Science Education

Program Mission Statement
The mission of the program is to provide students a strong preparation for science teaching. UNF graduates from the B.A.E program in Science Education will develop skills in instructional methods and curriculum and in selecting methods, resources, and assessment strategies for teaching science. Students who enroll in this program should expect to split their time between on-campus courses and school-based experiences. Faculty are engaged in teacher preparation research and participate in regional and national organizations that promote effective teaching.

Student Learning Outcomes
Graduates will be able to:

Content/Discipline-Specific Knowledge/Skills
- Understand and apply general and specific teaching, management and assessment skills, and thinking processes related to teaching biology, chemistry, or physics to diverse groups of students
- Demonstrate both a specific and broad-based knowledge base in the sciences with workable knowledge of mathematics/statistics, technology and reading to promote science literacy
- Be proficient in practicing inquiry including the basic and integrated processes of science which provide the framework for performing scientific investigations, interpreting findings and communicating results in written and graphic form

Communication Skills
- Use communication, classroom management and reflection skills appropriately to promote inquiry-based science teaching.
- Demonstrate effective writing, speaking and listening skills in delivering instruction and engaging with students, fellow educators, school staff, parents and members of the community

Critical Thinking Skills
- Choose research-based methods and materials appropriate to a variety of teaching and learning situations
- Demonstrate reflection and self-assessment related to improvement of instruction using measurable objectives
- Select and analyze methods and materials appropriate for teaching science in diverse learning situations

Assessment Approaches
The mission of the program is to prepare future science teachers for secondary schools through candidates:

1) Developing an understanding of developmental, cultural, and pedagogical issues related to constructing scientific knowledge by all students including those of varying sociocultural, economic, language, and special needs backgrounds;

2) Enhancing subject matter knowledge by emphasizing science concepts and skills taught in secondary science classrooms;

3) Developing pedagogical content knowledge: how students learn science; how to plan lessons, how to organize a safe, stimulating classroom environment, how to connect the sciences to other content areas and the community, how to assess learning authentically, and how to integrate technology into these lesson;

4) Observing and teach scientific content using scientific inquiry;

5) Using experience and research to guide personal professional development through reflection;

6) Accessing, evaluating, and implementing appropriate resources to enrich science teaching and learning.