February 7, 2003

REPORT FROM THE OFFICE OF THE VICE PRESIDENT FOR ACADEMIC AFFAIRS

The following Undergraduate petitions have been approved:

Undergraduate Course Deletion:

ACCT 417  International Accounting and Multinational Enterprise   3 Cr. Hrs.
Last Semester the course will be offered: Fall, 2003.

Undergraduate New Course Petitions:

ENGR 101  Engineering Orientation 101 (1 hour lecture) Pass/No Pass  0 Cr. Hrs.
Presentation and discussion of current professional engineering topics by faculty and guest lecturers. Student club meetings are also held during this class period. Required of all new full-time engineering students. No prerequisite.
Implementation Date: Fall, 2003.

ENGR 103  Principles of Problem Solving (2 hour lecture, 2 hour laboratory)  3 Cr. Hrs.
This course will introduce the students to engineering laboratory methodologies and procedures, technical writing, and design. Fundamental mathematical tools to conduct experiments will be emphasized, such as error analysis, unit conversions, statistics, and graphical analysis. Prerequisites: The course is intended for students who place at MA 118 or above and achieve a reading placement of 70.5 or above.
Implementation Date: Fall, 2003.

ENGR 104  Applied Problem Solving (2 hours lecture, 2 hours lab)  3 Cr. Hrs.
A continuation of the concepts taught in ENGR 103 applied to select engineering topics: mechanics, electronics, mass balances, and statistics. Computer applications for problem solving and graphical analysis are emphasized. Prerequisites: MA 118 and ENGR 103.
Implementation Date: Fall, 2003.

ENGR 107  Introduction to Design I (6 hours laboratory)  2 Cr. Hrs.
This course is the first in a two-course design sequence. It will introduce first-year engineering students to engineering and design by previewing core engineering topics such as mechanics, circuits, and thermodynamics. The courses will also introduce students to computer programming using Visual Basic, graphics, and AutoCAD. Prerequisite: Math 230 or consent of instructor.
Implementation Date: Fall, 2003.

ENGR 108  Introduction to Design II (6 hours laboratory)  2 Cr. Hrs.
This course is the second in a two-course design sequence for first-year engineering students. The course focuses on team-oriented, hands-on engineering projects, using both reverse and forward design. Students will use Microsoft Project to manage projects, and AutoCAD for the computer aided design of projects. Students will also get practice documenting and defending their projects. Prerequisite: ENGR 107.
ENGR 221 Surveying (2 hours lecture, 3 hours lab)  3 Cr. Hrs.
Care and use of tapes, level, transit, electronic distance measuring equipment and data collector; differential leveling, traversing, closure and area computations, reduction and plotting of field notes of topographic surveys. Prerequisites: ENGR 107 and MATH 230.

ENGR 225 Thermodynamics (3 hours lecture)  3 Cr. Hrs.
Introduction and application to the laws of Thermodynamics; analysis of closed and open systems; introduction to heat transfer; cannot principle, engine power plants and refrigeration applications. Prerequisites: PHYS 205 and MATH 230.

ENGR 235 Statics (3 hours lecture)  3 Cr. Hrs.
Fundamentals of engineering mechanics including forces acting on bodies at rest as they apply to equilibrium of coplanar force systems, analysis of frames and trusses, noncoplanar force systems, friction, centroids and moments of inertia. Emphasis is placed on drawing a free-body diagram, determining the equilibrium equations, and developing a logical scheme for complete analysis of an engineering statics problem. Prerequisites: PHYS 205 and MATH 230.

ENGR 241 Digital Logic (2 hours lecture, 3 hours lab)  3 Cr. Hrs.
This course teaches the basics of digital logic by using computer simulations and circuit construction in the laboratory experiments. Binary, octal, and hexadecimal number systems are investigated, and basic logic gates (AND, OR, NAND, NOR, and INVERTER) are discussed. Flip-flops, multiplexers, and various memory devices, and their uses in logic circuitry are studied. Prerequisites: MATH 111 or MATH 108 or sophomore standing in the engineering program.

