



CHAMINADE UNIVERSITY MISSION STATEMENT

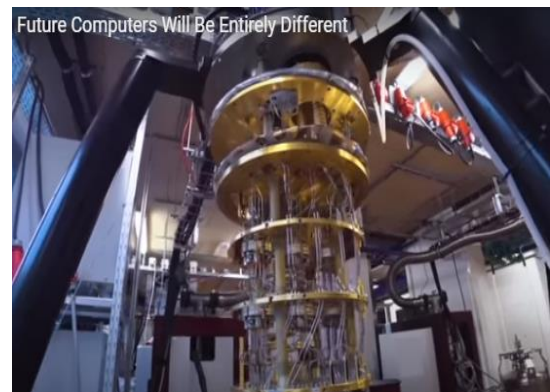
Chaminade University offers its students an education in a collaborative learning environment that prepares them for life, service, and successful careers. Guided by its Catholic, Marianist and liberal arts educational traditions, Chaminade encourages the development of moral character, personal competencies, and a commitment to build a just and peaceful society. The university offers both the civic and church communities of the Pacific region its academic and intellectual resources in the pursuit of common aims.

2024 Spring Day Semester

January 09 – May 03, 2024

CS400-01-1 Computer Architecture

CANVAS → <https://chaminade.instructure.com/courses/34875>



“QUANTUM COMPUTERS ...

COULD SOLVE THE PROBLEMS IN MUNITIES THAT WOULD TAKE TODAY’S SUPERCOMPUTERS MILLIONS OF YEARS.”

SOURCE:

<https://www.cbsnews.com/news/quantum-computing-advances-60-minutes/?intcid=CNR-02-0623>

13:14 min

DARE TO LEARN. DARE TO CHANGE.

“The future is no longer stable; it has become a moving target. No single “right” projection can be deduced from past behavior. The better approach, I believe, is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just occasional, temporary deviation from a reasonable predictability; it is a basic structural feature of the business environment.” ¹

¹ Farsighted. How We Make the Decisions that Matter the Most” by Steven Johnson, New York Times best-selling author



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1. FACULTY CONTACT INFORMATION

Class Schedule:

Dates: January 09, 2024 – May 03, 2024
Department Name: School of Natural Science & Mathematics (SNSM)
Course Credits: Three (3)
Class Meeting Hours: Tu Th @01:00 PM – 02: 20 PM at SULV 201

Instructor: Maria Brownlow, Ph.D.
Management Science, Business Strategy, Business Analytics/Informatics, Computer Information Systems (CIS)
Contact Info: 808-739-8337 (office)
CUH email: maria.brownlow@chaminade.edu

SNSM Division Phone #: (808) 440-4204
SNSM Assistant to Dean: Faith Chang
Class Schedule: 01:00 – 02:20 PM MWF at SULV201
Office Hours: Noon – 01:00 PM MWF at Kieffer Room 28 or by appointment

2. COURSE INTRODUCTION AND OVERVIEW

Catalog course description:

CS 400 Computer Architecture (3)

This course will introduce the concepts, techniques, methods, and design of computer systems. Students in this course will learn various computer components, parallel computing, architecture versus organization, logic modules, central processing unit (CPU) and data path implementation, memory structures and timing, input, and outputs (I/O), interrupts, protocols, instruction cycles and the control unit, security, assembly language programming, and parallel computing. Prerequisites: EN 102, COM 101, and CS 202 or CS 205.

The Computer Science field is continuously evolving with innovations and improvements in computer performance. Changes are hard to capture without making too much engineering like which requires a higher mathematics, physics, and even neuroscience when it comes human brain studies.

The INSTITUTE FOR THE FUTURE, (IFTF)² work identified that emerging trends would transform global society and the global marketplace. They identified six drivers of change and future skills needed to obtain interesting jobs.

² Research conducted by *The Institute For The Future*

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What are disruptive drivers? Disruptive drivers are big disruptive shifts that are likely to reshape the future landscape.

