Computer Science 301

Chaminade University

Operating Systems
Spring 2026

Time: M/W/F 2:30–3:20
Place: Data Science Center, Tredtin Hall
Instructor: Amber Camp
Office: Data Science Center, Tredtin Hall
Office Hours: T 1–5:30, W/F 3:30–5:30 & by appointment
Email: amber.camp@chaminade.edu

Required Materials: Operating Systems zyBooks available from the bookstore, plus occasional reading materials to be provided by instructor. Personal computer required.

Course Canvas: https://chaminade.instructure.com/courses/44934

Course Description: This course will introduce operating systems concepts, techniques, strategies, hardware and software, management, and virtualization. Students in this course will learn process management, memory management, I/O device management, file systems, distributed systems, security, and virtualization.
Prerequisites: EN 102 and COM 101.

Grading:

Item	Percentage
In-class Participation	10%
Readings & Activities	10%
Assignments (× 7)	35%
Final Project	45%

90–100%	A
80–89%	B
70–79%	C
60–69%	D
< 60%	F

Important Dates:

Final Project due:

4/7 – Project Proposal
5/7 – Final Project

Assignments:

Weekly (+/-)

Learning Outcomes

Program Learning Outcomes (PLOs) – Upon completion of B.S. program in Data Science, Analytics & Visualization, the student will be able to:

1. Apply collection, storage, or cleaning of datasets;
2. Apply technologies to collect or manage data, analyze data, or program an application;
3. Analyze data using mathematics, statistics, prediction models, visualizations, or other forms of analytics to support decision-making;
4. Apply effective data communication approaches for stakeholders and the public;
5. Integrate an awareness of ethical issues and collective standards to positively influence the application of data science to service, justice and peace in working towards solutions for societal problems.

Course Learning Outcomes (CLOs) – Upon completion of CS-301, the student will be able to:

1. Explain the fundamental principles and architecture of modern operating systems, including process management, memory management, and file systems;
2. Compare and contrast different operating system designs and models, and evaluate their suitability for specific computing environments;
3. Be confident in working with a new operating system.

Marianist Values – This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith.
2. Provide an integral, quality education.
3. Educate in family spirit.
4. Educate for service, justice and peace, and integrity of creation.
5. Educate for adaptation and change.

The School of Natural Sciences and Mathematics provides an integral, quality education: sophisticated integrative course content taught by experienced, dedicated, and well-educated instructors.

- We educate in family spirit – every classroom is an Ohana and you can expect to be respected yet challenged in an environment that is supportive, inclusively by instructors who take the time to personally get to know and care for you.
- We educate for service, justice and peace, since many of the most pressing global issues (climate change, health inequity, poverty, justice) are those which science and technology investigate, establish ethical parameters for, and offer solutions to.
- We educate for adaptation and change. In science and technology, the only constant is change. Data, techniques, technologies, questions, interpretations and ethical landscapes are constantly evolving, and we teach students to thrive on this dynamic uncertainty.

The study of science and technology can be formative, exploring human creativity and potential in the development of technologies and scientific solutions, the opportunity to engage in the stewardship of the natural world, and the opportunity to promote social justice.

We provide opportunities to engage with the problems that face Hawai'i and the Pacific region through the Natural Sciences curriculum, in particular, those centered around severe challenges in health, poverty, environmental resilience, and erosion of traditional culture. The Marianist Educational Values relate to Native Hawaiian ideas of mana, na'auao, ohana, aloha and aina. We intend for our Natural Sciences programs to be culturally-sustaining, rooted in our Hawaiian place, and centered on core values of Maiau, be neat, prepared, careful in all we do; Makawalu, demonstrate foresight and planning; `Ai, sustain mind and body; Pa`a Na`au, learn deeply.

Native Hawaiian Values – Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the ʻŌlelo Noʻeau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua (ʻŌlelo Noʻeau 364) May I live by God.
2. Provide an Integral, Quality Education (Naʻauao) Lawe i ka maʻalea a kūʻonoʻono (ʻŌlelo Noʻeau 1957) Acquire skill and make it deep.
3. Educate in Family Spirit (ʻOhana) ʻIke aku, ʻike mai, kōkua aku kōkua mai; pela iho la ka nohana ʻohana (ʻŌlelo Noʻeau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship.
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka noʻeau (ʻŌlelo Noʻeau 1430) Education is the standing torch of wisdom.
5. Educate for Adaptation and Change (ʻĀina) ʻAʻohe pau ka ʻike i ka hālau hoʻokahi (ʻŌlelo Noʻeau 203) All knowledge is not taught in the same school

