

Computer Science – Information Security Concentration

The Computer Science major at CSUB has added a concentration in Information Security starting in Fall 2013. This concentration is intended for students who wish to pursue a career in information assurance and security, either with government agencies or with industry. The Information Security concentration is a multidisciplinary degree program, incorporating courses from Computer Science, Mathematics, and the Global Intelligence and National Security (GINS) program.

Major Requirements

1. Introductory Courses (16 units)

CMPS 150 – Introduction to Unix (or CMPS 215)
CMPS 221 – Programming Fundamentals
CMPS 222 – Object-Oriented Programming
CMPS 223 – Data Structures and Algorithms

2. Intermediate Courses (30 units)

CMPS 295 – Discrete Structures
CMPS 312 – Algorithm Analysis and Design
CMPS 335 – Software Engineering
CMPS 350 – Programming Languages
CMPS 360 – Operating Systems
CMPS 376 – Computer Networks

3. Advanced Courses – Information Security Focus (21 units)

CMPS 490A and 490B – Senior Project

Choose at least 15 units from the following list (one course must be 400-level):

CMPS 215 AND CMPS 216 – Unix Prog. & System Administration
CMPS 340 – Introduction to Digital Forensics
CMPS 342 – Database Systems
CMPS 445 – Data Mining and Visualization
CMPS 451 – Vulnerability Analysis
MATH/CMPS 475 – Applied Cryptography
CMPS 476 – Adv. Computer Networks and Computer Security
Another 300-/400-level CMPS, ECE or MATH elective may be taken with the consent of a program advisor.

4. Required Cognate Courses (30 units)

PHIL 316 – Professional Ethics (Theme 2)
MATH 201 OR MATH 231 – Calculus I
MATH 202 OR MATH 232 – Calculus II
MATH 203 OR MATH 233 – Calculus III
MATH 330 OR MATH 230 – Linear Algebra
MATH 340 – Probability Theory

5. GINS Cognate Courses (30 units)

PLSI 304 – International Relations (Theme 3)
CRJU 440 – Terrorism

One GINS Intelligence Analytical Tools course selected from the following list:

GEOL 450 – Geographical Information

CRJU 494 – Profiling Violence (Theme 3)

Another GINS Intelligence Analytical Tools course may be used with the consent of a program advisor.

If a Geographical Information Systems (GIS) Tools course is not available,

CMPS 371, CMPS 471, ECE 446, or ECE 447 may be substituted for the GIS course.

At least 15 units of GINS Focus Area courses selected from the following list:

Up to 10 units of GINS strategic language courses.

HIST 325 – History of European Colonialism (Theme 2)

HIST 340 – Latin America

HIST 358 – America's Rise to Globalism

HIST 413 – The Middle East in World History

HIST 426 – China since 1800

PLSI 302 – American Foreign Policy

PLSI 303 – Global Security Issues

PLSI 308 – Government and Politics of China (Theme 3)

PLSI 309 – Government and Politics of Latin America

PLSI 323 – Government and Politics of the Middle East

PLSI 328 – Media, Propaganda, and Public Opinion (Theme 3)

PLSI 376 – Politics of International Terrorism

SOC 450 – Globalization and Social Change (Theme 3)

Other GINS Focus Area courses may be used with the consent of a program advisor.

6. General Education Notes for 2013/15 Catalog

Computer Science majors have extensive general education modifications in the 2013/15 catalog. Refer to the catalog or a department advisor for more details about the modifications.

Go to the CEE/CS Department
webpage for more information:
<http://www.cs.csub.edu>