ENGR 255 Electric Circuits (3 hours lecture, 3 hours lab)  4 Cr. Hrs.
Introduction to electric circuit theory and analysis course for engineering majors. Topics covered include: D.C. Circuits, A.C. Circuits, mesh and nodal analysis, Norton’s and Thevenin’s equivalent circuits, source conversions, impedance calculations, maximum power transfer, phasor and sinusoidal steady state responses. Prerequisites: MATH 230, PHYS 206.

ENGR 275 Dynamics (3 hours lecture)  3 Cr. Hrs.
Kinematics & kinetics of particles and rigid bodies using vector analysis. Topics include: Force, mass, acceleration, work and energy, Impulse and momentum. Prerequisites: ENGR 235, MATH 230.

ENGR 321 Soil Mechanics (2 hours lecture, 3 hours lab)  3 Cr. Hrs.
Physical and index properties of soil, soil classification, soil-water interaction, stresses, settlement and shear strength will be studied. Laboratory experiments will include Atterberg Limits, Glaein Size analysis, shear strength, consolidation, and Proctor tests. Prerequisite: ENGR 355.

ENGR 323 Transportation Engineering  3 Cr. Hrs.
Introduction to transportation and the planning of transportation
systems. Highway and airfield design criteria. Operational
characteristics of transportation systems. Prerequisites:
ENGR 221 and ENGR 321.
Implementation Date: Fall, 2003.

ENGR 335 Engineering Economics
This course is designed to aid the student in learning about the scope
and application of various numerical techniques and evaluation criteria
as a means to make economic decisions. Interest rates, cash flows,
depreciation, and tax implications will be covered. Methods such as
present worth, annual worth, future worth, and rate-of-return will be
used to make comparisons between alternatives. Prerequisites:
Sophomore standing AND EITHER MATH 215 or MATH 230.
Implementation Date: Fall, 2003.

ENGR 343 Discrete Electronic Devices (2 hours lecture, 3 hours lab)
This course introduces the 3 basic discrete devices: the diode
(both pn and zener), the bipolar junction transistor, and the field
effect transistor. Device modeling, biasing techniques, frequency
response, h parameters and amplifier design are discussed.
Prerequisites: ENGR 255.
Implementation Date: Fall, 2003.

ENGR 344 Integrated Circuits (2 hours lecture, 3 hours lab)
This course addresses integrated circuits such as operational
amplifiers, 555 timers, silicon controlled rectifiers and associated
triggering devices, and their uses in electronic circuits. Emphasis
is placed on circuit construction and communication skills by the
use of class projects and the associated technical reports and oral
presentation. Prerequisite: ENGR 343.
Implementation Date: Spring, 2004.

ENGR 345 Advanced Electrical Circuits (3 hours lecture)
Advanced electrical circuits elective course for engineering majors.
Topics covered include polyphase circuits, complex frequency and
Laplace Transform, s-domain circuit analysis, series and parallel
resonance, and Fourier frequency analysis. Course stresses network
theorems, solution of time-and frequency-domain problems. Course
coverage includes transient analysis by classical and transform
methods as well as basic concepts of steady-state AC circuit analysis.
Prerequisites: ENGR 255 and MATH 330.
Implementation Date: Fall, 2003.

ENGR 347 Microcomputer Engineering (2 hours lecture, 3 hours lab)
An introduction to the concepts of microcomputers and microcont
rollers, including system architecture, addressing modes, assembly
language programming, fixed point arithmetic, data structures and
stacks, subroutines, high-level compilers and integrated development
environments. Prerequisites: ENGR 241 or consent of instructor.
Implementation Date: Fall, 2003.

ENGR 349 Electrical Machines (2 hours lecture, 3 hours lab)
D.C. motors and generators, induction and synchronous motors,
and generators for single-phase and three-phase systems are
studied; course emphasis is on common applications, principles
of operation, and performance characteristics. Prerequisites:
ENGR 255 and ENGR 345.
Implementation Date: Fall, 2003.