Alignment of Course Learning Outcomes

	CLO 1	CLO 2	CLO 3
Marianist Values		X	X
PLOs	X	X	X
Native Hawaiian Values		X	X
Gen Ed Learning Outcomes (if applicable)	X	X	X

Class Policies

Communication – Communication with the instructor will primarily take place over email. I will respond to your emails as soon as possible, within 36 hours. All students are also welcome to attend office hours or just stop by anytime my office door is open. Quick reading: Why College Professors Want You to Talk to Them

Absences – Each student, regardless of the reason for absence, is responsible for completing all assigned work by the scheduled deadline, or in advance in cases of planned absences.

Time Allocation - This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Over the 15 weeks of this course, students will spend 34 hours in class (lecture, discussion, and classwork activities), 51 hours collecting data and completing assignments, and 50 hours researching and developing final projects. This is an average of 9 hours per week, including class time.

Participation - Group discussion and collaboration are essential to the sciences, and therefore participation is essential in this course. Active participation (listening, asking/answering questions, offering perspectives/examples, etc.) is *required* to earn participation credit.

Assignments and Late Work - All assignments must be submitted by the due date listed on the syllabus or as instructed in class. **Late assignments will not be accepted without prior arrangement**. Readings are also due on the date listed on the syllabus. Reading reviews take place on the date that the reading is listed on the syllabus.

Classroom Etiquette - Electronic devices should be used responsibly during class meetings. Devices should not distract the classroom environment, and students proving distracted, or distracting to others, will not earn participation credit for that session. If you are reading this, send me a picture of your favorite type of baked good for 1 extra credit point.

Assignment Drafts – Students may submit rough drafts of their assignments no later than one week in advance of the final due date for that assignment. Students who choose to do this will receive extensive comments and suggestions for improvements no later than 3 days before the assignment due date. **This is optional** but will benefit your work and your grade.

Extra Credit – Extra credit opportunities will be offered throughout the semester and will often require work outside of the classroom. The number of extra credit opportunities cannot be anticipated or guaranteed, so, while it is a good opportunity to boost your grade, the best way to do well in this class will be to participate regularly and submit quality work on time.

Grades of "Incomplete" – Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. An Incomplete Contract (available from the Divisional Secretary and the Portal) must be completed. When submitting a grade the "I" will be accompanied by the alternative grade that will automatically be assigned after 30 days. These include IB, IC, ID, and IF. If only an "I" is submitted the default grade is F. The completion of the work, evaluation, and reporting of the final grade is due within 30 days after the end of the semester or term. This limit may not be extended.

Final Grades – Final grades will be computed following the grading structure printed above (see page 1). Grades will be regularly updated on Canvas, at least every two weeks. Final grades will be submitted to Self-Service at the end of the term.

Grades are interpreted as follows:

A 90–100%	Outstanding scholarship and an unusual degree of intellectual initiative
B 80–89%	Superior work done in a consistent and intellectual manner
C 70–79%	Average grade indicating a competent grasp of subject matter
D 60–69%	Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work.
F < 60%	Failed to grasp the minimum subject matter; no credit given

Changes to the Syllabus – While the provisions of this syllabus are as accurate and complete as possible, your instructor reserves the right to change any provision herein at any time. Every effort will be made to keep you advised of such changes, and information about such changes will be available from your instructor over email and/or on Canvas, as well as announced in class.

Important Information

Academic Honesty – Academic honesty is an essential aspect of all learning, scholarship, and research. It is one of the values regarded most highly by academic communities throughout the world. Violations of the principle of academic honesty are extremely serious and will not be tolerated.

Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, and plagiarism, in addition to more obvious dishonesty.

Questions of academic dishonesty in a particular class are first reviewed by the instructor, who must make a report with recommendations to the Dean of the Academic Division. Punishment for academic dishonesty will be determined by the instructor and the Dean of Academic Division and may include an "F" grade for the work in question, an "F" grade for the course, suspension, or dismissal from the University.

For the most up to date information, please refer to the Academic Honesty Policy on the Chaminade University Catalog website.

Title IX and Nondiscrimination Statement – Chaminade University of Honolulu is committed to providing a learning, working and living environment that promotes the dignity of all people, inclusivity and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator.

