# Single Subject Content Area Pedagogies Course Matrix

**In the matrix below, denote the candidates’ opportunity to learn and master the competencies listed. The required course names and numbers should go across the top of the matrix, replacing the “Course Title and Number” text below. For each competency, note when the program/candidate introduces (I), practices (P), and assesses (A) the competency. Notations may occur under more than one course heading. Each notation (I, P, A) should link to a specific place in the syllabus within that course that demonstrates that this is occurring.**

**Institution Name**

**Program Coordinator Name**

**Program Coordinator Email**

| **Subject Specific Pedagogical Skills for Single Subject Teaching Assignments in:**  **Science** | Course Title and Number1 | Course Title and Number2 | Course Title and Number3 | Course Title and Number4 | Course Title and Number5 | Course Title and Number6 | Course Title and Number7 | Course Title and Number8 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Beginning Single Subject Science teachers demonstrate the ability to teach the state-adopted academic content standards for students in science and applicable English Language Development Standards. |  |  |  |  |  |  |  |  |
| 1. They balance the focus of instruction between disciplinary core ideas, crosscutting concepts, and scientific and engineering practices as indicated in the Next Generation Science Standards. |  |  |  |  |  |  |  |  |
| 1. Their explanations, demonstrations, and class activities serve to illustrate science concepts and principles, scientific investigation, and experimentation. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers emphasize the nature of science, the integration of engineering design, and the connections between science, society, technology, and the environment. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers integrate mathematical concepts and practices including the importance of accuracy, precision, and estimation of data and literacy into science pedagogy. |  |  |  |  |  |  |  |  |
| 1. They provide students the opportunity to use and evaluate strengths and limitations of media and technology as integral tools in the classroom. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers encourage students to pursue science and engineering interests, especially students from groups underrepresented in science and engineering careers. |  |  |  |  |  |  |  |  |
| 1. When live animals are present in the classroom, beginning teachers teach students to provide ethical care. |  |  |  |  |  |  |  |  |
| 1. They demonstrate sensitivity to students' cultural and ethnic backgrounds in designing science instruction. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers also teach students to engage in disciplinary discourse practices that foster evidence-based explanations and argumentations to write opinion/persuasive and expository text in the content area. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers teach students to independently read, comprehend, and evaluate instructional materials that include increasingly complex subject-relevant texts and graphic/media representations presented in diverse formats. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers also teach students to write argumentative and expository text in the content area. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers assure that students at various English proficiency levels have the academic language needed to meaningfully engage in the content. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers guide, monitor, and encourage students during investigations and experiments. |  |  |  |  |  |  |  |  |
| 1. They demonstrate and encourage use of multiple ways to measure and record scientific data, including the use of mathematical symbols. |  |  |  |  |  |  |  |  |
| 1. Beginning teachers structure and sequence science instruction to enhance students' academic knowledge to meet or exceed the state-adopted academic content standards for students. |  |  |  |  |  |  |  |  |
| 1. They establish and monitor procedures for the care, safe use, and storage of equipment and materials and for the disposal of potentially hazardous materials. |  |  |  |  |  |  |  |  |