THE FACULTY SENATE

December 9, 1997

Dr. Ray M. Bowen
President
Texas A&M University

Dear President Bowen:

At its regular meeting held December 8, 1997 the Faculty Senate approved the following curriculum matters and recommends them for your approval.

New Graduate Courses: AGEC 622, AGEC 625, AGEC 629, AERO 627, CPSY 673, CPSY 674, CPSY 675, ENTC 655, OCEN 674, PETE 629, SCOM 636, SCOM 649, SCOM 669, SCOM 681, VIZA 616, VIZA 657, and VIZA 659.

Graduate Courses to be Withdrawn: AGEC 602, AGEC 609, AGEC 610, AGEC 615, AGEC 632, AGEC 645, and AGEC 655.

Graduate Course Changes: AGEC 617, AGEC 621, AGEC 630, AGEC 641, AGEC 642, AGEC 643, ARCH 631, ARCH 633, VIZA 611, VIZA 612, VIZA 614, VIZA 615, VIZA 617, VIZA 622, VIZA 623, VIZA 627, VIZA 643, VIZA 644, VIZA 647, VIZA 652, VIZA 654, VIZA 656, VIZA 658, VIZA 685, and VIZA 691.


Undergraduate Course Withdrawals: COSC 102, COSC 255, COSC 329, COSC 330, COSC 454, COSC 476, COSC 479, and TEED 411.

President Ray M. Bowen
December 9, 1997

I enclose for your information a copy of the materials sent to Senators on the above items.

Thank you for considering these items. Please inform me of your action on these recommendations.

Sincerely,

Wayne E. Wylie
Speaker, 1997-98

Enclosures
pc:  Dr. Ronald G. Douglas, Executive Vice President & Provost
     Dr. Dan H. Robertson, Chair, Graduate Council
     Dr. R. Bruce Simpson, Chair, Curriculum Committee
     Ms. Linda F. Lacey, Director of Academic Support Services

APPROVED

DATE

Ray M. Bowen

1/7/98
The Graduate Council recommends approval of the following:

1. **New Courses**

**AGEC 622. Quantitative Techniques for Decision Making in Agribusiness II.** (3-0). **Credit 3.** Develop competency in the design, construction, use and evaluation of stimulation, forecasting and optimization models to solve applied problems confronting decision makers in agribusiness. Prerequisite: AGEC 621 or approval of instructor.

**AGEC 625. Agribusiness Environment and Policy.** (3-0). **Credit 3.** Analysis of the economic, social, political, technological and legal forces that impact the way in which global agribusiness firms compete; emphasis on intensive case study analysis. Prerequisites: AGEC 314 or MKTG 321; ECON 202.

**AGEC 629. Strategic Agribusiness Management.** (3-0). **Credit 3.** Practical application of operational and strategic decision-making tools to agribusiness; emphasis on problem recognition and economic analysis related to production, marketing and finance decisions facing agribusiness firms. Prerequisites: AGEC 621 and 625; ECON 607.

**AERO 627. Principles of Structural Dynamics.** (3-0). **Credit 3.** Examination of flexible structures through a review of single degree-of-freedom dynamical systems followed by an in-depth study of continuous and multiple degree-of-freedom systems; emphasis on discrete modeling of structure for vibration analysis and dynamic analysis, with minimal development of methods such as finite elements. Prerequisite: Graduate classification.

**CPSY 673. Advanced Psychotherapeutic Skills.** (3-0). **Credit 3.** A didactic/experiential course, designed for students in professional psychology programs; variety of psychotherapeutic interventions in short and long term counseling with adults; ways to access affective processes. Prerequisites: Practicum; approval of instructor.

**CPSY 674. Gender Issues in Psychotherapy.** (3-0) **Credit 3.** Designed for students training to become professional psychologists; gender socialization, relationships among males and females and the affect of gender on the therapeutic relationship in individual, family and group counseling. Prerequisite: Admission into professional psychology program.

**CPSY 675. Dying and Bereavement.** (3-0). **Credit 3.** Exposure to the experiences of others on the topic of dying and loss both through readings and through class presentations and discussions; offers new ways to think about death in general, as well as one's own death and those of one's loved ones; provides the mental health provider a foundation in concepts/process of death, loss and bereavement. Prerequisite: Graduate classification.

