

Science Education Department Charter

Updated Fall 2018

Science Education Department

The Science Education Department works collaboratively with other STEM departments and the School of Education (SOE) to deliver interdisciplinary, standards-based programs in contemporary STEM education. The department has a history of collaboration with Biological Sciences, Chemistry, Computer Science, Geological Sciences, Mathematics, and Physics in the College of the Sciences (COTS), as well as the School of Education (SOE) in the College of Education and Professional Studies. A central pillar of the Science Education Department's philosophy is to maintain the duality of STEM content discipline and education expertise. Faculty members serve as pedagogical content knowledge experts to colleagues.

Mission and Vision

Mission

The Science Education Department prepares students in contemporary STEM education by promoting inquiry, STEM literacy, and inclusive and sustainable practices through coursework, practica, and research experiences.

The Science Education Department at Central Washington University develops student skills in STEM teaching consistent with state and national standards. We promote student understanding of science, technology, engineering, and mathematical concepts and their interaction with other disciplines as relevant to the individual and society. Our students obtain a broad education covering a wide variety of content disciplines. Our constructivist teaching philosophy, curriculum, and facilities foster a rich education with small class sizes, hands-on experience, contextualized field experience, regular interaction with expert faculty, and opportunities for both undergraduate and graduate research. Through cooperative partnerships with local organizations, state organizations, and other CWU STEM and education departments, the Science Education Department provides opportunity for students to develop practical teaching skills in real classrooms. The Science Education Department also participates in ongoing STEM education reform efforts based on research and state and national standards.

Vision

The Science Education Department aspires to deliver the preeminent program that students from the State of Washington choose to become outstanding STEM educators.

The Science Education Department contributes significantly to the University by:

- working collaboratively with SOE to provide high quality STEM education training to students in elementary education programs,
- working collaboratively with SOE to develop, deliver, and manage teaching certification programs for candidates seeking STEM endorsements,

- preparing teachers grounded in content and inquiry-based teaching and learning,
- fostering strong undergraduate and developing graduate research programs,
- conducting rigorous, externally funded scholarly programs, and
- participating in university governance and on academic committees.

The Science Education Department contributes to the community by:

- providing standards-based professional development for local and regional teachers,
- supporting community-based STEM efforts,
- participating in professional organizations through membership, committee work, dissemination of scholarship at conferences, and leadership,
- disseminating scholarly products locally, regionally, nationally, and internationally,
- serving as experts on local, state, regional, national panels and policy forming committees.

Goals, Objectives and Student Learning Outcomes

The goals and objectives of the Science Education Department reflect short term and long term planning efforts by program faculty and staff. The goals and objectives are intended to provide the direction necessary to achieve high-quality STEM education for all students, to enable local and regional collaboration and reform, and to promote a quality working environment for our faculty and staff so that we may effectively carry out our mission.

Goal 1: Provide effective pre-professional training for STEM teacher candidates.

- Recruit and retain diverse students to become highly-qualified STEM teachers.
- Create challenging and engaging research-based curricula that improves pre-service candidate content and pedagogical knowledge, skills, and dispositions toward effective teaching practice.
- Partner with colleagues, school districts, and other stakeholders to provide students with effective field experiences that support continued pre-service teacher growth and development.
- Develop standards-aligned programs that meet local, state, and national needs.
- Collect, analyze, and apply student data to inform program decision-making.

Goal 2: Use research-based pedagogy to improve student learning outcomes.

- Model and apply current research-based practices in all STEM Education courses.
- Increase use of research-based practices in STEM content disciplinary programs.

Goal 3: Integrate research and teaching to improve professional practice.

- Develop a research program based on individual faculty member needs and interests that supports applied teaching research-based practices.
- Involve graduate and undergraduate students in faculty sponsored research.

- Provide suitable materials, services, and facilities to conduct STEM education research.

Goal 4: Contribute to the professional development of P-20 STEM teaching professionals.

- Establish and maintain collaborative working relationships with P-20 teachers, including program alumni teachers, faculty, and stakeholders in school districts and communities.
- Provide professional development to improve STEM teaching based on institutional, regional, and state needs, and/or faculty scholarship activities.

The programs offered by the Science Education Department are designed to provide students with challenging and engaging curriculum that improves their content and pedagogical knowledge and skill. All courses and programs are aligned to meet the Washington State Endorsement Competencies and National Standards appropriate to each STEM discipline. Students completing programs within the Science Education Department will meet the Student Learning Outcomes:

Outcome 1: Explain, apply, and practice fundamental STEM content concepts, principles, and methods.

Outcome 2: Demonstrate an ability to effectively facilitate learning for all students.

Outcome 3: Create safe, effective, inclusive learning environments that support inquiry, collaboration, intellectual risk-taking, ethical decision-making, and student construction of knowledge.

