

**California State University Channel Islands
New Course Proposal**

Program Area: Computer Science

1. Catalog Description of the Course.

IT 424 COMPUTER SYSTEM SECURITY FOR IT (3)

Three hours of lecture per week

Prerequisites: IT 429

Security techniques and practices in operating systems, databases and computer networks. Analysis of formal security models. Introduction to the OSI Security Architecture, cryptography, public key security systems and firewalls.

2. Mode of Instruction.

	<u>Units</u>	<u>Hours per Unit</u>	<u>Benchmark Enrollment</u>
Lecture	3	1	24
Seminar	0	0	0
Laboratory	0	0	0
Activity	0	0	0

3. Justification and Learning Objectives.

Justification: BSIT elective.

Learning Objectives:

Student who successfully complete this course will:

1. Be able to list the layers in the OSI Security Architecture.
2. Be able to explain the Symmetric Cipher Model.
3. Be able to explain the Data Encryption Standard (DES).
4. Be able to explain the Public-Key encryption method.
5. Be able to describe the fundamental concept behind the RSA algorithm.
6. Be able to explain simple Message Authentication methods.
7. Be able to explain basic Mail security methods.
8. Be able to explain the IP security architecture.
9. Be able to explain basic web security techniques.

4. Is this a General Education Course?

No.

5. Course Content in Outline Form.

Topics:

1. Overview of Network Security.
2. The OSI Security Architecture.
3. Classical Encryption Techniques.
4. Block Ciphers.
5. Data Encryption Standards.
6. Finite Fields.
7. Symmetric Ciphers.
8. Public-Key Encryption.
9. Public-Key Cryptography and RSA.
10. Message Authentication.
11. Mail Security.
12. IP Security.
13. Web security.
14. Firewalls.

6. Cross-listed Courses.

None.

7. References.

<u>Title</u>	<u>Author</u>	<u>Publisher</u>	<u>Year</u>	<u>ISBN</u>
1. Secure Electronic Commerce	Warwick Ford, Michael Baum	Prentice Hall	2001	0130272760
2. Hacking for Dummies	Kevin Beaver	Wiley	2004	076455784x
3. Cryptography and Network Security	W. Stallings	Prentice Hall	2003	0130914290
4. Malicious Mobile Code	R. A. Grimes	O'Reilly	2001	156592682X

8. Faculty Qualified to Teach This Course.

Qualified Faculty: Smith, Wolfe

9. Frequency.

Projected semesters to be offered: Fall, Spring

10. New Resources Required.

- a. New Equipment needs: Use of existing computer lab.
- b. New Library needs: none
- c. New Space/Facilities needs: none

11. Program Modifications.

None.

12. Proposer of Course.

Proposer: Smith, Wolfe Date: 7/13/2004