



COURSE OUTLINE

Outline Status: New Course (ECD 9951); 2009-2010

Section I: BASIC COURSE INFORMATION

1. **COLLEGE: L.A. SOUTHWEST COLLEGE**
2. **SUBJECT: COMPUTER SCIENCE-INFORMATION TECHNOLOGY**
3. **COURSE NUMBER: 641**
4. **COURSE TITLE: COMPUTER FORENSICS I**
5. **UNITS: 3**
6. **CATALOG COURSE DESCRIPTION:**

This course covers computer forensics fundamentals, providing an overview of computer forensic types, techniques, their electronic evidence and capture. Students learn a systematic approach to conducting a computer forensics investigation, both a law enforcement and a corporate investigation. They also investigate the requirements of a computer forensics lab including data recovery workstations, hardware and software and what is required to certify a computer forensics lab. They will learn how to collect evidence at private-sector incident scenes as well as at a crime scene using state-of-art data acquisition tools. The course also covers the purpose and structure of file systems such as New Technology File System (NTFS) as well as methods for validating and testing computer forensics tools.

7. **CLASS SCHEDULE COURSE DESCRIPTION:**

Computer Forensics is the science of identifying, recovering, extracting, preserving, and documenting ESI (Electronically Stored Information). This course covers computer forensics fundamentals, providing an overview of computer forensic types, techniques, their electronic evidence and capture.

8. **INITIAL COLLEGE APPROVAL DATE: Curriculum Committee, 2/23/10; Academic Senate, 3/9/10**

9. **LAST UPDATE DATE: 2/23/10**

10. **CLASS HOURS:**

	Standard Hrs Per Week (based On 18 weeks)	Total Hs per Term (hrs per week x 18)	Units
Lecture:	2	36	2
Lab/Activity (w / homework):	2	36	1
Lab/Activity (w /o homework):	0	0	0
Totals:	Lecture: 2	Lecture: 36	Lecture: 2
	Lab: 2	Lab: 36	Lab: 1
	Total: 4	Total: 72	Total: 3
Totals In Protocol:	Lecture: 0	Lecture: 0	
	Lab: 0	Lab: 0	
	Total: 0	Total: 0	Total: 0

11. PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, and LIMITATION ON ENROLLMENT:

Note: The LACCD's *Policy on Prerequisites, Corequisites and Advisories* requires that the curriculum committee take a separate action verifying that a course's prerequisite, corequisite or advisory is an 'appropriate and rational measure of a student's readiness to enter the course or program' and that the prerequisite, corequisite or advisory meets the level of scrutiny delineated in the policy.

PREREQUISITES: Yes

	Subject	Number	Course Title	Units	Validation Approval Date
	COMPUTER SCIENCE- INFORMATION TECHNOLOGY	630	MICROCOMPUTER APPLICATION SOFTWARE	3	2/23/10

COREQUISITES: No

	Subject	Number	Course Title	Units	Validation Approval Date
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ADVISORIES: No

	Subject	Number	Course Title	Units	Validation Approval Date
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12. OTHER LIMITATIONS ON ENROLLMENT: (See Title 5, Section 58106 and Board Rule 8603 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

This course shall be open to enrollment in accordance with a priority system established by the Chancellor and consistent with Title 5, Sections 58106 and 58108. Additionally, enrollment may be limited to students meeting prerequisites established pursuant to Title 5, sections 55200-55202 and Board Rule 8605. Further, enrollment may be limited due to health and safety considerations, facility limitations, faculty workload, the availability of qualified instructors, funding limitations.