**ENTC 655. International Telecommunications.** (3-0). **Credit 3.** Management, policy and technology issues in planning and operating corporate voice, data and image networks worldwide. Prerequisites: ENTC 615, ENTC 625.
OCEN 674. Ports and Harbors. (3-0). Credit 3. Basic port planning including site selection, environmental factors and economic conditions; design of wharves, quays, jetties, breakwaters, terminals, navigational channels and fenders; harbor sedimentation and maintenance dredging; design of fishing, small craft and recreation boat harbors. Prerequisite: Approval of instructor.

PETE 629. Advanced Hydraulic Fracturing. (3-0). Credit 3. Physical principles and engineering methods involved in hydraulic fracturing; an advanced treatise integrating the necessary fundamentals from elasticity theory, fracture mechanics and fluid mechanics to understand designs, optimization and evaluate hydraulic fracturing treatments including special topics such as high permeability fracturing and deviated well fracturing. Prerequisite: Graduate classification.

SCOM 636. Research in Organizational Communication. (3-0). Credit 3. Theoretical and empirical literature on human communication and complex organizations; the study of messages, interaction and meaning in the process of organizing; topics include superior-subordinate communication, communication networks and technologies, language, message flow, symbols and organizational culture, negotiation and conflict and power and politics. Prerequisite: Graduate classification.

SCOM 649. Research in Rhetoric and Public Affairs. (3-0). Credit 3. Examination of scholarly research in public affairs utilizing rhetorical methods of investigation, focus on discovery and use of primary source materials, selection of critical approaches, and execution of systematic research programs. Prerequisite: Graduate classification.

SCOM 669. Research in Public Health Communication. (3-0). Credit 3. Survey course examines major concepts, theories and research in health communication, provides students with a conceptual understanding of the nature, functions and outcomes of communication processes in various health contexts, ranging from interpersonal settings to public campaigns; emphasis on providing a framework for synthesizing and critically evaluating health communication research. Prerequisite: Graduate classification.

SCOM 681. Professional Seminar. (1-0). Credit 1. Provides socialization to the profession of speech communication, focusing on graduate students' roles as scholars and teachers; provides instruction on teaching speech communication, conducting and writing publishable research and fulfilling responsibilities to one's organization and profession. Prerequisite: Graduate classification. May be repeated up to 3 times.

VIZA 616. Rendering and Shading. (2-2). Credit 3. Exploration of advanced rendering and shading techniques for the attainment of a desired visual effect; topics may include shading languages, attainment of visual realism, integration of rendering and modeling tools and non-photorealistic rendering. Prerequisites: VIZA 613 and VIZA 653 or approval of instructor.
VIZA 657. Computer Aided Sculpting. (2-3). Credit 3. Mathematical and artistic principles of 3D modeling and sculpting. Including: proportion skeletal foundation, expression and posture, line of action; curves, surfaces and volumes, interpolation and approximation, parametric and rational parametric polynomials, constructive solid geometry and implicit representations. Prerequisite: Approval of instructor.

VIZA 659. Physically-Based Modeling. (2-2). Credit 3. Physical simulation as used in choreography, geometric modeling, and the creation of special effects in computer graphics; a variety of problems and techniques are explored which may include particle-methods, modeling and simulation of flexible materials, kinematics, and constraint systems. Prerequisite: Approval of instructor.

2. Courses to be Withdrawn

AGEC 610. Advanced Natural Resource Economics.
AGEC 615. Agricultural and Food Policy Analysis.
AGEC 632. Production Economics II.
AGEC 645. Agricultural Consumption Analysis.
AGEC 655. Agricultural Marketing Operations.

3. Changes in Courses


Course title
from: Market Development Research Theory.
to: Agribusiness Marketing Research Methods.

Course description
from: Concepts and techniques involved in conducting market research; development of models and research projects that use primary and secondary data to solve marketing problems; emphasis given to real estate products.

to: Concepts and techniques involved in conducting agribusiness market research; development of models and research projects that use primary and secondary data to solve agribusiness marketing problems; emphasis given to agricultural and food products.
Prerequisites
from: STAT 651 or equivalent; ECON 323.
to: AGEC 621 and ECON 323.


Course title
to: Quantitative Techniques for Decision Making in Agribusiness I.

Course description
from: Quantitative decision-making techniques in agricultural economics and agribusiness; emphasis on analysis using microcomputers; techniques include linear programming, regression analysis, simulation and optimization techniques.
to: Econometric application and practice, analysis and interpretation of real-world economic data; microcomputer implementation.

