

## University of Hawaii Maui College

### ICS 282 - Computer Forensics

**1. Course Alpha. Please click on the ? to the right for help.**

ICS

**2. Course Number. Please click on the ? to the right for help.**

282

**3. Course Title/Catalog Title. Please click on the ? to the right for help.**

Computer Forensics

**4. Number of Credits. Please click on the ? to the right for help.**

3

**5. Contact Hours/Type. Please click on the ? to the right for help.**

- Hour lecture (3)

**6. Course Description. Please click on the ? to the right for help.**

Studies the basic computer forensics including operating system diagnostics, the use of forensic toolkits to examine and validate computer activity and techniques for the proper collection, examination and preservation of forensic evidence.

**7. Pre-Requisites. Please click on the ? to the right for help.**

ICS 169 and either ICS 184 or ETRO 140, both with grade C or better, or consent.

**8. Co-requisites.**

None.

**9. Recommended Preparation.**

None.

**10. Is this a cross-listed course? Please click on the ? to the right for help.**

NO

**11. Reason for Proposal. Why is this course being proposed or modified? This question requires specific information as part of the explanation. Please click on the ? to the right for help.**

New course at UHMC based on existing identical course at LCC. Required course for the STEM ECET Certificate of Competency in Cybersecurity. Course is identical to ICS 282 taught at LCC. Course description at UHMC and LCC is identical. Course at UHMC and LCC is identical, equivalent and transferable. Students at UHMC can take the course taught at LCC and can transfer credits if they decide to move to LCC.

**12. Effective Semester and Year.** For new or modified courses, the effective year is one year from the semester proposed. For example, if proposed in Spring 2012, the effective semester is Spring 2013. Please click on the ? to the right for help.

Fall 2015

**13. Grading Method.** What grading methods may be used for this course? Please click on the ? to the right for help.

- Standard (Letter,Cr/NCr,Audit) (0)

**14. Is this course repeatable for credit? How often can this course be counted toward a degree or certificate? Please click on the ? to the right for help.**

NO

**15. Course Student Learning Outcomes (SLOs).** DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE LEARNING OUTCOMES" and enter in that screen. Please click on the ? to the right for help.

Course SLO/Competency	Create a plan for businesses to investigate breaches and collect evidence.	Setup tools and experiments to examine data stored in various devices and storage medium	Develop a plan for businesses to analyze their data and media stored in various formats
Demonstrate how to properly collect and examine forensic evidence.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Explain various operating system fundamentals.	<input checked="" type="checkbox"/>		
Demonstrate the use of a forensic toolkit.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Course SLO/PSLO	Utilize appropriate mathematics at the level of algebra and trigonometry to solve technical problems.	Apply project management techniques to electrical/electronic(s) and computer systems.	Demonstrate engineer's way of thinking, analyzing technology as systems.
Demonstrate how to properly collect and examine forensic evidence.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Explain various operating system fundamentals.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Demonstrate the use of a forensic toolkit.			<input checked="" type="checkbox"/>

**16. Course Competencies.** DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE COMPETENCIES/ISSUES/SKILLS" and enter text in that screen. Course

**competencies are smaller, simpler tasks that connect to and facilitate the SLOs.**

<b>Competency</b>
Create a plan for businesses to investigate breaches and collect evidence.
Setup tools and experiments to examine data stored in various devices and storage medium
Develop a plan for businesses to analyze their data and media stored in various formats

**17. Recommended Course Content and Timeline. The course content facilitates the course competencies. Course content may be organized by weeks, units, topics or the like.**

This course covers all topics normally included in Computer Forensics as evidenced by available texts in Computer Forensics and the topics covered by other college-level Computer Forensics courses, according to college catalogs and review of course outlines. The course covers all topics needed to gain a fundamental understanding of computer forensics. The student will become familiar with the use of forensics toolkits.

1. Week 1 - 7 - Analyze the various computer forensics techniques
  - 1.1 Hardware based toolkits
  - 1.2 Software based toolkits
2. Week 8 - 16 - Apply the various computer forensics techniques to various systems
  - 1.3 Various popular operating systems
  - 1.4 Common hardware systems

**18. Program Learning Outcomes. DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "PLOs" and enter text in that screen. Program Student Learning Outcomes (PLOs) supported by this course. If you are not a "program" use the Liberal Arts PLOs, view them by clicking on ? icon to the right.**

<b>Program SLO</b>
Utilize appropriate mathematics at the level of algebra and trigonometry to solve technical problems.
Apply project management techniques to electrical/electronic(s) and computer systems.
Demonstrate engineer's way of thinking, analyzing technology as systems.