Section II: COURSE CONTENT AND OBJECTIVES

1. COURSE CONTENT AND OBJECTIVES:

COURSE CONTENT AND SCOPE - Lecture: Outline the topics included in the lecture portion of the course (<i>Outline reflects course description, all topics covered in class</i>).	Hours per topic	COURSE OBJECTIVES - Lecture: Upon successful completion of this course, the student will be able to..(Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.')
1.0 Introduction to the course, class format and syllabus; department lab procedures and policies 1.1 LASC Computer Use Policy 1.2 CSIT Computer Use Policy and Netiquette 1.3 CSIT Computer Resource Survey	2.0	
2.0 Computer Forensics and Investigations as a Profession 2.1 Understanding Computer Forensics 2.2 Preparing for Computer Investigations 2.3 Maintaining Professional Conduct	4.0	1. Describe how to prepare for computer investigations and explain the differences between law enforcement agency investigation and corporate investigations.
3.0 Understanding Computer Investigations 3.1 Data Recovery Workstations and Software 3.2 Conducting an Investigation - Case Study	5.0	2. Explain requirements for data recovery workstations and software 3. Apply a systematic approach to an investigation.
4.0 The Investigator's Office and Laboratory 4.1 Forensics Lab Certification Requirements 4.2 Physical Requirements for a Forensics Lab 4.3 Basic Forensics Workstation Requirements	3.0	4. Describe certification requirements for computer forensics labs.
5.0 Data Acquisition 5.1 Storage Formats for Digital Evidence 5.2 Data Acquisition Methods 5.3 Validating Data Acquisition 5.4 Remote Network Acquisition Tools	4.0	5. Explain how to use data acquisition tools.
6.0 Processing Crime and Incident Scenes 6.1 Identifying Digital Evidence 6.2 Seizing Digital Evidence at the Scene 6.3 Storing Digital Evidence	4.0	6. Describe how to collect evidence at private-sector incident scenes. 7. Describe how to collect evidence at a computer incident or crime scene.
7.0 Working with Operating Systems 7.1 Understanding File Systems 7.2 Exploring Microsoft File Structure 7.3 Exploring Linux File Structure 7.4 Exploring Macintosh File Structure 7.5 Understanding Whole Disk Encryption 7.6 Understanding the Windows Registry	6.0	8. Explain the purpose and structure of a file system. 9. Describe the structure of New Technology File System (NTFS) disks. 10. List some options for decrypting drives encrypted with whole disk encryption.
8.0 Computer Forensics Tools 8.1 Evaluating Computer Forensics Tool Needs 8.2 Computer Forensics Software Tool 8.3 Computer Forensics Hardware Tools 8.4 Validating and Testing Forensic Software	4.0	11. Describe available computer forensics software tools. 12. List some considerations for computer forensics hardware tools. 13. Describe methods for validating and testing computer forensics tools.
9.0 Computer Forensics Analysis and Validation 9.1 Determine What Data to Collect and Analyze 9.2 Validating Forensic Data 9.3 Addressing Data-Hiding Techniques	4.0	14. Determine what data to analyze in a computer forensics investigation. 15. Explain common data-hiding techniques.

9.4 Performing Remote Acquisition		16. Describe methods of performing a remote acquisition.
	Total: 36	
	Total Hrs In Protocol: 36	

1. (cont'd) LAB:

