PROGRAM ASSESSMENT PLANNING FORM

Program to be assessed:

Title: Foundations in Computer Security
Division: BCT   Department: CISD   Code: ~~CTIA~~ CTFCS

Type of Award: ☐ A.A.   ☐ A.S   ☐ A.A.S.
                    ☒ Cert.   ☐ Adv. Cert.   ☐ Post-Assoc. Cert.   ☐ Cert. of Completion

Assessment plan:

Learning outcomes to be assessed	Assessment tool	When assessment will take place	Describe population to be assessed	Number of students to be assessed
Identify current techniques for securing operating systems and networks.	Department created final exam - short answer/multiple choice questions.	First assessment Winter of 2009. Every three years thereafter.	Min. of two sections of CSS 200 over the three year period.	All students in selected sections.
Test systems and identify basic vulnerabilities.	Sample of laboratory reports.	First assessment Winter of 2009. Every three years thereafter.	Min. of two sections of CSS 200 over the three year period.	All students in selected sections.
Identify legal, privacy and ethical issues regarding computer usage	Department created final exam - short answer/multiple choice questions	First assessment Winter of 2009. Every three years thereafter.	Min. of two sections of CSS 200 over the three year period.	All students in selected sections.
Set up basic intrusion detection systems	Sample of laboratory reports.	First assessment Winter of 2009. Every three years thereafter.	Min. of two sections of CSS 200 over the three year period.	All students in selected sections.

Scoring and analysis of assessment:

1) Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric/scoring guide.
Outcomes 1 and 3: Scored using an answer sheet. Perform item analysis on assessment questions.
Outcomes 2 and 4: Laboratory reports will be scored using a departmentally developed rubric.

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2) Indicate the standard of success to be used for this assessment:
At least 80% of students must score 75% on the written exam
At least 80% of students shall have a score of 3 (of 4) in laboratory reports and portfolios

3) Indicate who will score and analyze the data (data must be blind-scored). Assessment materials will be analyzed by the CIS Department.

4) Explain the process for using assessment data to improve the program.
If the standard of success is not achieved, then the course will be evaluated

PROGRAM ASSESSMENT PLANNING FORM

Submitted by:

Name:_____*See Program Change Form*_____Date:_____
     Print/Signature

Dept. Chair:_____Date:_____
     Print/Signature

Dean:_____Date:_____
     Print/Signature

Please return completed form to the Office of Curriculum & Assessment, SC 247.

logged 12/1/08 sj√
Office of Curriculum & Assessment
Approved by the Assessment Committee 10/10/06
    2
Program Assessment Planning Form.doc

PROGRAM APPROVAL DOCUMENT (PAD)

Program Name: Computer Systems Security I Advanced Certificate _____   Program Code:

Division:_BCT_____   Department:_CISD_____   CIP Code:

Type of Award: ☐A.A.   ☐A.S.   ☐A.A.S.   ☐ Certificate   ☐ Certificate   ☒ Advanced   ☐ Post/Cert
                                                                of Completion   Certificate

Is this an occupational program eligible for Perkins Funding? ☒yes   ☐no   Effective Year:_____

Program Features
Provide a general description of the program's purpose and general goals. State the criteria for entry into the program, along with projected enrollment figures. Explain any connection to other WCC programs, as well as accrediting agencies or professional organizations. Note any special features of the program, such as jobs for which the student will be prepared, as well as potential career paths.

Washtenaw Community College is member of a consortium of seven colleges that have applied for a NSF grant for the development of a standardized computer security curriculum and for the development of regional and local security centers.

The Computer Systems Security I Advanced Certificate is part of a series of two certificates and a degree program under the grant.

WCC has run two sections of CSS 200 Essentials of Computer Security during the Winter 2003 term. This course will be the first course of this certificate. Using CSS 200 as a baseline for enrollments, it is expected that initially two sections of each class included in this certificate will run each semester for a total of 48 students. Due to the high demand for trained computer security professionals, it is anticipated that enrollments may gradually increase from the baseline to a maximum of no more than 72 per semester.

While specific salaries cannot be guaranteed, salaries for trained computer security professionals are expected to be relatively high, with new workers making in the range of from $40,000 to $60,000/year and experienced computer security professionals making from $60,000 and up.

Need
State the need for the program and provide evidence to support the stated need.

