

# Cover Sheet: Request 15239

## SCE4310L Elementary Science Methods Lab

### Info

Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Alyson Adams adamsa@coe.ufl.edu
Created	8/26/2020 9:15:59 AM
Updated	10/23/2020 1:32:10 AM
Description of request	This is a request for a new lab course that will be a co-requisite for SCE4310 taken as part of the redesigned Elementary Education major.

### Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	COE - School of Teaching and Learning 18050000	Ester De Jong		8/28/2020
No document changes					
College	Approved	COE - College of Education	Nancy Waldron	New course for Elementary Education major curriculum modification - Request number 15257	10/23/2020
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/23/2020
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

## Course|New for request 15239

### Info

**Request:** SCE4310L Elementary Science Methods Lab

**Description of request:** This is a request for a new lab course that will be a co-requisite for SCE4310 taken as part of the redesigned Elementary Education major.

**Submitter:** Alyson Adams adamsa@coe.ufl.edu

**Created:** 10/2/2020 3:17:49 PM

**Form version:** 8

### Responses

**Recommended Prefix** SCE

**Course Level** 4

**Course Number** 310

**Category of Instruction** Advanced

**Lab Code** L

**Course Title** Elementary Science Methods Lab

**Transcript Title** Elem Sci Methods Lab

**Degree Type** Baccalaureate

**Delivery Method(s)** On-Campus

**Co-Listing** No

**Effective Term** Earliest Available

**Effective Year** Earliest Available

**Rotating Topic?** No

**Repeatable Credit?** No

**Amount of Credit** 1

**S/U Only?** No

**Contact Type** Regularly Scheduled

**Weekly Contact Hours** 3

**Course Description** An inquiry-based science lab to accompany SCE4310. Focused on learning lab procedures and safety practices, conducting scientific investigations, and deepening understanding of core science concepts required to teach science to elementary children.

**Prerequisites** Elementary Education major EED\_BAE

**Co-requisites** SCE4310

**Rationale and Placement in Curriculum** We are requesting a series of new courses for our redesigned BAE Elementary Education major. We have redesigned the program to be completed in four years, eliminating the masters degree year of the old program. This change required reconceptualization of several courses to meet all the requirements for Florida Department of Education certification in a four-year program. This course will be required for all Elementary Education majors and is part of the certification requirements by the State of Florida Department of Education. This new lab course will accompany the elementary science methods course currently in the catalog.

**Course Objectives** By the end of this course, students will be able to:

- 1) Demonstrate laboratory skills and safety procedures applicable to science teaching and learning in elementary school science.
- 2) Integrate inquiry-based laboratory procedures into elementary science to facilitate meaningful learning.
- 3) Develop rigorous lesson plans that include inquiry-based science activities and correlated to the standards.
- 4) Design an interdisciplinary unit of study that integrates content and processes from science, technology, engineering, the arts, and mathematics (STEAM)

**Course Textbook(s) and/or Other Assigned Reading** Larkin, D. B. (2020). Teaching Science in Diverse Classrooms: Real Science for Real Students. New York, NY: Taylor & Francis.

McDougal, H. (2013). ScienceSaurus: A Student Handbook. Orlando, FL:Houghton Mifflin Harcourt

**Weekly Schedule of Topics** Week 1: no lab during add/drop

Week 2: Laboratory Equipment, tools, and safety

Week 3: Investigation, measurement and the SI system

Week 4: Microscopes – Investigating Cells

Week 5: Lab Assessment - 1

Week 6: Diversity and the classification of living things

Week 7: Geology – Earth structure and composition

Week 8: Astronomy – Planets, stars, galaxies and constellations

Week 9: Lab Assessment - 2

Week 10: Physical science - Matter

Week 11: Physical science - Forces and motion

Week 12: Physical science – Energy

Week 13: Lab Assessment - 3

Week 14: Robotics – Science, technology, engineering, mathematics

Week 15: Presentation of interdisciplinary (STEAM) unit of study

Week 16: Final exam – Lab Assessment 4

**Grading Scheme** Lab Assessments (four): 50% of final grade

STEAM Unit Plan and Presentation: 20% of final grade

Lab Reports: 25% of final grade

Skill Quiz: 5% of final grade

Lab Assessments (50% of the final grade): The lab assessment will be administered at four strategic points in the course. Each lab assessment will include different question types that will require students to demonstrate laboratory skills, core science content knowledge, and a plan of action to translate skills, knowledge, and practices into relevant instructional activities correlated to the standards and appropriate for elementary learners.

Interdisciplinary STEAM unit of study and presentation (20% of final grade): Students will select a Benchmark from the Next Generation Sunshine State Standards and develop an interdisciplinary unit of study. The unit will contain at least five lessons organized around the unit topic and a driving question related to the science phenomenon indicated in the selected Benchmark. Each lesson plan will include learning objectives, assessment tasks, description of instructional procedure with fully developed science laboratory activities, list of laboratory practices and a detailed storyline indicating the relatedness and development of the sub concepts. In addition, the unit will be organized as a cohesive whole and presented as a class project during the final contact hours. A rubric to evaluate the unit and quality of student's presentation will be provided to students. The criteria will be representative of the skills, knowledge, and practices that undergird the laboratory course and will be made available to the students.

Laboratory reports (25% of final grade). Students will maintain a laboratory notebook. Each lesson will include laboratory activities and or demonstration, questions for sense-making and opportunities to demonstrate how the laboratory skills and safety procedures can be made applicable to elementary school science. Students will conduct observations, generate evidence-based claims, reasoning and explanations and document in their notebooks. The laboratory notebooks will be collected and evaluated five times during the semester. A rubric to evaluate specific content knowledge, laboratory skills, and procedures will be provided to students.

Skill Quiz (5 % of final grade): At the end of each lesson, students will respond to a 5-minute skill survey quiz that will evaluate their understanding of the laboratory skills and procedures and safety issues related to the day's lesson. Their responses will also serve to identify areas of strength and issues that require further support.

Final course grades will be assigned using the following scale:

93-100 Points Earned (A)

90-92 Points Earned(A-)

87- 89 Points Earned (B+)

83-86 Points Earned (B)

80—82 Points Earned (B-)

77-79 Points Earned (C+)

73-76 Points Earned (C)

70 – 72 Points Earned (C-)

67-69 Points Earned (D+)

63-66 Points Earned (D)

60 – 62 Points Earned (D-)

0-59 Points Earned (E)

**Instructor(s)** Dr. Rose Pringle

**Attendance & Make-up** Yes

**Accomodations** Yes

**UF Grading Policies for assigning Grade Points** Yes

**Course Evaluation Policy** Yes