COURSE CONTENT AND SCOPE - Lab: Outline the topics included in the laboratory portion of the course (<i>Outline reflects course description, all topics covered in class</i>).	Hours per topic	COURSE OBJECTIVES - Lab: Upon successful completion of this course, the student will be able to..(Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.')
1.0 Computer Forensics and Investigations as a Profession 1.1 Understanding Computer Forensics 1.2 Preparing for Computer Investigations 1.3 Maintaining Professional Conduct	3.0	1. Using a Web search engine, search for companies specializing in computer forensics; write a 2 to 3-page report comparing what each company does.
2.0 Understanding Computer Investigations 2.1 Data Recovery Workstations and Software 2.2 Conducting an Investigation - Case Study	6.0	2. Analyze a USB drive seized at a crime scene associated with a case involving a suspicious death.
3.0 The Investigator's Office and Laboratory 3.1 Forensics Lab Certification Requirements 3.2 Physical Requirements for a Forensics Lab 3.3 Basic Forensics Workstation Requirements	3.0	3. Perform a digital investigation and forensics analysis for a company that has no policies, processes, or procedures currently in place.
4.0 Data Acquisition 4.1 Storage Formats for Digital Evidence 4.2 Data Acquisition Methods 4.3 Validating Data Acquisition 4.4 Remote Network Acquisition Tools	3.0	4. Assess the items required to restore an image file to a hard drive or a USB drive.
5.0 Processing Crime and Incident Scenes 5.1 Identifying Digital Evidence 5.2 Seizing Digital Evidence at the Scene 5.3 Storing Digital Evidence	3.0	5. Explain, in a 2-page report, how the Patriot Act originally affected ISPs and information they must provide and what changes have taken place since then.
6.0 Working with Operating Systems 6.1 Understanding File Systems 6.2 Exploring Microsoft File Structure 6.3 Exploring Linux File Structure 6.4 Exploring Macintosh File Structure 6.5 Understanding Whole Disk Encryption 6.6 Understanding the Windows Registry	6.0	6. Compare two files created in Microsoft Office to determine whether the files are different at the hexadecimal level.
7.0 Computer Forensics Tools 7.1 Evaluating Computer Forensics Tool Needs 7.2 Computer Forensics Software Tool 7.3 Computer Forensics Hardware Tools 7.4 Validating and Testing Forensic Software	8.0	7. Create and delete files on a USB drive or a small partition on a hard drive and then use AccessData FTK to analyze the drive.
8.0 Computer Forensics Analysis and Validation 8.1 Determine What Data to Collect and Analyze 8.2 Validating Forensic Data 8.3 Addressing Data-Hiding Techniques 8.4 Performing Remote Acquisition	4.0	8. Perform an OS X file system analysis to become familiar with the functions and tools available in BlackBag Technologies Macintosh Forensic Software.
	Total: 36	
	Total Hrs In Protocol: 36	

1. (cont'd) SLO:

The student will. (outcome)	As measured by the following method. (assessment strategy)	And, if applicable, scored by the following learning rubric. (provide attachment)	Results are examined to determine if the outcome is achieved. Include planned or actual assessment date. (results & evaluation)	Recommendations to improve teaching and learning. (modifications)
<p>1. Establish a procedure for a corporation on how to verify a new forensics software package.</p> <p>SLO REVIEW: 11/14/09, GY</p>	<p>Write a one to two page report outlining the procedure you plan to use in their forensics lab. The student's report will be read, evaluated and scored using a rubric by each instructor teaching in the subject area.</p> <p>Rubric: 1 - Exceptional (Good); more than just meets minimum requirements. In addition to min requirements, the report also list two or more of the following: a) Evidence room b) Clear evidence checkout procedure c) Identify & specify the requirement of a forensics Workbench</p> <p>2 - Acceptable (marginal, fair); just meets minimum requirements; Specific features which meets minimum requirements: a) Layout of the forensics lab without a forensics workbench b) Adequate forensics hardware & software c) User's guide for conducting a forensic investigation</p>	<p>=====</p> <p>Refer to rubric in second column.</p>	<p>Results are achieved if at least 90% of assessed students receive an acceptable or better rating. The assessment will take place once the course is offered.</p>	

	<p>3 - Unacceptable (poor); does not meet minimum requirements; (See expanded rubric attached) The omission of one or more of the minimum requirements.</p> <p>=====</p> <p>The table will be reviewed, evaluated and scored by each instructor teaching in the subject area.</p>			
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Essential Academic Skills: Reading and Communication

2. REQUIRED TEXTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Web Security for Network and System Administrators, David Mackey, 2006; Computer Forensics - Computer Crime Scene Investigation, John R. Vacca, 2005

3. READING ASSIGNMENTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Feldman, John, and Giordano, Joseph V., 'Cyber Forensics,' Air Force Research Laboratory's Information Directorate, Associated Business Publications, 317 Madison Ave., New York, 2001. Walker, Don, 'Computer Forensics: Techniques for Catching the 'Prep' Protect Company Data,' Enterprise Networks & Servers, Publications & Communications, Inc. (PCI), Auxtin, TX, 2004.