The first driver is **EXTREME LONGEVITY**, increasing global lifespans change the nature of career and learning. It is estimated that by 2025, the number of Americans over sixty will increase by 70%. The first quantum computer from IBM was installed in the Cleveland Clinic. “Quantum computers can potentially model the behavior of proteins, the molecules that regulate all life, Erzurum said. Proteins change their shape to change their function in ways that are too complex to follow, but quantum computing could change that understanding.”

The second driver is the **RAISE OF SMART MACHINES AND SYSTEMS**. Workplace automation pushes workers out of routine, repetitive tasks. We are on the edge of a major transformation in our relationship with tools. As these machines replace humans in some tasks, and augment them in others, their very presence among us will force people to confront important questions: What is our competitive advantage? What is our place alongside these machines?

The third driver is **COMPUTATIONAL WORLD**, massive increases in sensors and processing power make the world a programmable system. The diffusion of sensors, communications, and processing power into everyday objects and environments will unleash an unprecedented surge of data and the opportunity to see patterns and design systems on a scale never before possible.

Every object, every interaction, everything we come to contact will be converted into data. Once we decode the world around us and start seeing it through the lens of data, we will increasingly focus on manipulating data to achieve desired outcomes. The collection of enormous quantities of data will enable modeling of social systems at extreme scales, both micro and macro, helping uncover new patterns and relationships that were previously invisible.

The fourth driver is **NEW MEDIA ECOLOGY**. New communication tools require new media literacies beyond the text. New multimedia technologies are bringing about a transformation in the way we communicate. As technologies for video production, digital animation, augmented reality, gaming, and media editing, become more sophisticated and widespread, a new ecosystem will take shape around these areas.

The fifth driver is identified as **SUPER-STRUCTED ORGANIZATIONS**. Social technologies drive new forms of production and value creation. Recent technologies and social media platforms are driving on unprecedented reorganization of how we produce and create value. Amplified by the new level of collaborative intelligence and tapping resources embedded in social connections we can now achieve the kind of scale and reach previously attainable in organization.

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The six drivers are a globally **CONNECTED WORLD**. Increase global connectivity puts diversity at the center of organizational operations. At its most basic level, globalization is the long-term trend towards greater exchanges and integration across geographics borders.

The course topics are organized around three parts:³

1. **PART I: Introduction**

- Ch1 Basic Concepts and Computer Evolution
- Ch2 Performance Concepts

2. **PART II: The Computer System**

- Ch3 A Top-Level View of Computer Function and Interconnection
- Ch4 The Memory Hierarchy: Locality and Performance
- Ch5 Cache Memory
- Ch6 Internal Memory
- Ch7 External Memory
- Ch8 Input/Output
- Ch9 Operating System Support

3. **PART III: Arithmetic and Logic**

- Ch10 Number Systems
- Ch11 Computer Arithmetic
- Ch12 Digital Logic

4. **PART IV: The Central Processing Unit***

- Ch16 Processor Structure and Function
- Ch18 Instruction-Level Parallelism and Superscalar Processors

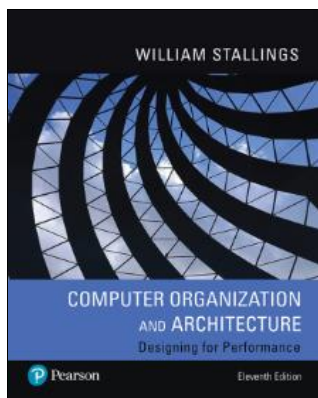
5. **PART V: Parallel Organization***

- Ch20 Parallel Processing

*Note: Part IV and V is computer organization. Students will be introduced to the concepts of pipelining and parallel processing if time permits. and Multicore Computers.

³ Textbook, Computer Organization and Architecture, Designing for Performance by William Stallings

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Textbook: **“Computer Organization and Architecture, Designing for Performance”** by William Stallings
11th Edition, Pearson, ISBN-13: 978-0-13-499719-3

Note: This textbook is strongly recommended. Google to search ISBN for renting the textbook at the best price.