Prerequisites
from: MATH 141 and 142; corequisite: STAT 651.
to: MATH 142, STAT 303; corequisite: ECON 323, 311 or AGEC 430.

AGEC 630. Financial Planning of the Farm Firm.

Course title
from: Financial Planning of the Farm Firm.
to: Financial Analysis for Agribusiness Firms.

Course description
from: Application of financial planning and analysis principles to farm business firms; capital budgeting and selection of farm investments; the role of debt structure and liquidity in firm growth and stability; how to build, merchandise and manage a firm's "credit"; alternatives for gaining control over financial resources and maintaining efficiency over time.
to: Application of financial planning and analysis to agribusiness firms; capital budgeting and selection of investments; the role of debt structure and liquidity in firm growth and stability; alternatives for gaining control over financial resources, managing risk and maintaining business efficiency over time.
Prerequisites
from: ACCT 209, 229 or 640.
to: ACCT 640 and FINC 635.

Credit hours
from: (3-0). Credit 3.
to: (2-0). Credit 2.

Prerequisites
from: AGEC 621.
to: AGEC 622.

AGEC 642. Systems Analysis and Programming in Agricultural Economics.
Course title
from: Systems Analysis and Programming in Agricultural Economics.
to: Dynamic Analysis in Agricultural Economics.

Credit hours
from: (3-0). Credit 3.
to: (2-0). Credit 2.

Course description
from: Theory, algorithms and applications of dynamic optimization in
deterministic and stochastic settings applied to agricultural economics
systems; analytical methods include dynamic programming, calculus
of variations and optimal control. Offered in odd numbered years.
to: Theory, algorithms and applications of dynamic optimization in
deterministic and stochastic settings applied to agricultural economics
systems; analytical methods include dynamic programming and
optimal control.

AGEC 643. Applied Simulation in Agricultural Economics.
Credit hours
from: (3-0). Credit 3.
to: (2-0). Credit 2.
Course description
from: Design, construction and evaluation of simulation models of economic system; integrating mathematics and statistics with economic theory and econometrics to solve real world problems.
to: Design, construction, validation and use of Monte Carlo models for decision making; emphasis on developing, testing and simulating multivariate normal and empirical distributions for applied problems in agriculture and economics.

Prerequisites
from: ECMT 676 or STAT 652.
to: ECMT 676 and AGEC 661.

ARCH 631. Structural Systems.

Course title
from: Structural Systems.
to: Architectural Structures III.

Prerequisites
from: 9 hours of structures.
to: ARCH 431 or approval instructor.


Course title
from: Environmental Control Systems.
to: Environmental Systems III.

Prerequisites
from: COSC 336.
to: ARCH 334.

VIZA 611. Concepts of Visual Communications I.

Course description
from: Examination of the impact of traditional two and three dimensional design principles, theory, practice and problem solving as applied to electronic media with an emphasis on the knowledge of world views, formal issues and design vocabularies; development of expressive, perceptual and intellectual skills integral to effective visual communication and design vocabularies.
to: Theory and practice of visual communication using a variety of media to explore perception, form-making, color and historic and personal sources of creativity.

Prerequisites
from: Graduate status in visualization sciences and approval of instructor.
to: Graduate classification in visualization or approval of instructor.

VIZA 612. Concepts of Visual Communications II.

Course description
from: The image-making process as impacted by modern technology; further exploration of the principles of design, composition, light, color and form, as applied to communication of ideas in visual form.
to: Further exploration of perception, vision and self-expression for communication through visual images; image-making processes include conventional and digital media.

Prerequisites
from: Graduate status in visualization sciences and approval of instructor.
to: VIZA 611 or approval of instructor.


Credit hours
from: (2-4). Credit 3.
to: (1-2). Credit 2.

Prerequisites
from: VIZA 613 or approval of instructor.
to: Approval of instructor.

VIZA 615. Computer Animation.

Credit hours
from: (2-4). Credit 3.
to: (3-2). Credit 4.

VIZA 617. Character Animation.

Course title
from: Character Animation.
to: Advanced Animation.
Credit hours
from: (4-0). Credit 4.
to: (2-4). Credit 4.

Course description
from: Development of three dimensional computer generated character animation emphasizing inverse kinematics, surface manipulation and dynamics as well as story, character design, motivation, acting, choreography and staging. May be taken two times.
to: Development of advanced three-dimensional computer animation with emphasis on successful storytelling and visual communication; may include story development, expressive character design, motivation, acting, speech animation, choreography, stage lighting, storyboards, soundtracks, story reels, production efficiency and successive refinement. May be taken twice.

