

University of Hawaii Maui College
Course Outline

1. Alpha ICS Number 319
- Course Title Operating Systems
- Credits 3
- Department Business/Hospitality Author Debasis Bhattacharya
- Date of Outline 10/14/2011 Effective Date Fall 2012 5-year Review Date Fall 2017
2. Course Description: Covers concepts, issues and design of modern operating systems. Analyzes processes and state, concurrency, resource management algorithms for memory, processors and I/O devices, protection and security. Develops case studies of popular desktop and server operating systems. Conducts laboratory projects and teaches OS installation and administration techniques
- Cross-list none
- Contact Hours/Type 3 hr. lecture *FCS 111, and ICS 200, and MATH 203 or 205, resequence.*
3. Pre-requisites *MATH 203 or 205, ICS 111, and ICS 200*, all with a grade of C or better
- Pre-requisite may be waived by consent yes no
- Co-requisites none
- Recommended Preparation none
4. Function/Designation AA Category Additional Category
- AS Program Category List Additional Programs and Category:
- AAS Program PR - Program Requirement List Additional Programs and Category:
- BAS ABIT IC - ABIT Information Technology Core List Additional Programs and Category:

mbh

2/1/12

Chancellor

Approval Date

Developmental/Remedial

 Other/Additional: Explain:

See Curriculum Action Request (CAR) form for the college-wide general education student learning outcomes (SLOs) and/or the program learning outcomes (PLOs) this course supports.

This course outline is standardized and/or the result of a community college or system-wide agreement.
Responsible committee:

5. Student Learning Outcomes (SLOs): List one to four inclusive SLOs.

For assessment, link these to #7 Recommended Course Content, and #9 Recommended Course Requirements & Evaluation. Use roman numerals (I, II, III.) to designate SLOs

On successful completion of this course, students will be able to:

- I. Apply critical thinking skills to evaluate information, solve problems, and make decisions
- II. Apply quantitative reasoning to enhance independent or group decision-making skills
- III. Demonstrate knowledge of operating systems
- IV. Utilize technology tools to conduct business-related research

6. Competencies/Concepts/Issues/Skills

For assessment, link these to #7 Recommended Course Content, and #9 Recommended Course Requirements & Evaluation. Use lower case letters (a., b...zz.) to designate competencies/skills/issues

On successful completion of this course, students will be able to:

- a. Demonstrate core computing system architecture concepts
- b. Analyze core computing organizing structures
- c. Demonstrate core technical components of computer-based systems
- d. Comprehend role of IT infrastructure in a modern organization
- e. Explain core operating system functionality
- f. Demonstrate internal organization of an operating system
- g. Identify types of devices that require and use operating systems
- h. Explain multi-tasking and multithreading
- i. Demonstrate file systems and storage
- j. Analyze user interfaces
- k. Implement operating system configuration
- l. Demonstrate virtualization of computing services

7. Suggested Course Content and Approximate Time Spent on Each Topic

Linked to #5. Student Learning Outcomes and # 6 Competencies/Skills/Issues

1. Core concepts in architecture, structures - 3 weeks (SLO IV; Competency a,b,c)
2. IT Infrastructure and core details - 10 weeks (SLO I, II and III; Competencies d to i)
3. User interfaces, configuration and virtualization - 3 weeks (SLO IV; Competency j to l)

8. Text and Materials, Reference Materials, and Auxiliary Materials

Appropriate text(s) and materials will be chosen at the time the course is offered from those currently available in the field. Examples include: Modern Operating Systems by Tanenbaum, latest edition

Appropriate reference materials will be chosen at the time the course is offered from those currently available in the field. Examples include: Internet references on modern operating systems

Appropriate auxiliary materials will be chosen at the time the course is offered from those currently available in the field. Examples include: Internet tutorials on modern operating systems

9. Suggested Course Requirements and Evaluation

Linked to #5. Student Learning Outcomes (SLOs) and #6 Competencies/Skills/Issues

Specific course requirements are at the discretion of the instructor at the time the course is being offered.

Suggested requirements might include, but are not limited to:

20%	Written midterm exam covering lectures (SLO I, II and III; Competencies a to e)
30%	Written final exam covering lectures (SLO I, II and III; Competencies a to I)
30%	4 Individual Assignments (SLO I, II, III and IV; Competencies a to I)
20%	2 Learning Team Assignments (SLO I, II, III and IV; Competencies a to I)

10. Methods of Instruction

Instructional methods will vary considerably by instructor. Specific methods are at the discretion of the instructor teaching the course and might include, but are not limited to:

- a. quizzes and other tests with feedback and discussion;
- b. lectures and class discussions;
- c. problem solving;
- d. lab activities including experiments, lab skill lessons, data analysis, and other activities;
- e. group activities;
- f. web-based assignments and activities;
- g. group and/ or individual research projects with reports
- h. other contemporary learning techniques (such as problem-based learning, investigative case-based learning, co-op, internships, self-paced programs, etc.)

11. Assessment of Intended Student Learning Outcomes Standards Grid attached

12. Additional Information:

3 hr. lecture _____ hr. lab _____ hr. lecture/lab _____ hr. other; explain:

14. Grading: Standard (Letter, Cr/NCr, Audit)

Explain, if not Standard grading:

15. Repeatable for credit: no yes; maximum is _____ credit or unlimited.

(Most courses are not repeatable for additional credit; exceptions are courses such as internships and co-op courses.)

16. Special fees required: no yes; explain:

17. Proposed term of first offering: Fall semester of 2012 year.

18. List catalog used and then degrees, certificates, prerequisites, and catalog sections **and their page numbers** affected by this proposal: Catalog 2011-2012 page 24 ABIT, page 129 course descriptions, page 23 ABIT requirements.

