



College of Education and Human Development

Education

ED 324 Elementary Science Methods

Brogan 102 T/R 1:00-2:20pm | Credits: 3 | Section: 01-1 | Term: Fall 2026

Instructor Information

Instructor	Katrina Roseler
Email	katrina.roseler@chaminade.edu
Phone	808.440.4215
Office Location	Brogan Hall 126
Office Hours	T/R 10:00-11:30a,
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 (ED 324) 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 classroom teacher uncover big picture concepts through inquiry-base science activities, then planning dynamic science units 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 Kindergarten to 6th grade students.

Prerequisites: ED-220, ED-221.

Course Snapshot

Modality	Face-to-Face
Meeting Location	<i>Brogan 102</i>
Meeting Days/Times	<i>T/R 1:00-2:20pm</i>
Time Commitment	<i>Class Sessions 38.5 hours Content & Skill Assignments 20 hours Pedagogy Assignments 50 hours Teaching Reflections 14 hours Communities of Practice 8 hours</i>
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 [degree program name], the student will be able to:

1. Apply knowledge of learner development, learner differences, diverse students and the learning environment to optimize learning for Elementary students.
2. Describe 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 [course], the student will be able to:

1. Engage in and reflect upon personal engagement with science and engineering practices (Content and Skills)
2. Critique science/engineering teaching and learning experiences, lessons, and resources (Teaching Reflection Activities, Article Critiques & Online resource critiques)
3. Develop science or engineering learning activities that are based on NGSS and research-based approaches to science teaching and learning. (Unit Plan)
4. Engage in Professional Networks beyond course activities (Communities of Practice)

Marianist Values

An education in the Marianist Tradition is marked by five principles. Reflect on how this course relates to one or more:

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 an elementary science educator. Through your

ability to engage in and critique elementary science learning, you will begin to prepare for your dynamic role as an elementary 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 lama 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.

Alignment of Course Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4
Marianist Values		Educate for service, justice & peace	Educate for adaptation and change	Integral Quality Education
PLOs	2	2	1, 2	4
Gen Ed Outcomes	Critical Thinking Written Communication	Critical Thinking Written Communication Information Literacy	Written Communication	Oral Communication Written Communication

Attendance & In-Class Participation

Attendance Policy

[Describe your attendance policy — e.g., maximum number of absences before grade penalty, distinction between excused and unexcused absences, and how students should notify you of absences.]

Quick Reference — Absence Thresholds:

Excused Absence	<i>Illness, family emergency, University-sponsored activity, or other extenuating circumstance, where the student notifies the instructor (email, campus extension, or division office message) and arranges to complete missed work. Documentation may be requested. Approved ADA accommodations are handled separately through the ADA Coordinator.</i>
Unexcused Absence	<i>Any absence without prior notification to the instructor and without arrangements to complete missed assignments.</i>
Warning Threshold	<i>One week's worth of unexcused absence (= 2 sessions in this course). Instructor will contact the student and may refer to advising.</i>
Grade Penalty	<i>More than one week's worth of unexcused absence (more than 3 sessions) may result in a reduction of the final course grade.</i>

Course Failure

Two consecutive weeks or more of unexcused absence (= 4 consecutive sessions) may result in withdrawal from the course by the instructor, or a failing grade. Ceasing to attend without officially withdrawing may also result in a failing grade.

In-Class Participation Expectations

Active, respectful engagement is essential. Students are expected to come prepared and contribute meaningfully to discussions, activities, and collaborative work.

Students are expected to:

- Come prepared — complete readings and activities before each session.
- Participate actively in discussions and group work, demonstrating critical thinking.
- Engage respectfully and honor diverse perspectives.
- Use personal devices for course purposes only unless otherwise directed.
- Submit work by established deadlines to support course pacing.

Course Activities

In-Class Activities	<i>Elementary Science Content; Pedagogical Discussions; Unit Planning; Practice Teaching</i>
Homework / Assignments	<i>Teaching Reflections; Communities of Practice; Readings</i>
Projects	<i>Unit Plan; Teaching Demo</i>

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>

Final Grades

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

Grade	Range
A	90% and above
B	80–89%
C	70–79%
D	60–69%
F	59% 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:

6. **Attribution:** Any content generated by AI must be clearly attributed.
7. **Academic Integrity:** AI tools should not be used to produce entire assignments or projects without significant input and modification by the student.
8. **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.
9. **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 complying 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>

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
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.	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-need-s/

Resource	Description	Contact / Website
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/
Campus Safety / SafeSwords	Security escort service for anyone who feels unsafe walking alone on campus at any time of day. Call security and a professional will escort you to your destination.	chaminade.edu/student-life/security/campus-safeswords-program/
CUH Alert Emergency Notification	Emergency text system. Register your cell number via the Chaminade portal and confirm the text to complete enrollment.	chaminade.edu

Weekly Course Schedule

Note: The instructor reserves the right to modify this schedule. Changes will be announced in class and posted to Canvas.

Wk	Theme	CLO
1	- Investigation - Essential Features of a good science lesson or unit - Syllabus Quiz	1, 2
2	- Investigation - Science Content and Skills Debrief discussion	1, 2
3	- Investigation - Research-based approaches to science teaching and learning	1, 2
4	- UbD/Backward Design - Communities of Practice: Hawaii Science Teaching Association Conference	2, 3, 4
5	- Navigating the NGSS - The 5E model	2, 3
6	- NGSS and the Common Core State Standards - Learning Objectives - Teaching Reflection	2, 3, 4
7	- Assessment in Science - Rubrics - Teaching Reflection	3
8	- Lesson/Activity Planning - Technology for science learning	2, 3
9	Hawaii Science Teaching Association Summit - Year of Coastal Kuleana Wellness Week - (Teacher Mental Well-being)	

Wk	Theme	CLO
	Tuesday 10/13 11:30-12:50 Brogan 102	
10	1. Lesson/Activity Planning Feedback 2. Unit Learning Supports 3. Teaching Reflection	2, 3
11	1. Unit Plan Draft 2. Teaching Reflection	2, 3, 4
12	1. NOS and ways of knowing 2. Unit Plan Feedback	3
13	1. Unit Plan Critique 2. Teaching Reflection	2, 3
14	1. Practice Teaching & Feedback 2. Teaching Reflection 3. Communities of Practice	2, 3, 4
15	1. Practice Teaching 2. Unit Plan Revisions	3
16	1. Practice Teaching 2. Course Reflection 3. Teaching Reflection	2, 3