Prerequisites
from: VIZA 613 and approval of instructor.
to: VIZA 615 or approval of instructor.

VIZA 622. Design Communication I.

Credit hours
from: (2-4). Credit 3.
to: (2-4). Credit 4.

Course description
from: Theory and practice in visual perception and psychological response to visual communication; examination of the symbiotic relationship of visual images, electronic and traditional media as they relate to mass culture.
to: Theory and practice of visual communication employing a variety of digital and conventional media; emphasis on creating effective, self-expressive images employing the combined use of a variety of media.

Prerequisites
from: Graduate classification in visualization or approval of instructor.
to: VIZA 612 or approval of instructor.
VIZA 623. Design Communication II.

Credit hours
from: (2-4). Credit 3.
to: (1-4). Credit 3.

Course description
from: Development of concepts and forms in visual communications; organization of complex problems in production and graphic design; application of page description languages; synthesis of skills, information tools and methodology.
to: Development of concepts and forms in visual communications; organization of complex problems in production; synthesis of skills, information tools and methodology.

VIZA 627. Design Communication III.

Credit hours
from: (2-4). Credit 3.
to: (2-2). Credit 3.

Course description
from: Advanced methods in video, photography and/or animation production; application of dialectics, social criticism and image strategies used in contemporary media. May be repeated for a total of 6 credit hours.
to: Advanced methods in video, photography and/or animation production; application of image strategies used in contemporary media. May be taken twice.

Prerequisites
from: VIZA 613, 623, 653 or approval of instructor.
to: VIZA 622 or 643; or approval of instructor

VIZA 643. Video/Photography.

Course title
from: Video/Photography.
to: Videography.
Credit hours
from: (2-6). Credit 4.
to: (2-4). Credit 4.

Course description
from: Vision and perception represented through use of still photographic image and video presentation methods and techniques; theory and practice of black and white and color processes, sound, camera, editing, script generation, special effects in production and post-production video practices.
to: Vision and perception represented through use of video presentation methods and techniques; theory and practice of staging, lighting, sound, camera, editing, script generation, special effects in production and post-production video practices.

Prerequisites
from: Graduate classification in visualization or approval of instructor.
to: VIZA 612 or approval of instructor.

**VIZA 644. Advanced Video.**

Credit hours
from: (2-4). Credit 3.
to: (1-4). Credit 3.

**VIZA 647. Color Photography.**

Credit hours
from: (2-4). Credit 3.
to: (1-4). Credit 3.

Course description
from: Theory and practice of still color photography using negative and positive processes; appropriate uses of color processes related to electronic and other graphic media.
to: Theory and practice of still color photography; appropriate uses of color processes related to digital photography and other graphic media; exploration of vision through the photographic image as a medium of self expression. May be taken twice.
VIZA 652. Computing for Visualization I.

Prerequisites
from: Graduate classification in visualization or approval of instructor.
to: CPSC 110 or equivalent and approval of instructor.

VIZA 654. The Digital Image.

Credit hours
from: (3-0). Credit 3.
to: (3-2). Credit 4.

Course description
from: Tools and techniques for generation, handling and analysis of two
dimensional digital images; images representation and storage, display,
medial conversion, painting and drawing; warping; color space
operations, enhancement, filtering and manipulation.
to: Tools and techniques for generation, handling and analysis of two
dimensional digital images; image representation and storage; display,
media conversion, painting and drawing; warping; color space
operations, enhancement, filtering and manipulation.

VIZA 656. Visualization Systems.

Course title
from: Visualization Systems.
to: Image Synthesis.

Course description
from: The architecture, design and underlying principles governing the
construction and maintenance of visualization software and hardware
systems. Emphasizes the integration of key concepts in modeling,
interaction, rendering and graphics resource management, using
modern software development techniques.
to: The principles of image synthesis from 3D scene descriptions; topics
may include local and global illumination, shading, shadow
determination, hidden surface elimination, texturing, raster graphics
algorithms, transformations and projections.

Course description
from: Theory and experimental techniques for design process and visualization; topics include, but are not limited to artificial intelligence, hypermedia, holography and steroscopic imaging. May be repeated for a total of 6 credit hours.

to: Theory and experimental techniques for computer graphics, animation, video and other forms of electronic visualization including innovative hardware and software systems, artificial life, virtual reality, volume methods and hypermedia. May be taken twice.