3. CATALOG DESCRIPTION

CS400 Computer Architecture (3 CR)

Computer architecture refers to the design and basic structure of a computer system, including its hardware structures, their interconnections, and the principles that guide their organization. It encompasses the higher-level aspects of computer design, such as the Instruction Set Architecture (ISA), memory hierarchy, and the organization of the central processing unit (CPU). Computer architecture sets the foundation for building efficient, dependable, and high-performance computer systems.

Computer architecture refers to those attributes of the system that are visible to the software programmer and have a direct impact on the logical execution of a program, like the number of bits used to represent various data types, the instruction set of the computer, technique for addressing memory, method used for input, output, etc. It defines the system in an abstract manner and deals with the concepts that the programmer deals with directly.

The following three main categories are considered while considering the design of architecture:

- **System Design** (contains hardware components that are used for building the system)
- **Instruction Set Architecture** (includes all the instructions provided to the computer system)
- **Micro Architecture** (give minute detail about storage element)

Computer architecture plays a critical role in determining the overall performance, power efficiency, and scalability of a computer system. Design choices in architecture impact a system's ability to manage various workloads, support future technologies, and deliver a satisfactory user experience.

Computer organization describes the way the various components of the computer system are interconnected to perform tasks and execute programs. It plays an essential role in determining the overall computer performance.

Course Website on CANVAS:

4. INSTITUTIONAL LEARNING OUTCOME

1. Written communication
2. Oral communication
3. Critical thinking
4. Information literacy
5. Quantitative reasoning

5. PROGRAM LEARNING OUTCOMES PLO [from SCHOOL NATURAL SCIENCE MATHEMATICS (SNSM)]

Upon completion of the undergraduate B.S. program in Computer Science students will be able to:

1. **Identify, describe, and execute** foundational computer organization and architecture, operating systems, computer networks and management, information systems, database systems, software engineering, and programming.
2. **Describe and apply** foundational mathematical concepts and operations towards design, development, and analysis of applications.
3. **Identify and apply** programming tools such as Python, Java, R, and SQL languages towards application design and development.
4. **Evaluate and integrate** an awareness of regulatory, ethical issues, and collective standards to positively influence the application of computer science to service, justice, and peace in working towards solutions for societal problems and opportunities.
5. **Identify and apply** awareness of technological changes to positively influence adaptation and change of computer science methods.
6. **Explain, plan, and execute** computer science tasks within multidisciplinary teams.
7. **Execute a domain-specific capstone project** addressing a stakeholder-generated use case.

6. Course Learning Outcomes (CLO)

Course Learning Outcomes and Linkage to the Program Learning Outcomes. Upon completion of the CS400-01-1 course students will be able to:

Course Learning Outcomes (CLO)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
1. Explain the computer evolution of basic concepts in designing computers for scalability and performance (comprehension).	X						
2. Demonstrate knowledge of computer architecture and organization to design computers which serve world communities solving alarming changes in the climate				X			

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Course Learning Outcomes (CLO)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
which threaten human existence (application).							
3. Apply computers expertise how to use data inputs in research through conceptual understanding the science of data to provide output solutions for social problems (analysis).					X		

Alignment of CLO with the Marianist and Hawaiian Values:

	CLO 1 <i>Explain</i> the computer evolution of basic concepts in designing computers for scalability and performance (comprehension).	CLO 2 <i>Demonstrate knowledge</i> of the computer architecture and organization to design computers which serve world communities solving alarming changes in the climate which threaten human existence (application).	CLO 3 <i>Apply</i> computers expertise how to use data inputs in research through conceptual understanding the science of data to provide output solutions for social problems (analysis).
Marianist Values	1	3	5
Native Hawaiian Values	2	3	1

6. MARIANIST VALUES

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. Characteristics of Marianist Universities: Chaminade University of Honolulu, St. Mary's University, University of Dayton, A Resource Paper, published in 1999, Republished in 2006

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. Characteristics of Marianist Universities: Chaminade University of Honolulu, St. Mary's University, University of Dayton, A Resource Paper, published in 1999, Republished in 2006.