4. WRITING ASSIGNMENTS:

Writing assignments, as required by Title 5, in this course may include, but are not limited to the following:

Write a one to two page report outlining the procedure you plan to use in your lab for a corporation on how to verify

a new forensics software package.

Essential Academic Skills: Critical Thinking and Other Course Components

5. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Provide examples of assignments, as required by Title 5, that demonstrate critical thinking.

Consider a scenario in which you are establishing the security policy for a computer forensic lab. Write out your security policy then compare and contrast it with the security recommendations described in your textbook. Make sure to keep in mind all aspects of security.

6. SELF-REFLECTIVE LEARNING:

If applicable, describe how students will reflect on their development as active learners. Provide representative examples below.

7. COMPUTER COMPETENCY:

If applicable, explain how computer competency is included in the course.

The course has a requirement computer competency skills and it focuses entirely on computer concepts as they are applied to forensics.

8. INFORMATION COMPETENCY:

If applicable, explain how information competency is included in the course.

Information competency is the ability to find, evaluate use, and communicate information in all its various formats. It combines aspects of library literacy, research methods and technological literacy. Computer forensics is deeply rooted in the research and investigative methodologies. Additionally, it is deeply rooted in the information gathering, analysis and reporting methodologies.

Evaluation and Instruction

9. REPRESENTATIVE OUTSIDE ASSIGNMENTS (HOMEWORK):

Out of class assignments (Homework) may include, but are not limited to the following:

Consider a scenario in which you are designing a computer forensic lab. Decide what equipment you will put in the

lab. Compare and contrast this list with the lists developed in class.

10. METHODS OF EVALUATION:

Title 5, section 55002 requires grades to be 'based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.' Methods of evaluation may include, but are not limited to the following (please note that evaluation should measure the outcomes detailed 'Course Objectives' at the beginning of Section II):

Students will demonstrate subject matter proficiency through examining and summarizing case studies, complete hands-on computer projects, written reports, problem-solving exercises, review quizzes and exams.

11. METHODS OF INSTRUCTION:

Please Check All That Apply

- Discussion
- Activity
- Field Experience
- Independent Study
- Purposeful Collaboration
- Other (Please Explain)

12. SUPPLIES:

List the supplies the student must provide.

Students must have an e-mail address, a USB flash drive, a cell-phone or PDA device, a notebook and the course's textbook. A computer with access to the Internet would be helpful but required.

13. DIVERSITY:

If applicable, explain how diversity (e.g., cultural, gender, etc.) is included in the course.

The very nature of technology crosses all cultural, gender and demographic boundaries.

14. SCANS COMPETENCIES:

(required for all courses with vocational TOP Codes; recommended for all courses)

SCANS (Secretary's Commission on Necessary Skills) are skills the Department of Labor identified, in consultation with business and industry leaders, which reflect the skills necessary for success in the workplace. Check the appropriate boxes to indicate the areas where students will develop the following skills (please note that all SCANS competencies do not apply to all courses):

RESOURCES

- Managing Time:** Selecting relevant goal-related activities, ranking them in order of importance, allocating time to activities, and understanding, preparing and following schedules.
- Managing Money:** Using or preparing budgets, including making cost and revenue forecasts; keeping detailed records to track budget performance, and making appropriate adjustments.
- Managing Material and Facility Resources:** Acquiring, storing, allocating, and distributing materials, supplies, parts, equipment, space or final products in order to make the best use of them.

INTERPERSONAL

- Participating as Member of a Team:** Working cooperatively with others and contributing to group's efforts with ideas, suggestions and effort.
- Teaching Others New Skills:** Helping others learn needed knowledge and skills.
- Exercising Leadership:** Communicating thoughts, feelings, and ideas to justify a position, encouraging, persuading, convincing or otherwise motivating an individual or group, including responsibly challenging existing procedures, policies or authority.
- Negotiating:** Working toward agreement that may involve exchanging specific resources or resolving divergent interests.
- Working with Cultural Diversity:** Working well with men and women and with people from a variety of ethnic, social, or educational backgrounds.