Prerequisites
from: VIZA 653 and approval of instructor.
to: VIZA 654 or 656; or approval of instructor

VIZA 685. Problems in Visualization.

Credit hours
from: (0-4). Credit 4.
to: (6-0). Credit 1 to 6.

VIZA 691. Research.

Prerequisite
from: VIZA 690; approval of instructor.
to: Approval of instructor.
The University Curriculum Committee recommends approval of the following:

1. New Courses

**BIMS 484. Biomedical Science Field Experience. Credit 2.** Student will get on-the-job training in the Biomedical Science industry; development of objectives and goals; evaluation by supervisor required. Prerequisite: Approval of department head.

**COSC 321. Structural Systems I. (3-2). Credit 4.** Introduction to the physical principles that govern classical statistics and strength of materials through the design of timber and steel components of architectural structures with computer applications. Prerequisites: MATH 142; PHYS 201.

**COSC 442. Commercial Construction. (3-0). Credit 3.** Project management of commercial construction projects ranging from high rise office buildings to small tilt-wall and pre-engineered buildings including: project acquisitions, mobilization, management and close out. Prerequisites: COSC 454, 469, 463 and 473.

**COSC 443. Industrial Construction. (3-0). Credit 3.** Introduction to industrial construction with an emphasis on process and power plant construction from a field office management perspective. Prerequisites: COSC 454, 460, 463 and 473.

**COSC 444. Highway/Heavy Construction. (3-0). Credit 3.** Various aspects of highway/heavy construction including: earthmoving and paving equipment and utilization principles, pavement design and placement methods; unit price bidding methods and a project case study. Prerequisites: COSC 454, 460, 463, 473 and 481.

**COSC 445. Facilities Management. (3-0). Credit 3.** Aspects of facilities management including: budgeting for operations and management; energy management; change management; design-build changes; in-house versus out-source maintenance and contracting options. Prerequisites: COSC 454, 460, 463 and 473.

**COSC 455. Alternate Construction Delivery Systems. (3-0). Credit 3.** Introduces students to non-traditional construction delivery systems including: design-build; job order contracting; performance-based procurement and public/private partnerships. Prerequisite: COSC 353.

**COSC 463. Construction Law and Ethics. (3-0). Credit 3.** Delineation of contracts used in the construction industry; emphasis on understanding the functions and interrelationships of documents; review of law applied to the industry; application of the contract and law to
case studies; introduction to resources and analytical processes used by construction professionals; ethics in the construction industry. Prerequisite: COSC 353.

COSC 477. Construction Project Controls. (3-0). Credit 3. Introduces students to construction related financial documents including: schedule of values, labor and operations cost reports and construction budgets; trace construction dollar flow from time sheet to balance sheet. Prerequisite: COSC 473.

COSC 483. Construction Industry Contemporary Issues. (1-0). Credit 1. Introduces graduating seniors to contemporary issues in the construction industry. Prerequisite: COSC 482.

CVEN 207. Introduction to the Civil Engineering Profession. (1-0). Credit 1. Introduction to the study and practice of civil engineering; specialized subdisciplines of civil engineering; professionalism and professional registration; engineering ethics; exercises in engineering technical communications. Prerequisite: ENGL 104.

ENGR 111. Foundations of Engineering I. (1-3). Credit 2. Introduction to the engineering profession, ethics and disciplines; development of skills in teamwork, problem solving, logic processing, design and drawing; emphasis on computer applications and CAD tools. Corequisite: MATH 151.

ENGR 112. Foundations of Engineering II. (1-3). Credit 2. Development of skills in problem solving, design, analysis, estimation and teamwork; utilization of computer tools for documentation and presentation; introduction to logic processing and computer programming; introduction to accounting and conservation principles in engineering sciences. Prerequisite: ENGR 111.

HLTH 440. Contemporary Issues for Community Health Interns. (3-0). Credit 3. Preparatory course for advanced students in the community health internship program. Prerequisites: Acceptance to internship program and approval of instructor.

MATH 325. The Mathematics of Interest. (3-0). Credit 3. The mathematical theory associated with interest; annuities; internal rate of return; coupon bonds; valuation of noncallable bonds; yield to maturity; interest rate sensitivity; duration and convexity; reinvestment risk; total return; compound return; STRIPS; yield curve; short selling; hedge ratio; bond swaps. Prerequisites: Junior classification; MATH 142, 151 or 171.