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1. Educate for formation in faith.

“As higher educational institutions, Marianist universities have kept, along with education in the disciplines, a commitment to the development of the whole person, which includes the dimension of religious faith and its personal appropriation and practice.”

Catholic Universities affirm an intricate relationship between reason and faith. As important as discursive and logical formulations and critical thinking are, they are not able to capture all that can be and ought to be learned. Intellectual rigor coupled with respectful humility provides a more profound preparation for both career and life. Intellectual rigor characterizes the pursuit of all that can be learned. Respectful humility reminds people of faith that they need to learn from those who are of other faiths and culture, as well as from those who may have no religious faith at all.⁴

2. Provide an integral quality education.

“In the Marianist approach to education, “excellence” includes the whole person, not just the technician or rhetorician. It also includes people with their curricular and extra-curricular experiences, their intellectual and spiritual development, understood and supported best in and through community.”

In the Marianist approach to education, excellence includes the whole person, not just the technician or rhetorician. Marianist universities educate whole persons, developing their physical, psychological, intellectual, moral, spiritual, and social qualities. Faculty and students address fundamental moral attitudes, develop their personal talents, and acquire skills that will help them learn all their lives. The Marianist approach to education links theory and practice, liberal and professional education. Our age has been deeply shaped by science and technology. Most recently, information and educational technologies have changed the way faculty and students research and teach. At Marianist universities, two goals are pursued simultaneously: an appropriate use of information technology for learning, and the enhancement of interaction between students and teachers. As Catholic, Marianist Universities seek to embrace diverse peoples and understand diverse cultures, convinced that, when such people come together, one of the highest purposes of education is realized: a human community that respects every individual within it.

3. Educate in family spirit.

“Marianist educational experience fosters the development of a community characterized by a sense of family spirit that accepts each person with loving respect and draws everyone in the university into the challenge of building community. Community support for scholarship, friendship among faculty, staff and students, and participation in university governance characterize the Marianist University.”

Known for their powerful sense of community, Marianists have traditionally spoken of this sense as “family spirit.” Marianist educational experience fosters the development of a community characterized by a sense of family spirit that accepts each person with loving respect and draws everyone in the university into the challenge of community building. Family spirit also enables Marianist universities to challenge their students, faculty and

⁴ 2014 Characteristics of Marianist Universities

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staff to excellence and maturity, because the acceptance and love of a community gives its members the courage to risk failure and the joy of sharing success.

4. Educate for service, justice, and peace.

“The Marianist approach to higher education is deeply committed to the common good. The intellectual life itself is undertaken as a form of service in the interest of justice and peace, and the university curriculum is designed to connect the classroom with the wider world. In addition, Marianist universities extend a special concern for the poor and marginalized and promote the dignity, rights, and responsibilities of all peoples.”

The Marianist approach to higher education is deeply committed to the common good. The intellectual life itself is undertaken as a form of service in the interest of justice and peace, and the university curriculum is designed to connect the classroom with the wider world. In addition, Marianist universities extend a special concern for the poor and marginalized and promote dignity, rights, and responsibilities of all people.

5. Educate for adaptation and change.

“In the midst of rapid social and technological change, Marianist universities readily adapt and change their methods and structures so that the wisdom of their educational philosophy and spirituality may be transmitted even more fully.”

During rapid social and technological change, Marianist universities readily adapt and change their methods and structures so that the wisdom of their educational philosophy and spirituality may be transmitted even more fully. “New Times call for new methods,” Father Chaminade often repeated. The Marianist University faces the future confidently, on the one hand knowing that it draws on a rich educational philosophy, and on the other fully aware for that philosophy to remain vibrant in changing times, adaptations need to be met. Selected from Characteristics of Marianist Universities: A Resource Paper Published in 1999 by Chaminade University of Honolulu, St. Mary’s University and University of Dayton.