Nondiscrimination Policy & Notice of Nondiscrimination – Chaminade University of Honolulu does not discriminate on the basis of sex and prohibits sex discrimination in any

education program or activity that it operates, as required by Title IX and its regulations, including in admission and employment. Inquiries about Title IX may be referred to the University's Title IX Coordinator, the U.S. Department of Education's Office for Civil Rights, or both and contact information may be found at the Chaminade University Title IX Office Contact Information and Confidential Resources website. On-campus Confidential Resources may also be found here at CAMPUS CONFIDENTIAL RESOURCES.

The University's Nondiscrimination Policy and Grievance Procedures can be located on the University webpage at: https://chaminade.edu/compliance/title-ix-nondiscrimination-policies-procedures/.

To report information about conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please refer to the Campus Incident Report form. Chaminade University of Honolulu prohibits sex discrimination in any education program or activity that it operates. The NOTICE of NONDISCRIMINATION can be found here: Notice of Nondiscrimination.

CUH Alert Emergency Notification – To get the latest emergency communication from Chaminade University, students' cell numbers will be connected to Chaminade's emergency notification text system. When you log in to the Chaminade portal, you will be asked to provide some emergency contact information. If you provide a cellphone number, you will receive a text from our emergency notification system asking you to confirm your number. You must respond to that message to complete your registration and get emergency notifications on your phone.

Assessment for Student Work – With the goal of continuing to improve the quality of educational services offered to students, Chaminade University conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

Student with Disabilities Statement – Chaminade University of Honolulu offers accommodations for all actively enrolled students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act (2008).

Students are responsible for contacting Kokua Ike: Center for Student Learning to schedule an appointment. Verification of their disability will be requested through appropriate documentation and once received it will take up to approximately 2–3 weeks to review them. Appropriate paperwork will be completed by the student before notification will be sent out to their instructors. Accommodation paperwork will not be automatically sent out to instructors each semester, as the student is responsible to notify Kokua Ike via email at ada@chaminade.edu each semester if changes or notifications are needed.

Kōkua ʻIke: Tutoring & Learning Services – Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua ʻIke: Center for Student Learning in a variety of subjects (including, but are not limited to biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua ʻIke's website for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. Tutor Me can be accessed 24/7 from your Canvas account. Simply click on Account > TutorMe. For more information, please contact Kōkua ʻIke at tutoring@chaminade.edu or 808-739-8305.

School and Department Information

School of Natural Sciences and Mathematics

Office Location: Wesselkamper, Room 116
Phone: (808) 440-4204

If you have questions regarding Data Science, Analytics, and Visualization, reach out to your Instructor or the School of Natural Sciences and Mathematics.

Course Schedule

(Subject to change as needed)

Week	Monday (lecture)	Wednesday (lab)	Friday (concepts)
One 1/12–1/17	Syllabus	Introduction	OS Features
Two 1/19–1/23	**HOLIDAY**	Hello, World! Lab	System Calls
Three 1/26–1/30	From Code to Execution	System Calls Lab	Processes
Four 2/2–2/6	Processes	Calculator Lab (Assignment 2)	Resources & Threads
Five 2/9–2/13	Resources & Threads	Process Creation Lab (Assignment 3)	Scheduling
Six 2/16–2/20	**HOLIDAY**	Scheduling (lecture)	Concurrency & Deadlocks
Seven 2/23–2/27	Scheduling & I/O	Scheduler Lab (Assignment 4)	Memory Management & Virtual Memory
Eight 3/2–3/6	Memory Management & Virtual Memory	Memory Allocation Lab (Assignment 5)	OS Security
Nine 3/9–3/13	OS Security	Permissions/ Security Lab (Assignment 6)	File Systems
Ten 3/16–3/20	**SPRING BREAK**		
Eleven 3/23–3/27	File Systems	File System Explorer Lab (Assignment 7)	Catch-up
Twelve 3/30–4/3	Special Topics & Intro to Scrum	Discuss Projects & Scrum Setup	Project Planning
Thirteen 4/6–4/10	**Project Proposal**	Sprint 1	Sprint 1
Fourteen 4/13–4/17	Sprint Review/ Retrospective	Sprint 2	Sprint 2
Fifteen 4/20–4/24	Sprint Review/ Retrospective	**Nā Liko Naʻauao**/ Sprint 3	Sprint 3
Sixteen 4/27–5/1	Sprint Review/ Retrospective	**Presentations**	Debrief
Finals 5/4–5/8	**Final Project due Thursday, May 7 at 5:30 pm**		

revised 13 January 2026