INFORMATION

- Acquiring and Evaluating Information:** Identifying a need for data, obtaining the data from existing sources or creating them, and evaluating their relevance and accuracy.
- Organizing and Maintaining Information:** Organizing, processing and maintaining written or computerized records and other forms of information in a systematic fashion.
- Interpreting and Communicating Information:** Selecting and analyzing information and communicating the results of others, using oral, written, graphic, pictorial, or multimedia methods.
- Using Computers to Process Information:** Employing computers to acquire, organize, analyze and communicate information.

SYSTEMS

- Understanding Systems:** Knowing how social, organizational and technological systems work and operating effectively with them.
- Monitoring and Correcting Performance:** Distinguishing trends, predicting impacts of actions on system operations, diagnosing deviations in the functioning of a system/organization, and taking necessary steps to correct performance.
- Improving or Designs Systems:** Making suggestions to modify existing systems in order to improve the quality of products or services and developing new or alternative systems.

TECHNOLOGY

- Selecting Technology:** Judging which sets of procedures, tools or machines, including computers and their programs, will produce the desired results.
- Applying Technology to Tasks:** Understanding overall intent and proper procedures for setting up and operating machines, including computers and their reprogramming systems.
- Maintaining and Troubleshooting Equipment:** Preventing, identifying, or solving problems with equipment, including computers and other technologies.

Section III: RELATIONSHIP TO COLLEGE PROGRAMS

1. THIS COURSE WILL BE AN APPROVED REQUIREMENT FOR AN APPROVED ASSOCIATE DEGREE OR CERTIFICATE PROGRAM: **No**

a. If yes, the course will be a portion of the 'approved program' listed on the State Chancellor's Inventory of Approved Programs (approved programs can be found on the State Chancellor's Office website at <https://misweb.cccco.edu/webproginv/prod/invmenu.htm>)

2. GENERAL EDUCATION REQUIREMENTS FOR THE ASSOCIATE DEGREE STATUS:

a. **Area Requested: **None****

Approval Date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements. http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

b. **Area Requested: **None****

Approval Date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements. http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

To be requirement in new Computer Forensics Skills Certificate

Section IV: ARTICULATION INFORMATION

(Complete in consultation with College Articulation Officer)

1. TRANSFER STATUS:

a. Transferable to the University of California: Request	c. Transferable to the California State University: Yes
b. UC Approval Date:	d. College Approval Date: 2/23/10

2. GENERAL EDUCATION FOR TRANSFER:

<p><i>IGETC Certification</i></p> <p>a. Area Requested: None b. Date Requested: c. IGETC Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 10px;"></div>	<p><i>CSU Certification</i></p> <p>a. Area Requested: None b. Date Requested: c. CSU Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 10px;"></div>
<p>a. 2nd Area Requested: b. Date Requested: c. IGETC Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 10px;"></div>	<p>a. 2nd Area Requested: b. Date Requested: c. CSU Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 10px;"></div>

3. MAJOR REQUIREMENT FOR TRANSFER:

Will this course be articulated to meet lower division major requirements?:

List college/university and the majors:

This is a stand-alone course that will later be integrated into a Computer Forensics Certificate Program.

CAN NUMBER: **CAN SEQUENCE #:**

CAN Approval -

Date requested: Date approved:

Section V: SUPPLEMENTAL COURSE INFORMATION

1. DEPT/DIVISION NAME: **Business**
2. DEPT/DIVISION CODE: **03**
3. SUBJECT CODE: **213**
4. SUBJECT ABBREVIATION: **CO SCI**
5. RECOMMENDED MINIMUM QUALIFICATION AREA:
6. ABBREVIATION FOR TRANSCRIPTS: **COMPUTER FORENSIC**
7. DEGREE CREDIT:

Indicate whether the course meet the 'standards for approval' for degree credit course set forth in Title 5, section 55002(a)(2), which requires the course to have a degree of intensity, difficulty, and vocabulary that the curriculum committee has determined to be at the college level: **Degree Applicable**