7. 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 ‘Olelo No’eau (Hawaiian proverbs) and Marianist core beliefs:

1. **Educate for Formation in Faith (Mana)** E ola au i ke akua (‘Olelo No’eau 364) [May I live by God.](#)
2. **Provide an Integral, Quality Education (Na’auao)** Lawe i ka ma’alea a kū’ono’ono (‘Olelo No’eau 1957) [Acquire skills and make them deep.](#)
3. **Educate in Family Spirit (‘Ohana)** ‘Ike aku, ‘ike mai, kōkua aku kōkua mai; pela iho la ka nohana ‘ohana (‘Olelo No’eau 1200) [Recognize others, be recognized, help others, be helped; such is a family relationship.](#)

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4. **Educate for Service, Justice, and Peace (Aloha)** Ka lama kū o ka no‘eau (‘Ōlelo No‘eau 1430) [Education is the standing torch of wisdom and using it has no boundaries.](#)
5. **Educate for Adaptation and Change (Aina)** ‘A‘ohe pau ka ‘ike i ka hālau ho‘okahi (‘Ōlelo No‘eau 203) [All knowledge is not taught in the same school.](#)

Technical Assistance for CANVAS Users:

Search for help on specific topics or get tips in CANVAS Students	https://community.canvaslms.com/t5/Student-Guide/tkb-p/student
Live chat with CANVAS Support for students	https://cases.canvaslms.com/liveagentchat?chattype=student
CANVAS Support Hotline for students: +1-833-209-6111	
Watch this video to get you started.	https://community.canvaslms.com/t5/Video-Guide/tkb-p/videos#jive_content_id_Students
Online tutorials: click on “Students”	https://chaminade.instructure.com/courses/19712
Contact the Chaminade IT Helpdesk for technical issues or call (808) 735-4855	helpdesk@chaminade.edu

Tutoring and Writing 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 ‘Ike: 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 ‘Ike’s website <https://chaminade.edu/student-success/kokua-ike/> 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 Account – Notifications – TutorMe. For more information, please contact Kōkua ‘Ike at tutoring@chaminade.edu or 808-739-8305.

Assessment

Service learning assignments and connect with the CUH Service Learning Center <https://chaminade.edu/service-learning-community-engagement/>

8. ASSESSMENT AND GRADING

GRADING

Grading will be based on the following table:

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GRADING YOUR ACCOMPLISHMENTS:	GRADE SCALE:
Homework assignments	A = 90% – 100%
Quizzes & tests	B = 80% – 89%
Exams	C = 70% – 79%
Staying on schedule with assignments Priceless	D = 60% – 69%
	F* = 50% – 99%
	IF* = “Incomplete F” gives student 30 days to work on missing assignments. Needs a strong justification. “IF” will be Individually decided by instructor and/or the Program Director along with a consolation with student.

Letter grades are given in all courses except those conducted on a credit/no credit basis. Grades are calculated from the student’s assignments, class participation, quizzes, tests, term papers, reports, and exams.

They are interpreted as follows:

- A → Outstanding scholarship and an unusual degree of intellectual initiative
- B → Superior work done in a consistent and intellectual manner.
- C → Average grade indicating a competent grasp of subject matter.
- D → Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
- F* → Failed to grasp the minimum subject matter; no credit given.
- W → Withdrawal before published deadline.
- I → The issuing of an “I” grade is not automatic. At the discretion of the faculty member, a grade of “I” may be assigned to a student who completed a few assignments but was unable to finish the homework due to unforeseen circumstances.
- IP → In progress; primarily used for thesis completion or practicum completion.
- AU → Audit
- CR/NC → Credit/N

Learning is never ending process. We learn every day by observing, solving problems, making mistakes, and trying not to repeat them. Student responsibility is discovering your own style of learning. Educators’ responsibility is to create a learning environment that student flourish.

What students need to know about my pedagogy, on how to succeed.

1. Maintain open communication. You have a question, just ask me.
2. If you have an idea how to improve teaching, share with class to discuss and implement.
3. The CS400 course resides on the CANVAS.
4. If you obtained a grade that you did not expect and you want to review incorrect answers and re-do them, you are welcome to do this within the next two weeks. Practice is learning.

