

Southeast Missouri State University

Department of Industrial and Engineering Technology Course No. CY520
Title of Course: Information Security in System Administration Revision _____
New Fall 2012

I. Catalog Description and Credit Hours of Course:

Security constructs in information systems for privilege separation and escalation, Secure software development process, Understanding of authorization models of software systems, Security administration of networking elements, databases, operating systems and cloud based systems. 3 credit hours.

II. Prerequisite (s): CY201 and TN275 or consent of instructor.

III. Purposes or Objectives of the Course:

- A. Create privilege models based on military or commercial requirements.
- B. Understand and apply secure software development principles.
- C. Apply and examine secure software development process in AGILE or Waterfall models.
- D. Identify asset based authorization models for application to different aspects of computing.

IV. Student Learning Outcomes:

- A. Students will be able to create privilege models based on military or commercial requirements
- B. Students will be able to apply secure software development principles
- C. Students will be able to apply and examine secure software development process in AGILE or Waterfall models

V. Expectations of Students:

- A. Students are expected to read assigned materials.
- B. Students are expected to complete all assignments. Assignments will ONLY be accepted on the due dates provided, unless previous arrangements are made or student provides a written medical doctor's excuse.
- C. Students are expected to participate in class and group discussions.
- D. Student work will be completed in accordance with Code of Student Conduct (<http://www6.semo.edu/judaffairs/code.html>).
- E. In a professional environment, work areas are kept clean. In keeping with a professional attitude towards fellow students, always clean your area before leaving.
- F. All laboratory work must be completed during the regularly scheduled lab time.

VI. Course Content or Outline: (4 contact hours per week)

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| A. | 1. | Privilege Levels in Computing Systems | 2 Weeks |
| | 2. | Privilege Models | 2 Weeks |
| | 3. | Secure Software Development Principles | 2 Weeks |
| | 4. | Secure Software Development Process | 2 Weeks |
| | 5. | Authorization Models for Computing Systems | 2 Weeks |
| | 6. | Security Administration of Operating Systems | 2 Weeks |
| | 7. | Security Administration of Networking Systems | 2 Weeks |
| | 8. | Security Administration of Database Systems | 1 Week |
| | 9. | Security Administration of Cloud Systems | 1 Week |

VII. Textbook(s) and/or Other Required Materials or Equipment:

- A. Textbook to be announced.
- B. Supplemental materials will be provided by the instructor.

VIII. Basis for Student Evaluations

- A. Homework 15%
- Labs 10%
- Class Participation* 5%
- Mid-term Exam..... 25%
- Final Exam..... 30%
- Project..... 15%

B. Grading Policy:

- 90-100 A
- 80-89.9999 B
- 70-79.9999 C
- <70 F

- C. The weight of evaluation criteria may vary at the discretion of the instructor and will be indicated at the beginning of each course.
- D. * Participation to class discussions, taking labs, homework, and exams on the assigned time slots. The instructor reserves the right, acting within the policies and procedures of the university, to make changes in course content or instructional techniques without notice or obligation. No late assignments will be accepted. "Emergencies" require that YOU contact the instructor ASAP. Request for a late submission after the due time will not be granted.