ENGR 355 Strength of Materials (3 hours lecture, 3 hours lab)
A study of stress-strain relationship for axial, torsion, shearing and

4 Cr. Hrs.
bending loads; deflection of beams; connections; combined loadings; statically indeterminate members, and plane stress. The laboratory experience will include material testing to determine physical and mechanical properties that will reinforce the principles studied. Prerequisites: ENGR 235 and MATH 230.

Implementation Date: Fall, 2003.

ENGR 375 Fluid Mechanics 3 (2 hours lecture, 3 hours lab) 3 Cr. Hrs.
Fundamentals of fluid mechanics including application of Bernoulli’s equation for incompressible flow, hydrostatic forces on gates, dynamics of fluid flow, friction loss and drag, sizing of pipes and pumps, and turbomachinery. The lab portion require students to design experiments to evaluate specific fluid principles and concepts with subsequent completion to reinforce the understanding of the material. Prerequisites: ENGR 235 and MATH 330.

Implementation Date: Fall, 2004.

ENGR 435 Engineering Statistics (3 hours lecture) 3 Cr. Hrs.
Calculus based examination of descriptive and inferential statistics. Topics covered include population and sample data analysis, discrete random variables, continuous random variables, frequency distributions, probability, hypothesis testing, analysis of variance, regression and correlation. Computer applications for problem solution is required. Prerequisites: ENGR 107, MATH 433 and junior standing.

Implementation Date: Fall, 2003.

ENGR 443 Linear Control Systems (3 hours lecture) 3 Cr. Hrs.
A study of the fundamental concepts of linear automated control of physical systems. The course includes the following areas of study: mathematical modeling, block diagrams, frequency response analysis, root-locus analysis, time-domain analysis, stability analysis, compensation techniques, controller design, and interface transducers. Prerequisite: ENGR 345.

Implementation Date: Fall, 2003.

ENGR 471 Engineering Design and Analysis (3 hours lecture) 3 Cr. Hrs.
Application of the professional method to the formulation and design solution for real-world, industry-type problems. Student teams will utilize their knowledge of engineering principles, as well as social and economic issues, to develop, analyze, and evaluate proposed designs using experimental, computer, and numerical techniques. Prerequisites: Senior standing in Engineering and consent of instructor.

Implementation Date: Fall, 2004.

ENGR 482 Engineering Organization and Management 3 Cr. Hrs.
An examination of the fundamental concepts of management in engineering organizations with emphasis on the relationships among types of engineering work, types of organizational structure, and managerial responsibilities. Includes study of motivation, time management, oral and written communications, engineering ethics and lifelong learning. Prerequisites: Junior standing in engineering or consent of instructor.

Implementation Date: Fall, 2003.

ENGR 491 Senior Design 3 Cr. Hrs.
A course which provides an opportunity for synthesis of technical, professional and general knowledge for engineering students. Design problems provided by industrial sponsors are studied by small teams of students to develop solutions using engineering design, but also consider realistic constraints such as economic factors, safety, reliability, aesthetics, ethics and social impact. Formal written and oral reports to faculty, industrial sponsors
and invited guests are required. Prerequisites: Senior standing in engineering and consent of department chair.
Implementation Date: Fall, 2003.

RADT 224 Advanced Imaging Equipment 2 Cr. Hrs.
This course is designed to establish a knowledge base in radiographic, fluoroscopic, mobile, tomographic, and ultrasound equipment requirements and design. Prerequisites: None.
Implementation Date: Fall, 2003.

RADT 335 Radiation Biology 2 Cr. Hrs.
This course is designed to study the biological effects of radiation at atomic, molecular, cellular, and systemic levels. In addition, short and long-term somatic and genetic effect, maximum permissible dose, and methods of radiation protection for the patient and the technologist are discussed. Prerequisites: None.
Implementation Date: Fall, 2003.

Undergraduate Course Modifications:

ACCT 311 Income Tax Procedure I 3 Cr. Hrs.
The theory and practice in the preparation of federal income tax returns for individuals.
Modified Course Title: Introduction to Federal Income Taxation.
Modified Prerequisites: ACCT 202, ACCT 203 or equivalent, and Junior standing.
Implementation Date: Fall, 2003.