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5. I do not deduct points if you submit an assignment within 2 weeks of the due date.
6. Exams are scheduled throughout the semester.
7. Exams cannot be repeated and must be completed within assigned dates. If unusual circumstances had occurred, and you notify me before the date of the exam, the exam will be rescheduled. Each request to re-do the exam will be considered individually.

8. UNIVERSITY POLICIES

TITLE IX COMPLIANCE

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Undergraduate Catalog, 2022-2023 Academic Year

<https://catalog.chaminade.edu/>

Student Conduct Policy

Campus life is a unique situation requiring the full cooperation of everyone. Chaminade is not only a school, but a home and a place of work as well. That makes it a community environment in which the actions of one student may directly affect other students.

Therefore, each person must exercise a high degree of responsibility. Any community must have standards of conduct and rules by which it operates. At Chaminade, these standards are outlined to reflect both the Catholic, Marianist values of the institution and to honor and respect students as responsible adults.

All alleged violations of the community standards are managed through an established student conduct process, outlined in the Student Handbook, and operated within the guidelines set to honor both students' rights and campus values.

Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's authority from the time of their admission until their enrollment has been formally terminated.



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Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website under Student Life. For further information, please refer to the Chaminade Catalogue.

Student Health

In the overall scope of student development, health care is a vital element for physical development and well-being. Because Chaminade University does not have a health center on campus, we offer free alternative means of transportation for residence students to and from local public clinics and area hospitals.

Chaminade supports health requirements that complement the goals of maintaining a healthy, safe campus. These requirements are based upon the laws of the State of Hawaii and therefore are strictly enforced. Failure to comply will result in being prohibited from registering for classes and/or moving into residence halls.

Tutoring Services and Writing 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 'Ike:

<https://chaminade.edu/student-success/kokua-ike/> 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 'Ike'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 Account – Notifications – TutorMe. For more information, please contact Kōkua 'Ike at tutoring@chaminade.edu or 808-739-8305.

Writing Policy

Offer specifics about your policy on formatting, e.g., use of MLA or APA.

Instructor and Student Communication

Questions for this course can be emailed to the instructor at maria.brownlow@chaminade.edu. Online, in-person and phone **808-739-8337** conferences can be arranged. Response time will take place up to within 24 hours or earlier.

Cell phones, tablets, and laptops

Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

Disability Access



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If you need individual accommodation to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from Kōkua 'Ike: Center for Student Learning by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodation, they should contact the Kōkua 'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

Attendance Policy

The following attendance policy is from the 2019-2020 Academic Catalog (p. 54-55). Faculty members should also check with their divisions for division-specific guidelines. Students are expected to regularly attend all courses for which they are registered.

Students should notify their instructors when illness or other extenuating circumstances prevent them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade.

Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any unexcused absence of two consecutive weeks or more may result in being withdrawn from the course by the instructor, although the instructor is not required to withdraw students in that scenario. Repeated absences put students at risk of failing grades. Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu Tutor Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes.

Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in a minimum of 45 hours of engagement, regardless of varying credits, duration, modality, or degree level. This equates to one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester. Terms that have alternative lengths, such as 15-week terms, should have an equivalent amount of faculty instruction and out-of-class student work to meet

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each credit hour. Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for one credit. The number of engagement hours may be higher, as needed to meet specific learning outcomes.

Specific Credit Situations

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through means, including:

- a. **regular online instruction** or interaction with the faculty member and fellow students and
- b. **academic engagement** through extensive reading, research, online discussion, online quizzes, or exams; instruction, collaborative group work, internships, laboratory work, practice, studio work, and preparation of papers, presentations, or other forms of assessment.

This policy is in accordance with federal regulations and regional accrediting agencies.