With Homeland Security being a high national priority, the certificate is of timely and vital interest to the IT and business communities. It is estimated that $12.3 billion was spent to clean up damage from computer viruses in 2001 alone. Additionally, in a recent survey of the Computer Security Institute, it was determined that 85% of the companies surveyed detected security breaches and 64% suffered financial losses because of such breaches.

According to PostNewsweek Tech Media, 2001, a serious deficit in the number of skilled computer security workers exists and will continue to exist into the future. The proposed certificate and the goals and objectives of the grant are designed to address the critical shortage of qualified computer security professionals. (See Regional IT Security and Data Assurance Center grant proposal attached).

Computer Systems Security I Advanced Certificate

This program surveys issues in IT security awareness and data confidentiality. It also provides students with the basics of network security planning, network security technology, network security organization and the legal and ethical issues associated with network security. Students will also get hands-on training in the methodologies, techniques, and tools for preventing network attacks

Program Admission Requirements:

-ELE 225A or equivalent knowledge
-CIS 121 Linux/Unix Fundamentals with a minimum grade of C or equivalent knowledge
-CNT 201 with a minimum grade of C or equivalent knowledge.

Major/Area Requirements:	Credits
CSS 200 Essentials of Computer Security	4
CIS 286 Unix System Administration	3
CNT 211 Administering Microsoft Windows 2000 Server	4
CSS 205 IT and Data Assurance	4
Total program credits	15

Outcomes
State the overall knowledge to be gained, skills to be learned, and attitudes to be developed by students who participate in this program.

Students will survey issues in IT security awareness and data confidentiality in the program. They also will be provided with the basics of network security planning, network security technology, network security organization, and the legal and ethical issues associated with network security. Students will also get hands-on training in the methodologies, techniques and tools for preventing network attacks.

Curriculum
List the sequence of courses in the program by semester, including credit hours, co- and pre-requisites.

Course ID   Title   Credit   Contact Hours   Pre-requisites/Co-requisites

CSS 200 Essentials of Computer Security   4 cr   4 contact hours   Pre-requisites: ELE 225A, CIS 121, CNT 201
CIS 286 Unix System Administration   3 cr   3 contact hours   Pre-requisites: CIS 121
CNT 211 Administering Microsoft Windows 2000 Server   4 cr   4 contact hours   Pre-requisites: CNT 201
CSS 205 IT and Data Assurance   4 cr   4 contact hours   Pre-requisites: CSS 200

Credits required to complete the program: 15

Assessment
Describe the assessment process that will be used to determine the effectiveness of the program.

Standard exams will be developed for courses across all sections of classes. Exams for CSS 200 and CSS 205 will be standard across all sections of these classes taught by schools in the grant consortium.
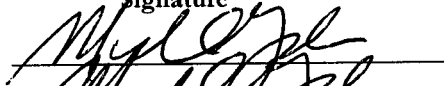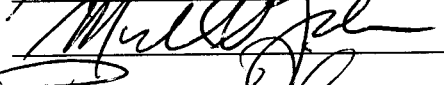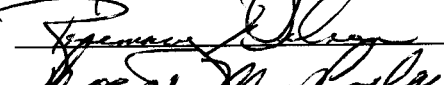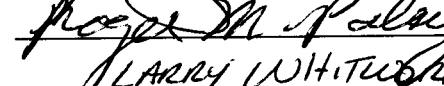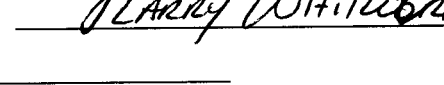
Budget
Specify program costs in the following areas, per academic year, including any start-up costs: faculty, training, travel, materials, resources, facilities, equipment, and any other costs.

All start up and program costs are to be provided for by grant funding.

Approximate costs will include: Acquisition of Cisco routers for on campus labs (startup) $30,000
Faculty travel to Chicago, Il., Madison, WI., and Grove Heights, MN for 3 training and meeting sessions annually for 3 faculty:

Lodging	$ 2700.
Plane	$ 4050

Approval Recommended:	Print Name	Signature	Date
Program Initiator:	MICHAEL GANZA		4/8/03
Dept. Chair/Director:	MICHAEL GANZA		4/8/03
Dean/Administrator:	Rosemary Wilson		4/8/03
VP of Instruction:			4/8/03
President:	Larry Whitworth	LARRY WHITWORTH	4/8/03
Date of Board Approval:			

Needs Assessment
This page to be completed only by those programs seeking Perkins funding. The need study is required to obtain state approval for occupational programs program.