ACCT 315 Cost Accounting 3 Cr. Hrs.
The theory and practice of cost accounting with emphasis on its use for planning and control. Introduces the concept of budgeting, standards, and profitability analysis.
Prerequisites: ACCT 202 and junior standing.
Modified Prerequisites: ACCT 202, ACCT 203, and junior standing.
Implementation Date: Fall, 2003.

ADV (341) 346 Special Events and Promotions 3 Cr. Hrs.
This course examines the elements of a highly specialized form of advertising, specifically the event planning process, creative brainstorming, budgeting, overcoming obstacles, attracting sponsorships, soliciting volunteers, and evaluations. Prerequisite: ADV 242.
Change number to ADV 346.
Modified Prerequisites: ADV 342 or CPT 275 or PRL 364 or consent of instructor.
Implementation Date: Fall, 2003.

ADV 344 Advertising Campaigns 3 Cr. Hrs.
Advanced study in the creation and implementation of advertising campaigns. Students will study the evolution of ad campaigns, the various forms of advertising, and local and national ad campaigns. Students will also practice targeting the audience, creating the advertising concept, and selecting media buys and budgeting. Prerequisites: ADV 241 and ADV 242 or consent of instructor.
Modified Course Title: Strategic Campaigns.
Modified Prerequisites: ADV 342 or consent of instructor.
Implementation Date: Fall, 2003.

ADV 440 Advanced Advertising Campaigns 3 Cr. Hrs.
To refine campaign skills to be used as a competition class for the American Advertising Federation. May be taken twice. Prerequisite: ADV 344.
Modified Prerequisites: ADV 342 or CPT 275 or PRL 364 and 15 hours in communications major or consent of instructor.
Implementation Date: Fall, 2003.

ADV 446 Seminar in Advertising 3 Cr. Hrs.
A study of the origins and effects of modern advertising and of how advertising works on individuals and society. Students will conduct their own inquiries through individual projects designed to make them consider the nature of need and how to design, advertise and identify them. Prerequisites: ADV 344 or ENG 201 and Junior status. Modified Prerequisites: ADV 342 or CPT 275 or PRL 364 and 15 hours of major courses.

Implementation Date: Fall, 2003.

COMM 299 Special Topics in Communications 3 Cr. Hrs.
Topics will vary. Purpose of course is to cover topics which are not specific courses in the curriculum. No prerequisite.
Course Description: Topics will vary. Purpose of the course is to cover topics that are not specific courses in the curriculum. *Courses may be repeated once if the topic is different from the one previously taken. *language added to description to make course repeatable.

Implementation Date: Fall, 2003.

RADT 221 Clinical II 2 Cr. Hrs. being changed to 3 Cr. Hrs.
A continuation of supervised clinical education. Emphasis on radiographic/fluoroscopic procedures and examinations of the extremities. Introduces special procedures and CT scanning. Correlates with RADT 218, and 222. (16 hours/week).
Modified Course credit hours: 3 Credit Hours.

Implementation Date: Fall, 2003.

RADT 222 Advanced Imaging Change from 3 Cr. Hrs. to 2 Cr. Hrs.
This course is an introduction to cardiovascular, neurological and other specialized radiographic procedures and imaging equipment including tomography, fluoroscopy, and digital imaging.
Course Description: This course is an introduction to cardiovascular, neurological and other specialized radiographic procedures.
Modified Course credit hours: 2 Credit Hours.

Implementation Date: Fall, 2003.

RADT 225 Radiologic Physics and Radiobiology Change from 4 Cr. Hrs. to 3 Cr. Hrs.
This course studies the physical principles underlying radiologic technology, with special attention given to the equipment required to generate x-rays, the nature and behavior of x-radiation, the devices relevant to the practical applications of x-rays in diagnosis, and the biological effects of radiation at atomic, molecular, cellular, and systemic levels. In addition, short and long-term somatic and genetic effect, dose limits, and methods of radiation protection for the patient and the technologist are discussed.
Modified Course Credit Hours: 3 Credit Hours.
Modified Course Description: This course studies the physical principles underlying radiologic technology, with special attention given to the equipment required to generate x-rays, the nature and behavior of x-radiation and the devices relevant to the practical applications of x-rays in diagnosis.

