University of Wisconsin - Madison  
College of Engineering [EGR]  
Last Offered: 2014-2015 Fall [1152]  
Direct Link to this Syllabus:  

1. I SY E 520, Quality Assurance Systems  
2. Credits : 3  
   Contact Hours : 2.5  
3. Textbook and Materials : No textbook, class notes available from IIE Student Chapter

a. Other Supplemental Materials : N/A

- Specific Course Information :

  a. Brief description of the content of the course (Course Catalog Description) :  
     Introduces engineers to applications of total quality concepts and tools to develop,  
     implement, and maintain an effective quality assurance system in a manufacturing or  
     service organization. Emphasis is on documentation development, team-based  
     improvement strategies, and international quality standards.

b. Pre-requisites or Co-requisites : Sr or Grad st, or cons inst

c. This is a Elective course.

- Specific Goals for the Course :

  a. Course Outcomes :

  b. ABET Student Learning Outcomes :

     (a) Ability to apply mathematics, science and engineering principles.
     (b) Ability to design and conduct experiments, analyze and interpret data.
     (c) Ability to design a system, component, or process to meet desired needs.
     (d) Ability to function on multidisciplinary teams.
     (e) Ability to identify, formulate and solve engineering problems.
     (f) Understanding of professional and ethical responsibility.
     (g) Ability to communicate effectively.
(h) The broad education necessary to understand the impact of engineering solutions in a
global and societal context.
(j) Knowledge of contemporary issues.
(k) Ability to use the techniques, skills and modern engineering tools necessary for
engineering practice.

- **Program Specific Student Outcomes**: Provide students with knowledge and skills in the
  following areas; basic elements of a Quality Management System (QMS), international
  standards such as ISO 9000 and ISO 14001, structuring QMS documentation: Quality
  manual, procedures-work instructions-records, QMS Implementation and Maintenance
  Approaches, strategic and competitive issues in QMS, computer-based information
  systems for QMS, role of TQM and statistical methodologies in QMS, quality auditing and
  management reviews, continuous improvement through corrective and preventive action,
  integrated quality and environmental management systems.

- **Brief List of Topics to be Covered**:

  Basic elements of a Quality Assurance (QA) system, Quality standards such as ISO 9001,
  ISO 14001, and others, Structuring Quality Management System (QMS) documentation:
  quality manual, procedures, work instructions, records, QMS System Implementation and
  Maintenance, Strategic and competitive issues in QMS, Computer-based information
  systems for QMS, Role of TQM and statistical methodologies in QMS, Quality auditing
  and management reviews, Continuous improvement through corrective and preventive
  action

- **Additional Information**: N/A