Staff or firm that conducted the need study   ICARD/EMU

Term during which the study was conducted: July 1998

Geographic area to be served by the program: Cities: __Ann Arbor, Ypsilanti__
Counties: __Washtenaw__

Number of employers surveyed: 53

Number of skilled persons, in the geographical area, currently employed and/or receiving on-the-job training in the occupation for which the program could provide training.

	Full-Time Employees	Part-Time Employees
Currently employed	1923	Not Available
Receiving On-the-Job Training	Appr 550	Not Available

List employment opportunities in the local market area and the State of Michigan: projected number of full-time and part-time positions within one year and in five years.

	Local Area				Michigan			
	One Year		Five Years		One Year		Five Years	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
For Certificate Holders	50% Growth	50% Growth	Not Available	Not Available	50% Growth	50% Growth	Not Available	Not Available
For Degree Holders	50% Growth	50% Growth	Not Available	Not Available	50% Growth	50% Growth	Not Available	Not Available
Limited Course Work	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Expected starting hourly wage rate (excluding benefits) in the geographical area to be served for:

Certificate holders $ 20 (Approx)   Associate Degree holders $30/hr (Approx)

Check only one: Within this geographical region:
☒ Job opportunities are projected to be available for no less than 75% of the projected program enrollees in a year.

☐ At least 90% of the projected program enrollees will be employed persons from the proposed program area who desire upgrading within this occupation.

A student interest survey indicated that_____ individuals are interested in pursuing this program area:

      Total number surveyed _____

      Number interested in an associate degree _____

      Number interested in a certificate _____

      Number interested in limited coursework _____

List the educational opportunities available for students interested in this program that are within the geographic area currently served by the college.

Institution	Program	Location
None		

Advisory Committee
List the names, titles, and organizational affiliations of members of the advisory committee that has been selected to advise the college on the development and implementation of this occupational program. Include the committee's program recommendations.

Ron Murphree – Network Engineer, Compernica Network/Network Two

David Bigalke – Web Security Coordinator, Ford Motor Company

Frank Carlismo – Network Engineer, University of Michigan

Kurt Hilliger – Network Engineer, University of Michigan

Terry Weedock – Computer Security Consultant

Douglas Cox – Data Assurance and Security Officer. University of Michigan Hospital.

The committee recommends adoption of a computer security curriculum. See minutes of advisory committees, attached.

Proposed name of program: <u>Computer Systems Security I Advanced Certificate</u>

Faculty/initiator(s): <u>Michael Galea</u>

Division: <u>BCTD</u>   **Department:** <u>CISD</u>   **Estimated start-up term:** <u>Fall 2003</u>

Type of program: ☐ A.A. ☐ A.S. ☐ A.A.S. ☐ Certificate of Completion ☐ Certificate ☒ Advanced Certificate ☐ Post Associate Certificate

Describe the program briefly, including the need for the program and the benefits it will offer to students.

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According to PostNewsweek Tech Media, 2001, a serious deficit in the number of skilled computer security workers exists and will continue to exist into the future.The proposed certificate and the goals and objectives of the grant are designed to address the critical shortage of qualified computer security professionals.

Identify the resources (faculty, facilities, equipment) that will be needed to start and to maintain the program.

It is expected that the grant will be approved and that the grant will provide funding for creation of a standard computer security lab at WCC. Lab equipment will consist of various Cisco routers configured into an isolated network at WCC. Additionally, the grant will provide funding for a special computer security lab at a regional security center Moraine Valley Community College in Palos Hills, Illinois to be used to conduct remote "virtual" computer security training sessions.

Lab assignments and instructional materials are to be developed primarily by Inver Hills Community College in Grove Heights, Minnesota.

List the courses that the progam will require.

Existing   Need modification   New

CSS 200 Essentials of Computer Security – Exists. Needs minor changes to instructional objectives to align course with curriculum under grant proposal.

CIS 286 Unix System Administration – Exists. No modifications needed.

CNT 211 Administering Microsoft Windows 2000 Server – Exits. No modifications needed.

CSS 205 IT and Data Assurance – New course.

Signatures:

Department Chair/Director: _____ Date: ____4-8-03____

Dean(s)/Administrator: _____ Date: ____4-8-03____

~~Executive~~ Vice President of Instruction:

    ☒ Approved for development of PAD (Program Approval Document)

    ☐ Returned for additional review/development of PPAF (details attached)

    ☐ Not approved

    Signature: _____ Date: ___4/8/03___

Computer Systems Security I Advanced Certificate

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