8. GRADING METHOD: **LETTER GRADE**
9. REPETITIONS: # of times repeated for credit: **0**

If this course is repeatable, explain how repetition of this course meets Title 5, section 55041(c)(2)(B):

10. PRIOR TO TRANSFERABLE LEVEL:

This course attribute applies to **English, Writing, ESL, reading and mathematics** courses ONLY. If applicable, indicate how many levels below the transferable level this course should be placed: **Not applicable**

11. CREDIT BASIC SKILLS:

Title 5, section 55000(j) defines basic skills as 'courses in reading, writing, computation, and English as a Second Language, which are designated as non-degree credit courses pursuant to Title 5, section 55002(b)'.: **No**

12. CROSS REFERENCE:

Is this course listed as equivalent in content to existing College/District courses in another discipline?:

If Yes, list courses (documentation of cross-discipline agreement must be provided):

13. COURSE SPECIFICALLY DESIGNED FOR STUDENTS W/ DISABILITIES:

Title 5, section 56029 allows a course to be repeatable when continuing success of the students with disabilities is dependent on additional repetitions of a specific class. Is this course designated as an 'approved special class' for students with disabilities?: **No**

If yes, provide an explanation of how this course meets the requirements of Title 5, section 56029:

14. COOPERATIVE EDUCATION STATUS:

Title 5, section 55252 allows for two types of Cooperative Education: 1) General Work Experience Education -- i.e., supervised employment, which is intended to assist students in acquiring desirable work habits, attitudes and career awareness, which need not be related to the students' educational goals; or 2) Occupational Work Experience Education - - i.e., supervised employment, extending classroom based occupational learning at an on-the-job learning station, which is related to the students' educational or occupational goal. Is this course part of the college's approved cooperative work experience education program?: **No**

15. COURSE CLASSIFICATION: **Occupational**

Note: A course Classification, TOP Code and SAM code must be aligned e.g., Courses with an 'Occupational' Course Classification must have an 'Occupational' TOP Code and a SAM Code of A, B, C, or D; courses that do not have an 'Occupational' Course Classification cannot have an Occupational TOP Code and must have an 'E' SAM Code. Courses coded as 'basic skills' in #11 should be coded 'Adult and Secondary Basic Skills.'

16. TOP CODE - (6 digits XXXX.XX): **0799.00**

Course content should match discipline description in Taxonomy of Programs found at <http://ecd.laccd.edu/TaxonomyOfPrograms.doccurriculum.htm>

17. SAM CODE (Student Accountability Model): **C**

18. FUNDING AGENCY CODE:

19. STATE COURSE ID:

Section VI: APPROVAL STATUS

1. APPROVAL STATUS:

		Approval Date Of	Board Date	Requested Effective Semester	Approved Effective Semester
a.	<input checked="" type="checkbox"/> New Course	College:	Board:	Effective Semester: Summer 2010	Effective Semester:
b.	<input type="checkbox"/> Addition of Existing District Course	College:	Board:	Effective Semester:	Effective Semester:
c.	<input type="checkbox"/> Course Change*	College:		Effective Semester:	Effective Semester:
d.	<input type="checkbox"/> Outline Update	College:			Effective Semester:
e.	<input type="checkbox"/> New Course	College:		Effective Semester:	Effective Semester:
f.	<input type="checkbox"/> New Course	College:	Board:	Effective Semester:	Effective Semester:

* Changes to a course require the completion of a 'Course Change Request' form and approval by the college's Curriculum Committee. In some cases districtwide approval is also required; see, Administrative Regulation E-65, section 3(c) for details.

Section VII: APPROVAL INFORMATION FOR NEW OR ADDED COURSES

(complete in consultation with Department Chair and the appropriate Academic Administrator)

1. **ORIGINATOR:** Hicks, James E.