Assuming a three-credit hour course requires key assessments (there is no essay in this quantitative), mid-term exam, and final exam, the time calculation would be as follows:

- **Seat Time:**
 - 50 minutes MWF = 150min weekly x 15 weeks = 2,250 minutes or **37.5 hours**
- **Time Spent on Key Assessments:**
 - **Assignments** in CANVAS type homework, quizzes, tests, interactive videos, and simulations is 3-times per week X 1.2 hrs. of study X 15 weeks = **54 hours**
 - **Exams** = 8 exams scheduled over the semester period X 3 hrs. studying = **20 hours**
 - **Additional time** for volunteering to participate in the community projects = **5 hours**
per semester participating in community projects as assigned (reading, researching, compiling data, participating in community initiatives)
- Sub-Total = 37.5 hrs. + 54 hrs. + 20 hrs. + 5 hrs. = 116.5 hours (seat time + key assessments)
- Total required engagement 135 hours - 116.5 hours = **18.5 hours** remaining to fill as contingency
- The 18.5 hrs. divided by 15 weeks = 1 hours of additional time each week (reading, studying, working on homework, volunteering community projects)

This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Students enrolled in this course anticipated to spend **37.5 hours** in class, **63 hours** on past due assignments and grades improvements, **twenty-four** studying for eight exams and an additional **5 hours** on community service projects. There will be an additional 18.5 hours of work required beyond what is listed here (course readings, homework assignments, etc.), averaging 1.23 hours each week.

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Chat online:

Introduce yourself to others in the chat session. Be polite. Choose words carefully. Do not use derogatory statements. Be concise in responding to others in the chat session. Be constructive in your comments.

Discussion Groups:

1. Review discussion threads thoroughly before entering the discussion.
2. Maintain threads by using the “reply” button rather than starting a new topic.
3. Be respectful of others’ ideas.
4. Read the comments of others thoroughly before entering your remarks.
5. Cooperate with group leaders in completing assigned tasks.
6. Be positive and constructive in group discussions.
7. Respond in a thoughtful and timely manner.

Classroom Policies

While each instructor has their own policies regarding classroom conduct and requirements, the following University policies apply to all classes:

- Smoking and alcoholic beverages are prohibited in all classrooms, whether class is in session.
- No pets are allowed in class. Exceptions will be made in the case of a seeing-eye dog.
- Radio, CD players, headsets, televisions, and other personal audiovisual equipment not pertinent to the class are prohibited during class.
- Cellular telephone use is also prohibited during class except in extenuating circumstances approved in advance by the professor.
- The use of any camera or video devices while in class, restrooms, locker rooms, or in any situation not normally considered public or where users of the facility may expect privacy is prohibited. Such devices shall include but are not limited to those in mobile telephones, computers, electronic organizers, or other more surreptitious equipment, and which are capable of capturing either still or moving image.
- A dress code requiring footwear and appropriate attire, to be worn in classrooms, as well as in the library, cafeteria, and administrative offices. No beachwear is allowed. Laboratories have additional requirements. Please note that it is the instructor’s sole prerogative to determine whether a student is.
- In a fit condition to perform classroom work (e.g., is not under the influence of alcohol or drugs, and is not sleeping).
- Working on assignments for that class (rather than working on projects for other classes or engaging in activity unrelated to schoolwork).
- Distracting other students impairs the learning environment.

If the instructor finds a student in violation of any of these provisions, or the policies outlines in the course syllabus, he or she may require the student to leave the classroom and may subsequently mark the student absent, which could eventually affect the student’s final grade. Failure on the part of the



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student to honor the instructor's request to leave the classroom may result in removal of the student by the University security personnel and initiation of the University disciplinary process.

Communicable Disease Policy

<https://www.cdc.gov/>

Residence Life: (808) 739-4648

Dean of Students: (808) 735-4710

Drug – Free Workplace & Campus Policy

Student Handbook, on page # 43

Use of Technology to Harass

No student may, under any circumstances, use technology to harass any other person.

Library:

Provide a link to the Chaminade library, www.chaminade.edu/library

Privacy and Confidentiality

See Catalog, page #50

Here are important items "You Need to Know:"

24-Hour Chaminade University **Emergency Information Hotline (808) 739 - 7499; (833) 739 - 7499**

University Emergency Information webpage: <https://chaminade.edu/emergency/>

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