LSC Use Only
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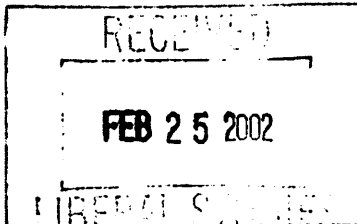
UWUCC USE Only
Number: _01-57b_
Submission Date:
Action-Date: _UWUCC 4/16/02_
Senate 5/7/02

CURRICULUM PROPOSAL COVER SHEET
University-Wide Undergraduate Curriculum Committee

I. **CONTACT**

Contact Person ___Dr. William Oblitey___ Phone ___7-4491___

Department ___Computer Science___

II. **PROPOSAL TYPE (Check All Appropriate Lines)**

_____ **COURSE** _____
Suggested 20 character title

____ New Course* _____
Course Number and Full Title

____ Course Revision _____
Course Number and Full Title

____ Liberal Studies Approval+ _____
for new or existing course   Course Number and Full Title

____ Course Deletion _____
Course Number and Full Title

____ Number and/or Title Change _____
Old Number and/or Full Old Title

_____
New Number and/or Full New Title

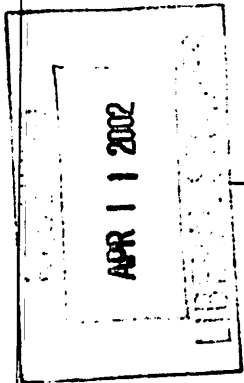____ Course or Catalog Description Change _____
Course Number and Full Title

_____ **PROGRAM:** _____ Major ___X___ Minor _____ Track

_X_ New Program* **Minor in Information Assurance**
Program Name

____ Program Revision* _____
Program Name

____ Program Deletion* _____
Program Name

____ Title Change _____
Old Program Name

_____
New Program Name

III. **Approvals** (signatures and date)

_____ _____
Department Curriculum Committee   Department Chair

_____ _2/19/02_ _____
College Curriculum Committee   College Dean

_____ _____ _2/25/02_
Director of Liberal Studies (where applicable)   Provost (where applicable)

Part II. Description of Curriculum Change

1.   Complete catalog description for a new minor.

The Computer Science and the Criminology departments jointly offer the interdisciplinary minor in Information Assurance. It consists of 18 semester hours. Computer science majors need to take four criminology and two computer science courses. Criminology majors need to take four computer science and two criminology courses. For all others nine semester hours must be taken from the Criminology department (CRIM 101 or 102, CRIM 321, and CRIM 323) and the other nine 9 from the Computer Science department (COSC 110, COSC 316, and COSC/IFMG 352). Equivalent courses may be substituted with permission of the chair of the respective departments.

2.   Detailed description for the minor including rationale/justification, credit requirements, sequencing and restrictions.

Rationale/Justification: The Internet and electronic commerce are critical for the prosperity of the world economy, but there are many who seek to exploit its vulnerabilities. Unfortunately, current computer professionals are not well trained in information security and assurance. People who use computing and computer operations for criminal activities must be prosecuted. However, specific laws are inadequate and there are not enough people trained in cybersecurity to help formulate the needed laws and to enforce them. By putting this interdisciplinary minor in place, IUP will take the initiative and help meet the deficiencies in combating cyberterrorism and the related cybercriminal behaviors. Additionally, the Computer Science and Criminology departments have received a NSF grant of $250,000 to develop the curriculum and the required computing facilities.

Credit Requirements: A student who registers for the interdisciplinary minor in Information Assurance must earn 18 semester hours: 9 from the Criminology department (CRIM 101 or 102, CRIM 321, CRIM 323) and the other 9 from the Computer Science department (COSC 110, COSC 316, COSC/IFMG 352). It is strongly recommended that students take a course in Ethics as the Philosophy and Religious Studies requirement. Computer Science majors who elect this minor cannot count COSC 110 toward the minor. Instead, they must take the prescribed Criminology courses and one additional course from the following list: CRIM 300, CRIM 355, CRIM 400, CRIM 401 CRIM 481 or CRIM 482. Criminology students who opt for this minor cannot count CRIM 101 or 102 toward the minor. Instead, they must take one additional computer science course from the list: COSC 341, COSC 356, COSC 362, COSC 427, or COSC 482.

Students in the Computer Science/Information Assurance track cannot this minor because of the overlap in the courses.

