explain how factors affecting process systems are controlled under normal conditions; and recognize abnormal process conditions.
(4 sem hrs; 3 lec, 2 lab)

PTAC 2438: Process Technology III – Operations
Prerequisite: PTAC 2420 or consent of instructor
This course combines systems into operational processes with emphasis on operations under various conditions. Topics include typical duties of an operator. The student will combine systems into operating processes; describe a process technician's role during plant operations; write operating procedures; and demonstrate application of operating procedures. (4 sem hrs; 3 lec, 2 lab)

RBTC 1345: Robot Interfacing
A study of the basic principles of robot controllers, controller input/output, memory, and interfacing with computer integrated manufacturing. (3 sem hrs; 2 lec, 2 lab)

RBTC 2339: Robot Programming and Diagnostics
A course in the programming of industrial robots, the development of programming techniques, and the diagnosis of faults in the systems. (3 sem hrs; 2 lec, 2 lab)

RBTC 2345: Robot Application, Setup, and Testing
A capstone course that provides the student with laboratory experience in the installation, set-up, and testing of robotic cells. Topics include maintenance. (3 sem hrs; 2 lec, 2 lab)

RBTC 2447: Computer Integrated Manufacturing
The principles of computer integrated manufacturing, including case studies and implementation of process control techniques, CAD/CAM, operations, software, and networking for CIM systems. (4 sem hrs; 3 lec, 2 lab)

▒ **Denotes areas to be changed**

Electronics Engineering Technology.....$6.00
~~CETT 2248-2249~~-2439
SMFT 1343-2335-2343

lectronics Systems Technology.....$24.00
CETT 1329-1341-1345-1403-1405-1425-2335
CPMT 1343-1347-1349-2349
LOTT 1301
ITCC 1302-1306-1342-1346
ITNW ~~1300~~-~~2301~~-2305-2309-~~2339~~-2351-~~2353~~-2300
ITSY 2301-2341

Delete: 2248/2249
Replace with: 2449

Delete: 1300

Delete: 2301

Delete: 2339

Delete: 2353
Replace with: 2300

■ **Denotes areas to be changed**

Instrument & Control Technology.....$20.00
ITNC 1301-~~1305~~-1315-1348-1355-1356-1358-2336-2339
ENTC 1301-2301
RBTC 1345-2339-2345-2447.....**$24.00**

Delete: INTC 1305

■ **Denotes areas to be changed**