Implementation Date: Fall, 2003.

SPCH 101 Introduction to Speech 3 Cr. Hrs.
Principles and practices of oral communications with selected experiences in their use. No prerequisites.
Course Title: Introduction to Public Speaking.
Implementation Date: Fall, 2003.

Undergraduate Program Modification:

Program Requirements for Post-Baccalaureate Certificate in Professional Accountancy:
Program Requirements – Certificate candidates must fulfill the following specific requirements:
1. Forty-nine semester hours in business courses with a minimum of 24 semester hours in accounting courses plus 24 semester hours in business courses other than accounting courses.
2. Certificate students must maintain a minimum 3.0 GPA; a course grade below C is not applicable toward meeting certification requirements.
3. Under direction of an assigned program advisor, candidates will complete an individually approved curriculum based on the following outline:

- **ACCT 201, 202 Principles of Accounting** 6 hours
- **ACCT 203 Introductory Accounting Lab** 1 hour *
- **ACCT 303 Intermediate Accounting I** 3 hours
- **ACCT 311 Introduction to Federal Taxation** 3 hours
- **ACCT 315 Cost Accounting I** 3 hours
- **ACCT 401 Advanced Accounting** 3 hours
- **ACCT 415 Auditing Theory and Practice** 3 hours
- **ACCT 602 Seminar in Financial Accounting** 3 hours

Business (Non-accounting) Electives 24 hours

**TOTAL HOURS** 49 hours

4. Upon completion of the preceding program requirements, the candidate should apply for the Certificate at the School of Business office.

5. Individuals who meet requirements of the State Board of Public Accountancy of Indiana are eligible to sit for the Uniform CPA Examinations of Indiana. Those who wish to engage in public accounting should familiarize themselves with the rules and regulations issued by the Indiana State Board of Accountancy, 912 State Office Building, Indianapolis, Indiana 46204. Students planning to practice outside of Indiana should consult the CPA board of their state residence.

* May be waived by Department Chair if student has completed equivalent course.

Implementation Date: Fall 2003.

**Undergraduate New Program Petition**

**Minor in Sonography – 24 Credit Hours**

The minor in sonography will allow students to gain a better understanding of medical sonography and its role in the diagnosis of certain diseases. Permission by the Radiologic and Imaging Sciences Program Director is required prior to enrollment in sonography courses.

Sonography Courses:
- **RADT 217** Patient Care Procedures II
- **RADT 401** Sonographic Physics & Instrumentation
- **RADT 402** Sonographic Procedures I: Abdomen and Small Parts
- **RADT 403** Clinical VI – Sonography
- **RADT 404** Clinical VII – Sonography
- **RADT 405** Sonographic Procedures II: Obstetrics and Gynecology
- **RADT 406** Introduction to Sonography and Sonographic Sectional Anatomy
- **RADT 407** Clinical VIII – Sonography
- **RADT 408** Clinical IX – Sonography
- **RADT 483** Clinical X – Sonography
- **RADT 484** Clinical XI – Sonography
- **RADT 485** Clinical XII – Sonography
- **RADT 487** Vascular Sonography

These courses in combination with a professional registry/licensure will meet the American Registry of Diagnostic Medical Sonographers requirements to sit for the national licensure exams in sonographic physics and general sonography (Abdomen and OB/GYN)

The new minor will be part of the BS in Radiologic and Imaging Sciences program. The sonography students can also complete the BS in Health Services. The students who successfully complete both the minor in sonography and a baccalaureate degree will be allowed to immediately sit for the registry administered by the American Registry of Diagnostic Medical Sonographers in the four following sonographic registries: physics, abdomen, obstetrics and vascular. The new minor in sonography will be applied to the student’s final transcript.

Implementation Date: Fall, 2003.