George Mason University
Graduate Course Approval/Inventory Form

Please complete this form and attach a copy of the syllabus for new courses. Forward it as an email attachment to the Secretary of the Graduate Council. A printed copy of the form with signatures should be brought to the Graduate Council Meeting. Complete the Coordinator Form on page 2, if changes in this course will affect other units.

Please indicate:  _x_ NEW  ____ MODIFY ____ DELETE

Local Unit:  Graduate Council Approval Date:

Course Abbreviation:  Course Number: INFS 565

Full Course Title: INFS 565 Database and Distributed System Security Principles

Abbreviated Course Title (24 characters max.):

Credit hours:  3  Program of Record: MSISA

Repeatable for Credit?  __ D=Yes, not within same term  Up to hours
__ T=Yes, within the same term Up to hours
__x_ N=Cannot be repeated for credit

Activity Code (please indicate):  _x_ Lecture (LEC)

Catalog Credit Format  3 :3 : 0  Course Level: GF(500-600)

Maximum Enrollment: 20  For NEW courses, first term to be offered: Fall 2005

Prerequisites: consent of instructor

Catalog Description (35 words or less):
An introduction to Information and Distributed System security fundamentals. Topics include notions of security, threats and attacks; Legal-Ethical issues; security evaluation; data models, concepts, and mechanisms for database and distributed system security; inference in statistical databases; basic issues in operating system, application and network security.

For MODIFIED or DELETED courses as appropriate:
Last term offered:  Previous Course Abbreviation:  Previous number:

Description of modification:

APPROVAL SIGNATURES:
Submitted by:  Francesco Parisi-Presicce  email: fparisi@ise.gmu.edu

Department/Program: ____________________________ Date: _______________

College Committee: ____________________________ Date: _______________

Graduate Council Representative: ______________________________ Date: ____________
GEORGE MASON UNIVERSITY
Course Coordination Form

Approval from other units:

Please list those units outside of your own who may be affected by this new, modified, or deleted course. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

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Graduate Council approval: _____________________________ Date: ____________
Graduate Council representative: _____________________________ Date: ____________
Provost Office representative: _____________________________ Date: ____________
PROPOSAL

INFS 565 Database and Distributed System Security Principles

(a) **Course Description:** An introduction to Information and Distributed system security fundamentals. Topics include notions of security, threats and attacks; Legal-Ethical issues; security evaluation; data models, concepts, and mechanisms for database and distributed system security; inference in statistical databases; basic issues in operating system, application and network security.

(b) **Course Objectives:** Students will be exposed to the main issues involved in developing and managing secure information systems. Bird’s eye view of different aspects, from site security to data security, from elementary cryptography to legal and ethical issues.

(c) **Course Prerequisites:** This course assumes some basic working knowledge of databases and of operating systems, comparable to the contents of undergraduate level courses. No security courses are required as prerequisites.

(d) **Course Necessity:** The course is a broad-based introduction to the main concepts of information security. It is intended primarily for students in the Health Care Security and Privacy Certificate and not intended for IT&E students.

(e) **Relationship to Existing Courses:** A more advanced treatment of information security is given in ISA662 Information Systems Security, ISA765 Database and Distributed Systems Security, ISA666 Internet Security Protocols, ISA767 Secure Electronic Commerce.

**COURSE OUTLINE**

1. Basic notions of security, threats, attacks, risks
2. Legal (GLBA, HIPAA, ISO17799) and Ethical Issues
3. Security evaluation (ITSEC, Common Criteria), Compliance and Disaster Recovery
4. Basic cryptographic protocols, keys and certificates (DES, AES, RC*, RSA, MD5, SHA)
5. Identification, authentication, access control (DAC, MAC, RBAC)
6. Operating system security in Windows, UNIX, Linux
7. Database security issues (confidentiality, reliability, integrity, auditing)
8. Statistical databases and inference
9. Distributed databases and on-line transaction processing
10. Firewalls, Intrusion detection, malicious code and antivirus tools
11. WWW security (browsers, scripts, cookies)

**Student Evaluation Criteria**
Evaluation based on Homework assignments, Project or Term Paper, and Midterm and Final exam.

**POSSIBLE TEXTBOOKS**