



College of Education and Human Development

Education

EDUC 612 Elementary Science Methods

Online Asynchronous | Credits: 3 | Section: 90-3 | Term: Fall 2026

Instructor Information

Instructor	Katrina Roseler
Email	katrina.roseler@chaminade.edu
Phone	808.440.4215
Virtual Office Hours	By appointment

Communication

Communication for this course, including announcements, assignments, and grades, will be posted on Canvas. When communicating with me electronically, please identify the course you are referring to in the subject line (EDUC 612) of your email. My goal is to respond to emails within 24 hours; however, there may be delays on weekends and holidays.

School & Department

School	School of Education
Location	Brogan Hall
Phone	(808) 739.4652
Questions?	Contact your instructor or the School of Education

Course Description & Materials

Catalog Description

This course focuses on helping the teacher uncover big picture concepts through inquiry-based science activities and then planning dynamic science units for the elementary classroom based on these understandings. Successful candidates will acquire an understanding of big ideas in physical, life, earth, and space science; develop inquiry-based science skills; and learn how to plan and teach meaningful units and lessons for K-6 students.

Course Snapshot

Modality	Online Asynchronous														
Time Commitment	This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. <table border="1"> <thead> <tr> <th>Activity group</th><th>Hours of engagement</th></tr> </thead> <tbody> <tr> <td>Reading & Videos</td><td>37.5</td></tr> <tr> <td>Content and Skills Assignments</td><td>20.5</td></tr> <tr> <td>Teaching Reflection Assignments</td><td>9.0</td></tr> <tr> <td>Pedagogy Assignments</td><td>58.5</td></tr> <tr> <td>Other tasks (Reading the syllabus, syllabus quiz, student introductions, etc)</td><td>10</td></tr> <tr> <td>Total</td><td>135.5</td></tr> </tbody> </table>	Activity group	Hours of engagement	Reading & Videos	37.5	Content and Skills Assignments	20.5	Teaching Reflection Assignments	9.0	Pedagogy Assignments	58.5	Other tasks (Reading the syllabus, syllabus quiz, student introductions, etc)	10	Total	135.5
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Total	135.5														
Required Materials	<i>No Required Texts</i>														
Canvas	Course materials, announcements, and grades are posted to Canvas (chaminade.instructure.com).														

Learning Outcomes

Program Learning Outcomes (PLOs)

Upon completion of the Master of Arts in Teaching for Elementary Education, the student will be able to:

1. Synthesize knowledge of learner development, learner differences, diverse students, and the learning environment to optimize learning for Elementary students
2. Evaluate central concepts, tools of inquiry, and structures of the subject matter disciplines for Elementary students.
3. Utilize formative and summative assessments to determine, select, and implement effective instructional strategies for Elementary students.
4. Analyze the history, values, commitments, and ethics of the teaching profession within the school community.
5. Explain the Marianist tradition of providing an integral, quality education within diverse learning communities.

Course Learning Outcomes (CLOs)

Upon completion of EDUC 612, the student will be able to:

1. Engage in and reflect upon personal engagement with science and engineering practices (PLO2; S&E Activities).
2. Critique science/engineering teaching and learning experiences, lessons and resources (PLO 1; Teaching Reflection Assignments, Article Critiques & Online resource critiques).
3. Develop science or engineering learning activities and assessments from a foundation of NGSS as well as evidence-based approaches to science teaching and learning. (PLO 1, 2, & 3; Unit Plan).

| 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.