**19. College-wide Academic Student Learning Outcomes (CASLOs). FIRST, fill out the CASLO grid located in the UHMC tab above. Click on the HELP icon for tips on determining support for the CASLOs and indicate your choices below by clicking on the box in front of each supported CASLO. NOTE: Our campus does not use the Preparatory Level, Level 1 and Level 2 designations in the chart below.**

<input checked="" type="checkbox"/>	<b>Creativity</b> - Able to express originality through a variety of forms.  <input checked="" type="checkbox"/> Level 2
<input checked="" type="checkbox"/>	<b>Critical Thinking</b> - Apply critical thinking skills to effectively address the challenges

	and solve problems. <input checked="" type="checkbox"/> Level 2
<input checked="" type="checkbox"/>	<b>Information Retrieval and Technology</b> - Access, evaluate, and utilize information effectively, ethically, and responsibly. <input checked="" type="checkbox"/> Level 2
<input checked="" type="checkbox"/>	<b>Oral Communication</b> - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes. <input checked="" type="checkbox"/> Level 1
<input checked="" type="checkbox"/>	<b>Quantitative Reasoning</b> - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately. <input checked="" type="checkbox"/> Level 2
<input checked="" type="checkbox"/>	<b>Written Communication</b> - Write effectively to convey ideas that meet the needs of specific audiences and purposes. <input checked="" type="checkbox"/> Level 2

GenED SLO
Creativity - Able to express originality through a variety of forms.
Critical Thinking - Apply critical thinking skills to effectively address the challenges and solve problems.
Information Retrieval and Technology - Access, evaluate, and utilize information effectively, ethically, and responsibly.
Oral Communication - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.
Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.
Written Communication - Write effectively to convey ideas that meet the needs of specific audiences and purposes.

**20. Linking. CLICK ON CHAIN LINK ICON IN UPPER RIGHT HAND CORNER TO BEGIN LINKING. Please click on the ? to the right for help.**

**21. Method(s) of delivery appropriate for this course. Please click on the ? to the right for help.**

- Cable TV (0)
- Classroom/Lab (0)
- HITS/Interactive TV (0)
- Hybrid (0)
- Online (0)

**22. Text and Materials, Reference Materials, and Auxiliary Materials. Please click on the ? to the**

**right for help.**

A textbook is required.

- Nelson/Phillips/Steuart. Guide to Computer Forensics and Investigations. 4. Cengage, 2010, 978-1-4354-9883-9.

**23. Maximum enrollment. Please click on the ? to the right for help.**

35

**24. Particular room type requirement. Is this course restricted to particular room type? Please click on the ? to the right for help.**

NO

**25. Special scheduling considerations. Are there special scheduling considerations for this course? Please click on the ? to the right for help.**

NO

**26. Are special or additional resources needed for this course? Please click on the ? to the right for help.**

No.

**27. Does this course require special fees to be paid for by students? Please click on the ? to the right for help.**

NO

**28. Does this course change the number of required credit hours in a degree or certificate? Please click on the ? to the right for help.**

No.

**29. Course designation(s) for the Liberal Arts A.A. degree and/or for the college's other associate degrees. Please click on the ? to the right for help.**

Degree	Program	Category
<b>Associate in Arts:</b>	Liberal Arts	LE - Elective
<b>AS:</b>	ECET - All	PE - Program Elective
<b>AAS:</b>	Bus. Tech - All	PE - Program Elective
<b>BAS:</b>	BAS - All	PE - Specialization/Program Electives

**Developmental/  
Remedial:**

**30. Course designation(s) for other colleges in the UH system.**

No. This is a new course at UHMC. Course at UHMC is identical to ICS 282 at LCC.

**31. Indicate the year and page # of UHMC catalog referred to. For new or modified courses, please indicate the catalog pages that need to be modified and provide a sheet outlining those changes.**

UHMC General Catalog 2014-2015. Modifications needed for 5 pages - Offerings on Page 10, CO Section page 28, ECET program page 45, ICS course descriptions page 126 and 127.