19. Maximum enrollment: 24 Rationale, if less than 35: Current room capacity in KAA 219

20. Special resources (*personnel, supplies, etc.*) required: no yes; explain:

21. Course is restricted to particular room type: no yes; explain: Computer lab room required

22. Special scheduling considerations: no yes; explain:

23. Method(s) of delivery appropriate for this course: (*check all that apply*)

Traditional HITS/Interactive TV Cable TV Online Hybrid

Other, explain:

24. Mark all college-wide general education SLOs this course supports.

Std 1 - Written Communications

Std 2 - Quantitative Reasoning

Std 3 - Information Retrieval and Technology

Std 4 - Oral Communication

Std 5 - Critical Reasoning

Std 6 - Creativity

Other General Education SLOs, such as Ethics, Scientific Inquiry, or Service Learning.

Explain:

25. List all program SLOs this course supports? (*Explain, if necessary*)

Program SLO 1: 2.3 Demonstrate knowledge of operating systems Explain:

Program SLO 2: 2.2 Utilize technology tools to conduct business-related research Explain:

Program SLO 3: 3.1 Apply critical thinking skills to evaluate information, solve problems, and make decisions Explain:

Program SLO 4: 3.3 Apply quantitative reasoning to enhance independent or group decision-making skills Explain:

Program SLO 5: Explain:

26. Course fulfills the following general education elective (GE) for CTE (Career Technical Education) AS/AAS degrees (GE):

- English (EN)/Communication (CM) Quantitative Reasoning (QR)
- Humanities (HU) Natural Science (NS) Social Science (SS)
- Other:
- Course is a requirement for the AAS program(s) AS/AAS degree or certificate
- Course is a program elective for the _____ program(s) AS/AAS degree or certificate

27. Course fulfills the following general education elective (GE) for the ABIT BAS degree:

- English (EN)/Communication (CM) Quantitative Reasoning (QR)
- Humanities (HU) Natural Science (NS) Social Science (SS)
- Other:
- Course is a requirement for the ABIT BAS degree
- Course is a program elective for the ABIT BAS degree

28. Course fulfills a requirement for a proposed BAS _____ degree:

- Pre-requisite course Core
- Capstone Course (CC) Other:
- Course is a program elective for a proposed BAS _____ degree
- Course fulfills the following general education elective (GE) for the proposed BAS _____ degree:
 - English (EN)/Communication (CM) Quantitative Reasoning (QR)
 - Humanities (HU) Natural Science (NS) Social Science (SS)
 - Other:

Course is applicable to the following additional BAS degrees:

29. Course satisfies the following category for the AA degree*:

- Category I: Foundations/Skills: Foundations I
 - Written Communication in English (FW)
 - Global and Multicultural Perspectives (FG)
 - Group A (before 1500 CE)
 - Group B (since 1500 CE)
 - Group C (pre-history to present)
 - Symbolic Reasoning (FS)
- Category I: Foundations/Skills: Foundations II
 - Numeracy (FN)
 - Oral Communication in English (FO)
 - Computer/Information Processing and Retrieval (FI)
- Category II: Breadth of Understanding and Experience
 - Human Understanding
 - The Individual (IN)
 - The Community (CO)
 - The Community – Global Perspective (CG)
 - Human Expression (HE)
 - Environmental Awareness (EA)
 - Environmental Awareness – Global Perspective (EG)
 - Asia/Pacific Perspective (AP)
- Category III Focus/Specialization/Area of Interest
 - Interest Area Discipline/Alpha:

- Elective (LE)
- Other Graduation Requirements
 - Writing Intensive (is appropriate for WI)
 - Environmental Awareness Lab/course with lab (EL)
 - Hawaii Emphasis (HI)

* Submit the appropriate form(s) to have the course placed in the requested category (ies). Submit a course outline, CAR, and appropriate forms to both the Curriculum Committee and the Foundations Board, if the course satisfies Category I: Foundations/Skills: Foundations I or II.

30. Course increases decreases makes no change to number of credits required for program(s) affected by this action. Explain, if necessary:

31. Course is taught at another UH campus (*see Sections 5 and 6 above*):

- no Explain why this course is proposed for UHMC:
- yes Specify college(s), course, alpha, and number where same or similar course is taught: Equivalent to ICS 412 in UH Manoa and CS 430 in UH Hilo.

32. Course is:

- Not appropriate for articulation.
- Appropriate* for articulation as a general education course at:
 - UHCC UH Manoa UH Hilo UHWO
- Previously articulated* as a general education course at:
 - UHCC UH Manoa UH Hilo UHWO


*Note: Submit Course Articulation Form if course is already articulated, or is appropriate for articulation, as a general education (100-, 200-level) course.

- Standardized and/or appropriate for articulation by PCC or other UH system agreement at:
 - UHCC UH Manoa UH Hilo UHWO Explain:
- Appropriate for articulation or has previously been articulated to a specific department or institution:
 - UHCC UH Manoa UH Hilo UHWO Outside UH system Explain:

33. Additional Information (*add additional pages if needed*): ICS 319 provides a critical component of IT infrastructure which is the modern operating system. Students learn the building blocks for IT systems and use this knowledge for advanced courses in web development and the ABIT capstone. Course is equivalent to ICS 412 in UH Manoa and CS 430 in UH Hilo.

University of Hawaii Maui College
Curriculum Action Request (CAR) Signature Page



Proposed by: Author or Program Coordinator Date 10/14/11


Checked by: Academic Subject Area Representative to Curriculum Committee Date 10/14/2011


Requested by Department: Department Chair Date 10/14/2011


Recommended by: Curriculum Chair Date 1-30-12


Approved by Academic Senate: Academic Senate Chair Date 2-1-12


Endorsed by: Chief Academic Officer Date 2-4-12


Approved by: Chancellor Date 2/9/12