While all five characteristics are present in this course, we will pay particular attention to “adaptation and change.” This methods course will prepare you for decision-making roles as a secondary science educator. Through your ability to engage in and critique secondary science learning, you will begin to prepare for your dynamic role as a science teacher. Assignments in this course that will require the Marianist Value of Education for Adaptation and Change include lesson critiques and the science unit plan.

| Native Hawaiian Values

Education is central to both Marianist and Native Hawaiian culture — both seek transformative, value-centered learning that serves the marginalized. This is reflected in the ‘Ōlelo No‘eau (Hawaiian proverbs) below:

1. **Educate for Formation in Faith (Mana):** E ola au i ke akua (‘Ōlelo 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 (‘Ōlelo No‘eau 1957) — Acquire skill and make it deep.
3. **Educate in Family Spirit (‘Ohana):** ‘Ike aku, ‘ike mai, kōkua aku kōkua mai (‘Ōlelo No‘eau 1200) — Recognize others, be recognized, help others, be helped.
4. **Educate for Service, Justice and Peace (Aloha):** Ka lāma kū o ka no‘eau (‘Ōlelo No‘eau 1430) — Education is the standing torch of wisdom.
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.

| Model Code of Educator Ethics (MCEE)

The Model Code of Ethics for Educators 2.0 is intertwined throughout the various activities within this course, as well as the other courses you will take within this program. The responsibility to profession, of professional competence, to our students, to the school, and with the use of technology are integral to all aspects of this course. Principle II: Responsibility for Professional Competence has the greatest alignment with activities in this course.

- A.2 Incorporating into one’s practice state and national standards, including those specific to one’s discipline
- A.3. Advocating for equitable educational opportunities for all students
- A.5 Reflecting upon and assessing one’s professional skills, knowledge and competency on an ongoing basis
- C.1 Increasing students’ access to the curriculum, activities and resources in order to provide a quality and equitable educational experience.

| International Society for Technology in Education (ISTE) Standards

The ISTE standards are intertwined throughout the various activities within this course, as well as the other courses you will take within this program. These standards will deepen your practice, promote collaboration with peers, challenge you to rethink traditional approaches and help you prepare students to drive their own learning (<https://iste.org/>, Retrieved Dec. 2024).

- 2.1. Learner - Educators are committed to improving their practice by actively exploring emerging technologies and participating in professional networks.
 - b: Pursue professional interests by engaging in professional learning networks and organizations.
- 2.3 Citizen - Educators inspire students to positively contribute to and responsibly participate in the digital world.
 - B: Educators foster digital literacy by encouraging curiosity, reflection, and the critical evaluation of digital resources.
- 2.5. Designer - Educators design authentic, learner-driven activities and environments that recognize and address the diverse needs of all students.
 - a: Use technology to create, adapt, and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
 - b: Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.
- 2.6. Facilitator - Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students.
 - d: Model and nurture creativity and creative expression to communicate ideas, knowledge, or connections.

Alignment of Course Learning Outcomes

	CLO 1	CLO 2	CLO 3
Marianist Values	Educate for adaptation and change	Provide an Integral Quality Education	Educate for service, justice & peace Educate for adaptation and change
PLOs	2	1	1, 2, 3
MCEE	A.5		A.2, C.1
ISTE		2.3b	2.5a, 2.5b, 3.6d

Participation & Regular and Substantive Interaction (RSI)

Student Participation Expectations

This asynchronous course requires consistent, meaningful engagement with content, peers, and the instructor each week. Logging in without completing activities does not count as participation.

Students are expected to:

- Complete assigned readings, lectures, and activities within designated timeframes.
- Log in regularly to review module instructions, announcements, deadlines, feedback, and grades.
- Contribute substantively to discussions — post original responses and engage thoughtfully with peers within the required window.
- Demonstrate preparation, reflection, and critical thinking in all interactive components.
- Meet established deadlines to support collaborative learning and remain on track with the weekly sequence.

Regular and Substantive Interaction (RSI) — Instructor Commitments

- **Weekly Communication:** Weekly announcements and/or module overviews clarifying objectives, key concepts, and assignment expectations.
- **Substantive Engagement:** Instructor-facilitated discussion engagement — prompting analysis, clarifying misunderstandings, connecting posts to course concepts, summarizing takeaways.
- **Timely Feedback:** Once assignments are submitted, you will typically receive feedback in Canvas through the use of comments and within the documents submitted. Feedback and associated grades will be provided within one week of submission. Once received, you are expected to read and integrate the provided feedback into subsequent assignments.
- **Monitoring & Outreach:** Active monitoring of Canvas engagement with proactive outreach and referrals for students who miss deadlines or fall behind.