Part III. Course Proposals

CYBERSECURITY MINOR: Total 18 credits		
Required of CS majors (18sh)	**Required of Criminology majors (18sh)**	**All other majors (18sh)**
CRIM- 4 courses COSC- 2 courses	CRIM- 2 courses COSC- 4 courses ·	CRIM- 3 courses COSC- 3 courses
CRIM 101 Crime and Justice Systems 3sh, or CRIM 102 Survey of Criminology (Existing Course) 3sh		CRIM 101 Crime and Justice Systems or CRIM 102 Survey of Criminology (Existing Course)
	COSC 110 Problem Solving and Structured Programming (Existing Course) 3sh	COSC 110 Problem Solving and Structur Programming (Existing Course)
COSC 316 Cybersecurity Basics (New Course) 3sh	COSC 316 Cybersecurity Basics (New Course) 3sh	COSC 316 Cybersecurity Basics (New Course)
COSC 352 LAN Design and Installation (Existing Course) 3sh	COSC 352 LAN Design and Installation (Existing Course) 3sh	COSC 352 LAN Design and Installation (Existing Course)
CRIM 321 Cybersecurity and Loss Prevention (New Course) 3sh	CRIM 321 Cybersecurity and Loss Prevention (New Course) 3sh	CRIM 321 Cybersecurity and Loss Prevention (New Course)
CRIM 323 Cybersecurity and the Law (New Course) 3sh	CRIM 323 Cybersecurity and the Law (New Course) 3sh	CRIM 323 Cybersecurity and the Law (New Course)
plus one additional course from the following list:	plus one additional course from the following list:	
CRIM 300 Theory of Complex Criminal Justice Organizations. (prereq. CRIM 102) 3sh CRIM 355 Crime in the Workplace 3sh CRIM 400 Theoretical Criminology 3sh CRIM 401 Contemporary Issues 3sh CRIM 481 Special Topics as appropriate (prereq. Dept. consent). 3sh CRIM 482 Independent study 3sh	COSC 341 Data Base Management (prereq. COSC 310) 3sh COSC 356 Network Security (prereq. COSC 352) 3sh COSC 362 Unix Systems (prereq. COSC 310) 3sh COSC 427 Cryptography (prereq. COSC 310, MATH 122 or 123) 3sh IFMG382 Auditing for EDP Systems (prereq. ACCT 201) 3sh COSC 432 Introduction to Operating Systems (prereq. COSC 310) 3sh COSC 482 Independent study 3sh Note: COSC 210 is new prerequisite for COSC 310 course.	

Students in Computer Science major may not count COSC 110 in the minor. Student will be required to take an additional course in Criminology.

Criminology majors must take at least 18sh selected as follows:

a) COSC 110 Problem Solving and Structured Programming
b) COSC 316 Cybersecurity Basics
c) COSC 352 LAN Design and Installation
d) CRIM 321 Cybersecurity and Loss Prevention
e) CRIM 323 Cybersecurity and the Law

The remaining 3sh must be chosen from the following:

a) COSC 341 Data Base Management (prereq. COSC 310)
b) COSC 356 Network Security (prereq. COSC 352)
c) COSC 362 Unix Systems (prereq. COSC 352)
d) COSC 427 Cryptography (prereq. COSC 310, MATH 122 or 123)
e) IFMG 382 Auditing for EDP Systems (prereq. ACCT 201)
f) COSC 432 Introduction to Operating Systems (prereq. COSC 310)
g) COSC 482 Independent Study

If a student is Criminology major, student may not count CRIM 101 or 102 but must take an additional Computer Science course.

Part IV. Implementation

1. How will the proposed new minor affect faculty teaching loads? Have additional faculty been authorized? If you are adding requirements, how will adequate seats be provided?

    a. Faculty teaching loads: The program may need to hire additional faculty both in Computer Science and Criminology departments to help meet the demands imposed by this interdisciplinary minor.

    b. Authorization: We have a letter supporting the hiring of additional faculty if the need arises (see attachment).

    c. Provision of seats: The required facilities for supporting this program have been set up in Stright. Computers were purchased using funds from the NSF Cybersecurity grant.

2. Are other resources adequate? (Space, equipment, supplies, travel funds)

    a. Space: The needed space for facilities has been set up on the first floor of Stright hall.

    b. Equipment: None

    c. Supplies: None

    d. Travel Funds: No travel funds are needed for faculty training in the near future. The NSF funded Cybersecurity Workshop provided training for the current faculty. The grant includes another training workshop scheduled for the summer of 2002.