2. **DEPARTMENT:** 03

3. **IF THIS IS A NEW COURSE, INDICATE HOW THE COLLEGE PLANS TO MEET THE EXPENSE OF THIS COURSE:**

By additional funds. Describe:

The expenses associated with this course will be met through the 2009-2010 Perkins Grant

By deleting courses from the college catalog and course database. List specific courses to be deleted:

CO SCI 645

By deleting sections of existing course. List courses and number of sections to be deleted:

FIRST YEAR: CO SCI 601, 1 section deleted each semester SECOND YEAR: CO SCI 601, 1 section deleted each semester THIRD YEAR: CO SCI 601, 1 section deleted each semester

By rotating sections of existing courses. List courses and number of sections to be rotated, as well as the semesters in which they will be offered:

CO SCI 601 each semester

4. **IMPACT**

IMPACT -- Will this course directly impact other course offerings and/or associate degree or certificate programs on campus? (If yes, briefly explain how)

5. **METHOD OF SUPPORT**

-- Indicate how the college plans to support the proposed course:

A. Additional staff -- List additional staff needed:

The college's plan for the support of this course is to use existing faculty and to hire 1-2 part-time faculty with experience in the computer forensics area.

B. Classroom -- List classroom type needed:

A highly customized and specialized laboratory is required for this program. The laboratory environment must be certified. Funds for the construction and equipping of this lab are through the Prop A, AA, and Measure J bond initiatives. Funding is also provided through the Perkins IV Act.

C. Equipment -- List new equipment needed and indicate funding source for any new equipment:

The following list represents the minimum requirement for the Computer Forensics Skills certificate, the Computer

Forensics Certificate. I. Minimum Lab Requirement: A. Lab computers that boot to Windows XP or Windows 7 B. Computers that dual-boot to Linux or UNIX C. At least one Macintosh computer running Mac OS X D. An external USB, FireWire, or SATA drive, at least 2GB II. Operating Systems and Hardware Workstations A. Windows XP or Windows 7 B. 2 or more USB ports C. VGA or higher monitors D. Hard disk partition of 25GB or more E. Mouse or other pointing device F. QWERTY Keyboard G. At least 2GB of RAM III. Computer Forensics Software A. EnCase B. ProDiscover C. AccessData D. (additional titles to be specified later)

D. Supplies- List supplies and indicate dollar value:

In addition to workstations and software, the forensics laboratory will be stocked with a wide assortment of cables and spare expansion slot cards. Additional supplies include: 1. 40-pin 18-inch and 36-inch IDE cables, both ATA-33 and ATA-100 or faster 2. Ribbon cable for older floppy drives 3. Extra SCSI cards, preferably ultra-wide 4. Graphics cards, both PCI and AGP 5. Extra power cords 6. A variety of hard drives 7. At least two 2.5-inch adapters from notebook IDE hard drives to standard IDE/ATA drives, SATA drives, etc. 8. Computer hand tools, such as Phillips and flathead screwdrivers, a socket wrench, and a small flashlight. 9. Standard office supplies

E. Library/Learning Resources- The course initiator shall consult with the College Librarian and review the college library, book, periodical, and electronic resource collections relevant to this course. List additional titles and resources to be considered for purchase as funding permits:

The initiator, Professor James Hicks, will survey the available library resources and make recommendation on new acquisitions.

CERTIFICATION AND RECOMMENDATION

- This course meets Title 5 requirements for Associate Degree applicable college credit towards an Associate Degree.
- This course meets Title 5 requirements but does not satisfy the requirements for an Associate Degree applicable course.

We certify that the information and answers above properly represent this course.

Originator	Date
Department/Cluster Chairperson	Date
Articulation Officer	Date
Librarian	Date
Dean (if applicable)	Date
Curriculum Committee Chairperson	Date
Academic Senate President	Date
Vice President, Academic Affairs	Date
College President	Date

Section VIII: ADDENDA
(Uploaded Documents)

Prerequisite Document	Prerequisite Document	CoSci641,ECDAdvisoryValid,210.doc
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CONTENT REVIEW FOR PREREQUISITE VALIDATION

Target Course & Number, Title: CO SCI 641
(Course to which pre/corequisite/advisory applies)

Check Applicable Box

- Prerequisite: CO SCI 630 – Microcomputer Application Software
- Corequisite:
- Advisory:

