Purdue University
Request for Addition, Expiration, or Revision of an Undergraduate Course
(100-400 Level)

Computer and Electrical Engineering Technology &
Information Systems and Technology

Effective Session: Fall / 2010

Instructions: Please check the items below which describe the purpose of this request.

1. New course with supporting documents
2. Add existing course offered at another campus
3. Expiration of a course
4. Change in course number
5. Change in course title
6. Change in course credit/type
7. Change in course attributes (department head signature only)
8. Change in instructional hours
9. Change in course description
10. Change in course requisites
11. Change in semesters offered (department head signature only)
12. Transfer from one department to another

Proposed:

Subject Abbreviation: IST
Course Number: 450
Long Title: IT Audit and Controls
Short Title: IT Audit and Controls

Existing:

Subject Abbreviation
Course Number

Terms Offered:

Check All That Apply:
- Summer
- Fall
- Spring

Campus(ES) Involved:
- Calumet
- Cont Ed
- Ft. Wayne
- Indianapolis
- N. Central
- Tech Statewide
- W. Lafayette

Credit Type:

1. Fixed Credit Cr. Hrs.:
2. Variable Credit Range:
   Minimum Cr. Hrs:
   Maximum Cr. Hrs:
   Equivalent Credit:
   Thesis Credit:

COURSE ATTRIBUTES:

1. Pass/Not Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
4. Maximum Repeatable Credit
5. Credit by Examination
6. Designator Required
7. Registration Approval Type

Instruction Type:

- Lecture
- Recitation
- Presentation
- Laboratory
- Lab Prep
- Studio
- Distance
- Online
- Experiential
- Research
- Ind. Study
- Pract/Observe

Instructional Type: Minutes Classes Per Week:
- Lecture: 75
- Lab: 16
- Studio: 8
- Distance: 100
- Online: 0
- Experiential: 0
- Research: 0
- Ind. Study: 0
- Pract/Observe: 0

COURSE DESCRIPTION (INCLUDE REQUIREMENTS):

P: IST 350. This course introduces the fundamental concepts and technologies of the information technology audit and control functions. Focusing on understanding information controls, the types of controls and their impact on the organization, and how to manage and audit them. Students will learn the process of creating a control structure with goals and objectives, audit an information technology infrastructure against it, establish a systematic remediation procedure for any inadequacies, and the challenges of dealing with best practices, standards, and regulatory requirements governing information and controls.

Calumet Department Head Date: 10/29/09
Calumet School Dean Date: 10/29/09

Ft. Wayne Department Head Date: 10/29/09
Ft. Wayne School Dean Date: 10/29/09

Indianapolis Department Head Date: 10/29/09
Indianapolis School Dean Date: 10/29/09

North Central Department Head Date: 10/29/09
North Central Chancellor Date: 10/29/09

West Lafayette Department Head Date: 10/29/09
West Lafayette College/School Dean Date: 10/29/09
West Lafayette Registrar Date: 10/29/09
Learning objectives

Students will:

1. Understand the role and objectives of the information technology audit.
2. Learn to develop an appropriate information technology audit process.
3. Learn to identify risks to the confidentiality, integrity, and availability of information and processes.
4. Learn to describe the risks inherent in various types of information systems ranging from manual, basic accounting, to advanced operational information and knowledge for decision making.
5. Understand how to design and implement assurance procedures and control measures to effectively manage risks.
6. Understand best practices, standards, and regulatory requirements governing information and controls.
7. Learn to gain the ability to measure the degree of compliance with them.
8. Understand the role of auditing in systems development, including the review of the development process and participation in systems under development.
9. Understand data forensics.
10. Learn to develop disaster recovery and business continuity plans.

Topics

• The need for information technology audit & controls
• Information technology risks – Business Process and Business Continuity
  o Protection of 1 information assets
  o Business process evaluation and risk management
  o Systems development and maintenance activities
  o Disaster recovery and business continuity
• Auditing ethics, guidelines, and standards of the profession
  o Control Objectives for Information and related Technology (COBIT)
  o ISACA
  o Val IT
• Undertaking an information system audit
  o Internal audit and external audit
• Controls over information and processes
  o Physical and environmental controls
  o Network controls
  o System software controls
  o Database controls
  o Application controls
  o Internet and e-commerce controls
  o Installation and operational controls
  o Change controls
  o Access controls
  o Encryption, authentication and non-repudiation
  o End-user controls
  o Software licensing controls
  o Governance
• Controls Assessment
  o Separation of duties
  o Delegation of authority & responsibility
  o System of authorizations
  o Documentation & records
  o Physical control over assets & records
  o Management supervision
  o Independent checks
  o Recruitment & training

Discussion

• The use of case studies, professional standards, and sample audit software programs are encouraged to exemplify concepts covered.