Course Policies

Late Work	<i>All assignments should be turned in by the due date. I am willing to accept late work; however, late assignments will receive a lower grade.</i>
Extra Credit	<i>If extra credit is offered, it will be posted in Canvas</i>
Incomplete Grade	<i>If students are unable to complete the course due to circumstances beyond their control, the instructor will consider offering a grade of "incomplete". This will provide the student with up to 30 days beyond the end of the term to complete all outstanding course requirements. Please note that a grade of "incomplete" must be discussed with the instructor before the end of the term. If a student does not contact the instructor by the end of the term to discuss the possibility of an incomplete, they will be awarded the grade they have earned to that point.</i>
Syllabus Changes	<i>The instructor reserves the right to modify this syllabus. Changes will be announced in class and posted to Canvas.</i>

Assessment

Students in this course will be evaluated in 2 areas. Learning is an iterative process that includes making mistakes; therefore, students will be provided feedback on their progress towards completion of the assessment items with opportunities to edit work that has been submitted.

Assessment Item	%	Description	CLO(s)
Science/Engineering Activities	35	You will be evaluated on the development of your thoughts regarding different scientific/engineering ideas. These ideas will be evaluated based on your contributions to your Investigation Journal, Presentations, etc.	1
Pedagogical Activities	65	Pedagogical Discussions, Teaching Reflection, Lesson/Unit Plan for K-6 students, Presentations, etc.	2, 3

Final Grades

Final grades are submitted to Self-Service (selfservice.chaminade.edu):

Grade	Range
A	90% and above
B	80–89.9%
C	70–79.9%
F	69% and below

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, plagiarism, **and unauthorized and/or undisclosed AI usage**, in addition to more obvious dishonesty. See catalog section *Student Use of Artificial Intelligence in Academic Work* for further information.

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

AI (Artificial Intelligence) Statement

Chaminade University recognizes the increasing role of artificial intelligence (AI) technologies in academic and professional environments. AI encompasses, but is not limited to, generative AI platforms, automated writing or content generation software, coding assistants, and similar tools. Students must ensure all submitted work genuinely reflects their knowledge and effort. Using AI to produce or significantly complete graded assignments, exams, or other academic tasks – defined as use that substitutes for or substantially replaces a student’s own analysis, reasoning, or written expression – without explicit instructor approval is considered academic misconduct and will be dealt with according to the University’s Academic Honesty Policy.

If an instructor has reasonable grounds to question whether submitted work genuinely reflects a student's own knowledge, authorship, or mastery of course material — or whether it meets the course's expectations for AI use — the instructor may require the student to provide additional or alternative evidence of authorship and content mastery. Such evidence may include drafts, notes, revision history, source materials, process explanations, oral discussion, in-class work, or completion of an alternative

assessment. A student's refusal or inability to provide such evidence may be considered, along with other available information, in evaluating whether the work meets course requirements and stated learning outcomes. Instructors will not rely solely on AI detection software or other automated tools in making grading or academic integrity determinations. Such determinations will be based on the totality of the available information and handled in accordance with applicable University policies and procedures. See the catalog section *Student Use of Artificial Intelligence in Academic Work* for further information.

Use of Generative Artificial Intelligence (Gen AI)

Students are encouraged to use Gen AI tools such as ChatGPT and others to support their learning and creativity. However, the use of these tools must adhere to the following guidelines:

- **Attribution:** Any content generated by AI must be clearly attributed.
- **Academic Integrity:** AI tools should not be used to produce entire assignments or projects without significant input and modification by the student.
- **Originality:** Students must ensure that their submissions are original and reflective of their understanding. Plagiarism, including the uncredited use of AI-generated content, is strictly prohibited.
- **Disclosure:** Students must disclose the use of AI tools in their work. This includes specifying which tools were used and how they were applied.

