**PURDUE UNIVERSITY**  
REQUEST FOR ADDITION, EXPIRATION,  
OR REVISION OF AN UNDERGRADUATE COURSE  
(100-400 LEVEL)  

**DEPARTMENT:** 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.  
- New course with supporting documents
- Add existing course offered at another campus
- Expiration of a course
- Change in course number
- Change in course title
- Change in course credit type
- Change in course attributes (department head signature only)
- Change in instructional hours
- Change in course description
- Change in course requisites
- Change in semesters offered (department head signature only)
- Transfer from one department to another

**PROPOSED:**  
**EXISTING:**  
- Subject Abbreviation: IST  
- Subject Abbreviation:  
- Course Number: 370  
- Course Number:  
- Long Title: Systems Analysis and Design  
- Short Title: Systems Analysis and Design  

**TERMS OFFERED:**  
- Summer: ☑  
- Fall: ☑  
- Spring: ☑  

**CAMPUS(ES) INVOLVED:**  
- Calumet  
- Cont Ed  
- Ft Wayne  
- Indianapolis  
- N. Central  
- Tech Statewide  
- W. Lafayette

**CREDIT TYPE:**  
- Fixed Credit or Hrs: 3.0
- Variable Credit Range:  
  - Minimum Cr. Hrs: [Check One]
  - Maximum Cr. Hrs: [Check One]

**COURSE ATTRIBUTES:**  
- Pass/Not Pass Only
- Satisfactory/Unsatisfactory Only
- Repeatable
- Maximum Repeatable Credit
- Credit by Examination
- Designator Required
- Special Fees

**Instruction Type:**  
- Lecture: 75  
- Recitation:  
- Presentation:  
- Laboratory:  
- Lab Prep:  
- Studio:  
- Distance:  
- Clinic:  
- Experiential:  
- Research:  
- Ind. Study:  
- Pract/Observe:  

**% of Credit Allocated (Asyn. Or Syn.):**  
- Delivery Method:  
- Delivery Medium (Audio, Internet, Live, Web-Based, Video):  
- Cross-Listed Courses

**COURSE DESCRIPTION (INCLUDE REQUIREMENTS):**  
P: IST 270. This course discusses the processes, methods, techniques and tools that organizations use to determine how they should conduct their business, with a particular focus on how computer-based technologies can most effectively contribute to the way business is organized. The course covers a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, articulating business requirements for the technology solution, specifying alternative approaches to acquiring the technology capabilities needed to address the business requirements, and specifying the requirements for the information systems solution. The course specifically acknowledges the fact that in many cases technology capabilities are purchased outside the organization either through the use of packaged systems or consulting resources.

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**Signed:***

- [Signature]  
- [Date: 10/29/09]
- [Signature]  
- [Date: 10/29/09]  
- [Signature]  
- [Date: ]

**OFFICE OF THE REGISTRAR**
Learning objectives

Students will:

1. Understand the types of business needs that can be addressed using information technology-based solutions.
2. Learn to initiate, specify, and prioritize information systems projects and to determine various aspects of feasibility of these projects.
3. Learn to use at least one specific methodology for analyzing a business situation (a problem or opportunity), modeling it using a formal technique, and specifying requirements for a system that enables a productive change in a way the business is conducted. Within the context of this methodology, students will learn to write clear and concise business requirements documents and convert them into technical specifications.
4. Learn to communicate effectively with various organizational stakeholders to collect information using a variety of techniques and to convey proposed solution characteristics to them.
5. Learn to manage information systems projects using formal project management methods.
6. Learn to articulate various systems acquisition alternatives, including the use of packaged systems (such as ERP, CRM, SCM, etc.) and outsourced design and development resources.
7. Learn to systematically compare the acquisition alternatives.
8. Learn to incorporate principles leading to high levels of security and user experience from the beginning of the systems development process.
9. Learn to design high-level logical system characteristics (user interface design, design of data and information requirements).

Topics

• Identification of opportunities for IT-enabled organizational change
• Business process management
• Analysis of business requirements
  o Business process modeling
  o Information requirements
• Structuring of IT-based opportunities into projects
• Project specification
• Project prioritization
• Analysis of project feasibility
• Fundamentals of IS project management in the global context
• Using globally distributed communication and collaboration platforms
• Analysis and specification of system requirements
  o Data collection methods
  o Methods for structuring and communicating requirements
  o Factors affecting user experience
  o User interface design
  o System data requirements
  o Factors affecting security
  o Ethical considerations in requirements specification
• Different approaches to implementing information systems to support business requirements
  o Packaged systems; enterprise systems
  o Outsourced development
o In-house development
• Specifying implementation alternatives for a specific system
• Impact of implementation alternatives on system requirements specification
• Methods for comparing systems implementation approaches
• Organizational implementation of a new information system
• Different approaches to systems analysis & design: structured SDLC, unified process/UML, agile methods

Discussion

• The focus of the core course in systems analysis & design is primarily focused clearly on analyzing and documenting business requirements as well as converting these requirements into detailed systems requirements and high-level design specifications (e.g., mock-ups of forms, reports, HCI, and so other user interface components), not on internal design or system implementation design. The course content is written to assume that most organizational systems are built based on various types of packaged systems, system components, or implemented by using outsourced development capabilities (whether on- or off-shore). The course will teach the student methods that allow them to specify requirements precisely and communicate effectively with both business stakeholders and developers, but it will not include material related to the design or implementation of the technical structure of the system.

• The course specification intentionally leaves discussion regarding specific methods and approaches unanswered. Institutions have to make these decisions regarding the capabilities of their faculty and the needs of the companies hiring the students. It is, however, important that the course will provide some exposure to the structured SDLC, object-oriented analysis and design (some Unified Process variant using UML as a grammar) and agile methods.

• Using a course project is highly recommended.

• The course specifically emphasizes the importance of incorporating security issues and user experience from the earliest stages of the process.

• The course includes the first exposure to project management concepts and practice. The importance of this element will depend on the extent to which project management is covered elsewhere in the curriculum.