MATH 425. The Mathematics of Contingent Claims. (3-0). Credit 3. The mathematical theory associated with asset price dynamics; binomial pricing models; Black-Scholes analysis;
hedging; volatility smile; implied volatility trees; implied binomial trees. Prerequisite: MATH 325.

SPED 429. Supervised Student Teaching. (1-30). Credit 9. Observation and participation in general and special education classroom activity; supervised student teaching in accredited school; techniques of pre-service teacher's teaching fields and appropriate instructional strategies for assigned student populations. Prerequisites: 2.25 GPA in teaching fields and professional development; approval of department head.

SPED 471. Dynamics and Management in Multicultural/Inclusionary Learning Environments. (3-0). Credit 3. Field-based course focusing on communication, methodology and management perspectives that lead to democratic classrooms; organizational structures that focus on transformative, inclusionary learning; interventions for students with disabilities; analysis of systemic conditions placing children from diverse backgrounds and representing diverse abilities in positions of "risk" for incomplete success in school. Prerequisites: Senior classification; admission to teacher education; concurrent enrollment in TEFB 410, 412 and 413. Cross-listed with TEFB 471.

TEFB 171. Children, Families and Communities. (0-4). Credit 1. Field-based course that explores the multi-dimensional lives of children as members of diverse families, as participants in a variety of cultural, ethnic, language, gender and socioeconomic groups, and as contributing members of society; extensive field work in community-based settings (e.g., family contexts, social agencies, community based activities). Prerequisites: Major in interdisciplinary studies; approval of department head.

TEFB 271. Children, Schools and Society. (1-4). Credit 2. Field-based course that introduces the culture of schooling and classrooms for analysis within the lens of language, gender, racial, socio-economic, ethnic and academic diversity and educational equity; extensive weekly field observations and participation in schools designed to analyze learning environment, content, method and human experience. Prerequisite: TEFB 171.

TEFB 471. Dynamics and Management in Multicultural/Inclusionary Learning Environments. (3-0). Credit 3. Field-based course focusing on communication, methodology and management perspectives that lead to democratic classrooms; organizational structures that focus on transformative, inclusionary learning; interventions for students with disabilities; analysis of systemic conditions placing children from diverse backgrounds and representing diverse abilities in positions of "risk" for incomplete success in school. Prerequisites: Senior classification; admission to teacher education; concurrent enrollment in TEFB 410, 412 and 413. Cross-listed with SPED 471.
TEFB 483. Internship. (0-40). Credit 4. Directed internship in a public school classroom. Offered for the fall semester only. Prerequisites: Senior classification; TEFB 471.

TEFB 484. Internship. (0-40). Credit 5. Directed internship in a public school classroom. Prerequisites: Senior classification; TEFB 483.

VTPB 452. Clinical Veterinary Mycology. (2-2). Credit 3. Practical application of clinical mycology; laboratory identification of important fungal and actinomycotic organisms. Prerequisite: VTPB 405 or approval of instructor.

2. Courses to be Withdrawn

COSC 102. Construction Problems and Analysis.

COSC 255. Construction Methods and Documents Laboratory.

COSC 329. Structural Systems I.

COSC 330. Structural Systems II.

COSC 454. Contracts and Subcontracts.


3. Changes in Courses

BOTN 201. Taxonomy of Flowering Plants.

Course number
from: BOTN 201.
to: BOTN 301.

Credit hours
from: (2-3) Credit 3.
to: (3-3) Credit 4.
COSC 254. Construction Materials and Methods II.

Credit hours
from: (3-0). Credit 3.
to: (3-3). Credit 4.

Course description
from: Continuation of materials and methods of construction with emphasis on assemblies and construction techniques.
to: Continuation of materials and methods of construction including the documents lab; emphasis on plan reading, metals utilized in design and construction; structural steel foundation materials and methods; controls on the design and construction process; pre-cast and tilt wall; concrete reinforcement, wood dimension lumber framing, and heavy timber framing.

COSC 335. Environmental Control Systems I.

Course number
from: COSC 335.
to: COSC 325.

COSC 336. Environmental Control Systems II.

Course number
from: COSC 336.
to: COSC 326.


Course title
from: Construction Operations.
to: Managing Construction Operations.