Outcome 4: Demonstrate an ability to assess teaching and learning outcomes using multiple methods, effectively evaluate teaching and learning effectiveness, and improve practice based on reflection and data.

Outcome 5: Demonstrate an ability to make STEM personally and socially relevant to individual and community by incorporating current events within collaborative and social networks.

Outcome 6: Participate in a variety of activities that enhance professional development and improve teaching effectiveness.

Residence

The Science Education Department resides within the College of the Sciences.

Program Specific Provisions

University policy pertains, with these provisions:

Faculty Appointments

Department tenure-track faculty are typically appointed jointly to the Science Education Department and another COTS department (e.g., Biological Sciences, Chemistry, Computer Science, Geological Sciences, Mathematics, or Physics) but may be appointed fully in the Science Education Department to support specific program needs. The joint appointment means that the faculty member's professional role and faculty review are heavily influenced by both her/his STEM department and the Science Education Department. Variations in workload plans may occur on an annual basis to meet the needs of the departments, if mutually agreed upon by the department chairs.

Faculty who, prior to implementation of this charter, were not hired into the Science Education Department may request a joint appointment to Science Education in addition to their original discipline department (e.g., Mathematics). Faculty who were appointed fully to Science Education may also request a joint appointment to another COTS STEM department as appropriate. The faculty member should make this request in writing to the discipline department chair, the Science Education chair, and the Dean. If the request is approved by all parties, the Dean's office will make the changes necessary to reflect the faculty's official joint appointment status. The processes and procedures outlined in this document will then apply to that faculty member.

Jointly appointed hires of new faculty must be collaboratively initiated, managed, and reviewed by both the Science Education and relevant other department, in collaboration with the Dean's office, from the beginning of the hiring process.

Faculty Reappointment, Tenure, Promotion, and Post-Tenure Review

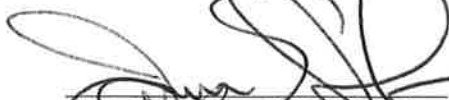

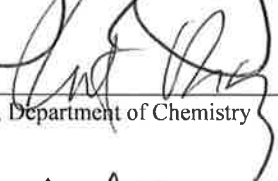
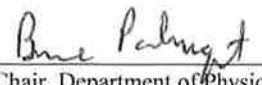

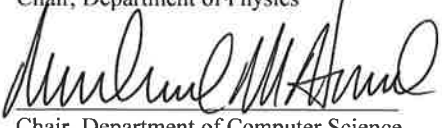
University policy states that tenure "is the right to continuous appointment at the University with an assignment to a specific department."

Criteria: Faculty who were not hired under the Science Education criteria, and who become jointly appointed mid-review, will have the choice to complete that review period using their previous departmental criteria or the Science Education criteria. All future reviews of that faculty member will be conducted using the Science Education Evaluation Criteria.


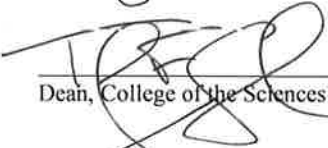
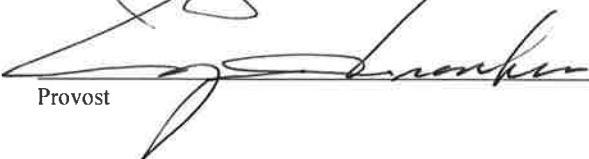
Committee: For jointly appointed faculty, the personnel committee shall consist of two tenured faculty members from the Science Education Department, two tenured faculty members from the other appropriate STEM department, and a tenured faculty member from another COTS or SOE department. Faculty assigned entirely in Science Education will have a personnel committee that consists of four tenured faculty members from the Science Education Department plus one additional tenured faculty member from Science Education or another COTS or SOE department. Committee members must be of equal or higher rank to the faculty member under review. Any deviation from these arrangements must be approved by the Science Education Department chair, the appropriate discipline department chair and the dean of COTS, as well as be in accordance with CWU policies. The department chair from each department will each submit an independent evaluation aligned to the appropriate evaluation criteria (usually Science Education) for that faculty member.

Philosophical Approval:

As the department chairs of the six natural science departments affiliated with the CWU Science Education Department, we endorse this charter

 Chair, Department of Biological Sciences	<u>7/22/19</u> Date	 Chair, Department of Geological Sciences	<u>7/22/19</u> Date
 Chair, Department of Chemistry	<u>7/28/19</u> Date	 Chair, Department of Physics	<u>7/22/19</u> Date
 Chair, Department of Mathematics	<u>7-21-19</u> Date	 Chair, Department of Computer Science	<u>7/22/19</u> Date

Institutional Approval:

 Chair, Science Education Department	<u>7/22/19</u> Date
 Dean, College of the Sciences	<u>7/25/19</u> Date
 Provost	<u>8/5/19</u> Date