Examples of appropriate uses for Generative AI for course activities include

- Idea generation,
- Creating outlines, and
- Sentence-level edits (i.e., punctuation and grammar)

OpenAI. (2024). ChatGPT (July 24 version) [Large language model]. <https://chat.openai.com/chat>

Title IX and Nondiscrimination

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. For pregnant and parenting students, I am also obligated to provide you with similar resources for support and protections available to you. My goal is to make sure that you are aware of the range of options available to you and have access to the resources and support you need.

Contact information and reporting options: chaminade.edu/titleix/nondiscrimination/. File a report via the [Campus Incident Report Form](#).

Nondiscrimination Policy and Notice of Nondiscrimination

The university is committed to comply with all State and Federal statutes, rules, and regulations which prohibit discrimination. The university is committed to a policy of nondiscrimination on the basis of race, sex, gender identity and expression, age, religion, color, national origin (including shared ancestry and ethnic characteristics), ancestry, citizenship, disability, genetic information, marital status, breastfeeding, arrest and court record (except as permissible under State law), sexual orientation, or status as a covered veteran. Inquiries about Title IX or general Civil Rights concerns 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 [HERE](#). 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](#).

Student with Disabilities Statement

Kōkua 'Ike

Accessibility Services recognizes disability as a valued aspect of diversity and ensures equal access to the educational environment in accordance with Section 504 of the Rehabilitation Act; the Americans with Disabilities Act, as amended; and the principles and professional standards of the Association on Higher Education and Disability. Access is supported through reasonable accommodations and referrals to campus and community resources.

Appointments with the Accessibility Services Coordinator are available through Stellic at <https://chaminade.stellic.com> and may be held virtually or in person. Drop-in appointments are also welcome.

Students seeking support must meet with the Accessibility Services Coordinator as early as possible, even if they are unsure whether they have appropriate documentation of their disability or its impacts. The Accessibility Services Coordinator prioritizes listening to students' experiences and will discuss any documentation needs during the initial intake meeting. Students may seek support at any time.

Learn more at <https://chaminade.edu/ada-accommodations>.

Learn more at <https://chaminade.edu/career-services>.

Assessment of Student Work

Chaminade University may use student work anonymously to assess achievement of course, program, and institutional learning outcomes as part of ongoing quality improvement efforts.

Campus Resources & Support Services

The following resources are available to all Chaminade students. Reach out early — these services exist to support your success.

Resource	Description	Contact / Website
Accessibility Services (Kōkua 'Ike)	Accommodations under Section 504 and ADA. Contact early — appointments via Stellic, virtual or in person.	ada@chaminade.edu chaminade.edu/ada-accommodations Accessibility Services Sign up

Resource	Description	Contact / Website
Tutoring & Academic Coaching (Kōkua 'Ike)	Tutoring and Academic Coaching Services support students' progression toward their academic, personal, and professional goals with clarity and intention. Services include individualized support in English, math, nursing, sciences, and social sciences, as well as guidance in developing goals and study strategies.	https://chaminade.edu/tutoring-academic-coaching-services
Career Services	Career Services supports students throughout their career journeys. Services include individualized job search strategy coaching, resume reviews, job interview coaching, and access to career-related resources and opportunities.	chaminade.edu/career-services
Basic Needs Resources	Support for food insecurity, housing instability, and other basic needs.	chaminade.edu/basic-needs/
Title IX / Nondiscrimination	Reporting and support for sex discrimination and gender-based violence. Campus Incident Report Form available online.	chaminade.edu/titleix/resources-and-support/
Hazing Prevention	Confidential support, crisis intervention, and reporting for any type of abuse including hazing.	hazingpreventionnetwork.org/athlete-helpline/
CUH Alert Emergency Notification	Emergency text system. Register your cell number via the Chaminade portal and confirm the text to complete enrollment.	chaminade.edu
Campus Safety/ SafeSwords	A program for students, faculty and staff, who may feel uncomfortable or unsafe walking alone on campus, at any time of the day. Call security, and a security professional will meet you at your location on campus. The security professional will escort you to your residence hall, car, etc. Students may utilize this when walking to and from night classes around campus or after late night events	SafeSwords Webpage