Course description
from: Divisions of the construction operational organization; major operational functions of the organization; commonly used operational processes and procedures that implement performance of the construction contract.
to: Managing construction operations from concepts of project selection, estimating, bidding, scheduling, subcontracting practices, cost
tracking, project documentation, construction bonds, insurance, payments and the elements of close out; special emphasis on the development of professional communication skills through student prepared multi-media presentations.

**COSC 429. Structural Systems III.**

Course number
from: COSC 429.
to: COSC 421.

Course title
from: Structural Systems III.
to: Structural Systems IV.

**COSC 430. Structural Systems IV.**

Course number
from: COSC 430.
to: COSC 422.

Course title
from: Structural Systems IV.
to: Structural Systems III.

**COSC 453. Estimating.**

Course number
from: COSC 453.
to: COSC 375.

Credit hours
from: (2-2). Credit 3.
to: (2-3). Credit 3.

Course number
   from: COSC 461.
   to:   COSC 441.

COSC 470. Construction Labor and Safety.

Course number
   from: COSC 470.
   to:   COSC 460.

EDCI 462. Language Acquisition and Development.

Prefix change
   from: EDCI 462.
   to:   INST 462.


Prefix change
   from: EDCI 463.
   to:   INST 463.

INEN 322. Systems Simulation.

Credit hours
   from: (3-0). Credit 3.
   to:   (2-3). Credit 3.


Course number
   from: PETE 417.
   to:   PETE 301.

Course description
to: Use of numerical methods in a variety of petroleum engineering problems; numerical differentiation and integration; root finding; numerical solution of differential equations; curve fitting and interpolation; computer applications; introduction to the principles of numerical simulation methods.

Prerequisites
from: MATH 308; PETE 310 or registration therein.
to: ENGR 111 and 112; MATH 308 or registration therein.

SPED 420. Career Assessment and Development of Atypical Adolescents.

Course prefix
from: SPED 420.
to: SPED 320.

Course title
from: Career Assessment and Development of Atypical Adolescents.
to: Education and Employment Issues in Secondary Special Education.

Credit hours
from: (3-0). Credit 3.
to: (2-3). Credit 3.

Course description
from: Psychological, social, physical and cognitive development of adolescents with disabilities; procedures for assessing career aptitude and interests; programmatic options; transition models from school settings to adult employment.
to: Psychological, social, physical and cognitive development of secondary-age students; career assessment; programmatic options within educational and employment settings; transition models from school settings to adult employment.


Course prefix
from: TEED 410.
to: TEFB 410.
Credit hours
  from:  (2-3). Credit 3.
  to:    (2-8). Credit 3.

Prerequisites
  from:  Admission to Teacher Education; TEED 302.
  to:    Admission to Teacher Education; TEFB 271.


Course prefix
  from:  TEED 412.
  to:    TEFB 412.

Credit hours
  from:  (2-2). Credit 3.
  to:    (2-8). Credit 3.

Prerequisites
  from:  TEED 302, MATH 365 and 366.
  to:    TEFB 271; MATH 365 and 366; admission to Teacher Education.

TEED 413. Science in the Elementary School.

Course prefix
  from:  TEED 413.
  to:    TEFB 413.

Credit hours
  from:  (2-3). Credit 3.
  to:    (2-8). Credit 3.

Prerequisites
  from:  Admission to Teacher Education; TEED 302.
  to:    Admission to Teacher Education; TEFB 271.

TEED 423. Supervised Student Teaching.

Course prefix
  from:  TEED 423.
  to:    TEFB 423.
TEED 426. Supervised Student Teaching.

Course prefix
from: TEED 426.
to: TEFB 426.

TEED 429. Supervised Student Teaching.

Course prefix
from: TEED 429.
to: TEFB 429.

VTMI 407. Serologic Techniques.

Course title
from: Serologic Techniques.
to: Advanced Veterinary Microbiology Laboratory.

Credit hours
from: (2-6). Credit 4.
to: (0-4). Credit 3.

Course description
to: Modular course covering immunological and molecular techniques used with bacteria, parasites and viruses in animals for diagnostic and identification purposes.

Prerequisites
from: 3 hours of microbiology; junior or senior classification.
to: VTBP 405, 409 and 438 or concurrent enrollment; junior or senior classification.
VTMI 408. Clinical Microbiology.

Credit hours
from: (2-3). Credit 3.
to: (2-5). Credit 4.

VTMP 941. Clinical Microbiology and Parasitology I.

Credit hours
from: (0-35). Credit 1.
to: (0-35). Credit 2.