- A. **Target Course Entry Skills: Course & Number, Title: CO SCI 641, Computer Forensics I**
(For prerequisites/corequisites, list specific skills and/or knowledge necessary for students to succeed in the target class. For advisories, list skills/knowledge which will enrich or deepen the student's knowledge obtained from the course but without which the student may still succeed in the course. Attach additional sheet if necessary. NUMBER EACH SKILL.)
1. Familiarity with the Windows operating system
 2. Ability to use an operating system's File Management utility
 3. Ability to create context DFD diagrams for integrating data from applications.
 4. Ability to install software and browser software add-ins
 5. Ability to import data from non-standard applications.
 6. Ability to use HTML, XHTML & XML to create web pages
- B. **Exit Skills Provided By Prerequisite/Corequisite/Advisory Course or Assessment:**
Course & Number, Title: CO SCI 630, Microcomputer Application Software
(List specific skills and/or knowledge that are the outcome of the prerequisite/corequisite/advisory course or assessment. For courses already in the curriculum, these should be present in the course objectives in the course outline. Attach additional sheet if necessary. NUMBER EACH SKILL.)
1. Identify operating systems used on today's personal computers, PDAs, and servers; describe their strengths and weaknesses.
 2. Create valid names for files and folders, plus demonstrate that you can construct and trace file paths.
 3. List security measures for wired and wireless networks.
 4. Draw a conceptual diagram illustrating the connection between the Internet backbone, NAPs, NSPs, routers, and ISPs.
 5. Describe the role that HTML, XHTML, HTTP, URLs, browsers, and Web servers play in bringing Web pages to your desktop.
 6. Define the differences between digital video and 3-D animation.
 7. Describe how information systems help organizations fulfill their missions, deal with threats, and take advantage of opportunities.
 8. Define basic database terminology, such as fields, records, files, hierarchical, relational, network databases, cardinality, & SQL queries.
 9. Describe the major concepts of object-oriented programming, such as objects, classes, inheritance, messages, methods, polymorphism, and encapsulation.
 10. (File Management) Draw a sketch or capture a screenshot of the Microsoft Backup window's toolbar. Use ToolTips, ScreenTips, or the window's status bar to find the name of each toolbar button.
 11. (NAPs, NSPs & ISPs) Assess the Internet traffic congestion for any one of the continents.
 12. (HTTP, HTTPS & Internet security) Using the Windows Explorer, examine the cookies stored on your

computer. Indicate how many cookies are currently stored. Examine the contents of one cookie and indicate whether you think it poses a threat to your privacy.

13. (Digital video and 3-D animation) Capture a photographic image from a digital camera, scanner, or Web page. Open the image using any available graphics software. Use this software to identify properties of the image such as file format, file size, resolution, and color depth.

14. (Enterprise-wide Information Systems) Create a context DFD for a video rental store, using paper & pencil, graphics software, or a CASE tool. Your diagram should conform to the Gane/Sarson notation.

15. (Basic database concepts) Create a table using Microsoft Access or any available file or database management software to store information about a collection of old books. Enter at least 10 records. Print a list of all your data.

CONTENT REVIEW SKILLS MATRIX FOR PREREQUISITE VALIDATION
COURSE & NUMBER, Title: CO SCI 641
Entering Skills of Target Course

COURSE & NUMBER: CO SCI 630
Course Title: Microcomputer Application Software
Exit Skills of Prerequisite Course

	1	2	3	4	5	6	7	8	9
1	X	X							
2		X							
3	X								
4									
5					X	X			
6									
7				X	X				
8		X			X				
9									
10	X								
11									
12				X					
13									
14			X	X					
15				X					

Comments:

(Include justification for assessments, health and safety, or non-course prerequisites)

Validation requires at least one match of each exit skill with each entry skill.

Was validation achieved? X Yes. No.

PARTICIPANTS IN CONTENT REVIEW:

(Signatories should include instructors for both exit and entering skills courses.)

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

CERTIFIED BY:

 Initiator Date

 Department Chairperson Date

 Curriculum Chairperson Date