3. Do you expect an increase or decrease in the number of students as a result of these revisions? If so, how will the department adjust?

    a. Student Population: Both departments (Computer Science and Criminology) in the Cybersecurity minor expect increases in the number of students as a result of instituting this minor. Both departments are willing to offer more sections of the courses involved when the expected increases occur. A letter of support for additional faculty as needed is attached (see attachment)

Part V. Letters of Support

1. Dean Eck, supporting need for additional complement.
2. Louise Burkey, MIS Department Chair, supporting this new program and the cross listing of IFMG 382

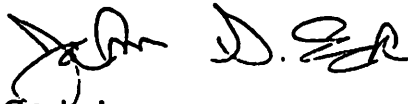# College of Natural Sciences and Mathematics

305 Weyandt Hall

October 21, 2001

TO: Mary Micco

FROM: John S. Eck

RE: Cyber security Curriculum

In the meeting with President Pettit and Provost Staszkiewicz on October 19, they agreed that as the needs developed for new complement to meet student demand for the cyber security major or minor, these needs would be met.

Cc: Dr. Mark Staszkiewicz, Provost

Indiana University of Pennsylvania

Department of Special Education and Clinical Services
Davis Hall, Room 203
570 South Eleventh Street
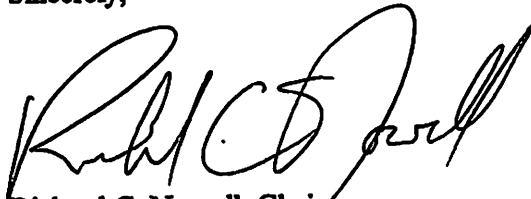Indiana, Pennsylvania 15705-1087

724-357-2450
Fax: 724-357-7716
Internet: *http://www.iup.edu*

November 13, 2001

To Whom It May Concern:

As Chairperson of the University Senate of the Indiana University of Pennsylvania, I am often consulted on curriculum matters, as an ex officio member of our curriculum committees. In the role, I am aware of the efforts of the Criminology and Computer Science departments in preparing a program in the area of CyberSecurity. I believe that our departments are uniquely qualified to offer such a program, and I strongly support the concept. As they proceed through the curriculum approval process, I am sure there will be appropriate input from all levels to optimize the quality of such a program.

Sincerely,

Richard C. Nowell, Chair
IUP University Senate

MEMORANDUM

TO: Gary Buterbaugh

FROM: Rich Nowell

RE: CyberSecurity Program

DATE: 11/13/01

Gary:

I don't have any power as Chair of the Senate to make any recommendations on curriculum approval, but I am attaching a letter of support, for what it's worth. I am sure the committee will give it a quick review to provide the necessary signature from them. Let me know if there is anything else I can do. I will be out of the country the rest of the week, but I'll be available after the holiday, and by e-mail in the interim, I hope.

Indiana University of Pennsylvania

Date: December 10, 2001

To: Dr. William Oblitey
    Computer Science Department

From: Dr. Louise Burky
      MIS & Decision Sciences Department

RE: MIS Minor

Dear Bill,

Please consider this a letter of approval for your Cybersecurity/Information Assurance minor which would be available to our majors. At the present time, I can only commit to one course in that area, namely IFMG 382 Auditing for EDP Systems. I could offer it once every two or three semesters. If we are able to hire more faculty, and that is a big if, other possibilities may come into being.

Along with this, is my implied approval for your entire endeavor along the lines of cybersecurity.

Sincerely,

Louise Burky, Chair
MIS and Decision Sciences Department

cc: Mary Micco

Statement Of Support For
Joint Minor In Cyber Security
Cyber Track in the BS Degree in Computer Science
APSCUF

IUP-APSCUF believes that should this proposal clear the curriculum committee as written, IUP-APSCUF would allow the proposal to be forwarded to the IUP Council of Trustees.

Approved: _____
Signature

Patricia I. Heilman
Printed Name

President, IUP-APSCUF
Title

12-10-01
Date

Indiana University of Pennsylvania

College of Humanities and Social Sciences
McElhaney Hall, Room 201
441 North Walk
Indiana, Pennsylvania 15705-1079

724-357-2280
Fax: 724-357-4842
Internet: *http://www.iup.edu*

December 7, 2001

To Whom It May Concern:

The interdisciplinary Cyber Security Minor received provisional approval by the College of Humanities and Social Sciences Curriculum Committee on November 14, 2001. Two new courses that will be required for the minor were approved unanimously also.

Given the discussion at the College Curriculum Committee, I am confident that the Committee will also approve the Cyber Security Track proposal in the Computer Science B.S. Degree Program.

I applaud the development of this interdisciplinary program and look forward to its implementation.

Sincerely,

Brenda L. Carter, Dean
College of Humanities and Social Sciences