**32. College-wide Academic Student Learner Outcomes (CASLOs). Please click on the HELP icon for more information.**

<b>Standard 1 - Written Communication</b> Write effectively to convey ideas that meet the needs of specific audiences and purposes.		
<b>Outcome 1.1 - Use writing to discover and articulate ideas.</b>		3
<b>Outcome 1.2 - Identify and analyze the audience and purpose for any intended communication.</b>		3
<b>Outcome 1.3 - Choose language, style, and organization appropriate to particular purposes and audiences.</b>		3
<b>Outcome 1.4 - Gather information and document sources appropriately.</b>		3
<b>Outcome 1.5 - Express a main idea as a thesis, hypothesis, or other appropriate statement.</b>		3
<b>Outcome 1.6 - Develop a main idea clearly and concisely with appropriate content.</b>		3
<b>Outcome 1.7 - Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics.</b>		3
<b>Outcome 1.8 - Demonstrate proficiency in revision and editing.</b>		3
<b>Outcome 1.9 - Develop a personal voice in written communication.</b>		3
<b>Standard 2 - Quantitative Reasoning</b> Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.		
<b>Outcome 2.1 - Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately.</b>		3
<b>Outcome 2.2 - Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate.</b>		3
<b>Outcome 2.3 - Communicate clearly and concisely the methods and results of quantitative problem solving.</b>		3
<b>Outcome 2.4 - Formulate and test hypotheses using numerical experimentation.</b>		3

<b>Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.</b>		3
<b>Outcome 2.6 - Assess the validity of statistical conclusions.</b>		3
<b>Standard 3 - Information Retrieval and Technology.</b> Access, evaluate, and utilize information effectively, ethically, and responsibly.		
<b>Outcome 3.1 - Use print and electronic information technology ethically and responsibly.</b>		3
<b>Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.</b>		3
<b>Outcome 3.3 - Recognize, identify, and define an information need.</b>		3
<b>Outcome 3.4 - Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that information.</b>		3
<b>Outcome 3.5 - Create, manage, organize, and communicate information through electronic media.</b>		3
<b>Outcome 3.6 - Recognize changing technologies and make informed choices about their appropriateness and use.</b>		3
<b>Standard 4 - Oral Communication</b> Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.		
<b>Outcome 4.1 - Identify and analyze the audience and purpose of any intended communication.</b>		2
<b>Outcome 4.2 - Gather, evaluate, select, and organize information for the communication.</b>		2
<b>Outcome 4.3 - Use language, techniques, and strategies appropriate to the audience and occasion.</b>		2
<b>Outcome 4.4 - Speak clearly and confidently, using the voice, volume, tone, and articulation appropriate to the audience and occasion.</b>		2
<b>Outcome 4.5 - Summarize, analyze, and evaluate oral communications and ask coherent questions as needed.</b>		2
<b>Outcome 4.6 - Use competent oral expression to initiate and sustain discussions.</b>		2
<b>Standard 5 - Critical Thinking</b> Apply critical thinking skills to effectively address the challenges and solve problems.		
<b>Outcome 5.1 - Identify and state problems, issues, arguments, and questions contained in a body of information.</b>		3
<b>Outcome 5.2 - Identify and analyze assumptions and underlying points of view relating to an issue or problem.</b>		3
<b>Outcome 5.3 - Formulate research questions that require descriptive and explanatory analyses.</b>		3
<b>Outcome 5.4 - Recognize and understand multiple modes of inquiry, including investigative methods based on observation and analysis.</b>		3
<b>Outcome 5.5 - Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of</b>		3

<b>appropriate evidence.</b>		
<b>Outcome 5.6 - Apply problem-solving techniques and skills, including the rules of logic and logical sequence.</b>		3
<b>Outcome 5.7 - Synthesize information from various sources, drawing appropriate conclusions.</b>		3
<b>Outcome 5.8 - Communicate clearly and concisely the methods and results of logical reasoning.</b>		3
<b>Outcome 5.9 - Reflect upon and evaluate their thought processes, value system, and world views in comparison to those of others.</b>		3
<b>Standard 6 - Creativity</b> <b>Able to express originality through a variety of forms.</b>		
<b>Outcome 6.1: Generate responses to problems and challenges through intuition and non-linear thinking.</b>		2
<b>Outcome 6.2: Explore diverse approaches to solving a problem or addressing a challenge.</b>		2
<b>Outcome 6.3: Sustain engagement in activities without a preconceived purpose.</b>		2
<b>Outcome 6.4: Apply creative principles to discover and express new ideas.</b>		2
<b>Outcome 6.5: Demonstrate the ability to trust and follow one's instincts in the absence of external direction</b>		2
<b>Outcome 6.6: Build upon or adapt the ideas of others to create novel expressions or new solutions.</b>		2

### 33. Additional Information

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