CHIPOLA COLLEGE
COURSE SYLLABUS
Chipola's website: www.chipola.edu

COURSE TITLE:

Teaching Middle School Science

COURSE NUMBER:

SCE 3320

COURSE DESCRIPTION (with prerequisites):

This course is designed for students who are majoring in science education and who will be obtaining teacher certification in grades 5-9 or 6-12. In this course students learn principles of effective curriculum design and assessment and apply these principles by designing and developing interactive science curriculum projects for middle school students. This course addresses specific state-adopted standards, subject matter competencies and pedagogy pertinent to the discipline and required for certification. 3 semester hours credit.

NAME(S) OF INSTRUCTORS:

varies

EFFECTIVE ACADEMIC YEAR:

2023-2024

REQUIRED TEXTBOOKS AND INSTRUCTIONAL MATERIALS:
SUGGESTED:
1. *Science Florida State Standards* [Available online]
2. Florida Educator Competencies and Skills
   http://www.fldoe.org/asp/ftce/ftcecomp.asp#Fifteenth
3. Florida Educator Accomplished Practices
4. A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas, 2012 (free PDF from National Academies Press and hard copy from NSTA Press)
5. *Science Instruction in the Middle and Secondary Schools*, Chiappetta, E.L., Koballa, T.R., Eighth Edition, 2015 Pearson, ISBN 13: 9780133783766
6. *National Science Education Standards*. National Research Council (1996). Washington, DC: National Academy Press. [Available]
   http://www.nap.edu/books/0309053269/html/R1.html [**Standards**]

Appropriate dress for field experience: black slacks and School of Education polo (Polos are available in the campus bookstore.)

GRADING POLICY:

The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89

C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student's Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:

Chipola College expects regular attendance of all students, and all instructors record attendance daily. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

MAKE-UP POLICY:

Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

ACADEMIC HONOR CODE POLICY:

Students are expected to uphold the Academic Honor Code. Chipola College's Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

STUDENTS WITH DISABILITIES POLICY:

Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola's goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

NOTICE OF EQUAL ACCESS/EQUAL OPPORTUNITY AND NONDISCRIMINATION:

Chipola College does not discriminate against any persons, employees, students, applicants or others affiliated with the college with regard to race, color, religion, ethnicity, national origin, age, veteran's status, disability, gender, genetic information, marital status, pregnancy or any other protected class under applicable federal and state laws, in any college program, activity or employment.

Wendy Pippen, Associate Vice President of Human Resources, Equity Officer and Title IX Coordinator, 3094 Indian Circle, Marianna, FL 32446, Building A, Room 183C, 850-718-2269, pippenw@chipola.edu.

LIBRARY AND ON-LINE REFERENCE MATERIALS:

The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the *LINCCWeb* icon on the Chipola Library website at www.chipola.edu/library. If you have questions about database usage consult the "How to Use the Chipola Databases" on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

TECHNOLOGY RESOURCES:

The college's learning management system is **Canvas**. Classes become available on Canvas on the first day of the semester. It is the student's responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The **Technology Center**, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.

FREE TUTORING RESOURCES:

The Academic Center for Excellence (**ACE)** Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. ACE lab hours are posted each semester at the room entrance and on the website. Additionally, live online tutoring conferences and individual tutoring sessions are available for a variety of courses through ACE@Home. For a conference schedule or to schedule an individual appointment, visit "ACE Tutoring" in the left navigation from any course in Canvas.

ELECTRONIC DEVICE USAGE STATEMENT:

Classrooms should be free of all unnecessary distractions from the task of learning. Therefore, as a general rule, students should silence and avoid use of all electronic devices (laptops, phones, tablets, etc.) not being used for coursework. Consult first-day handouts for any specific policies related to the use of electronic devices in the classroom, as they may vary depending upon the nature of the course or the guidelines of the instructor. Faculty reserve the right to regulate the use of electronic devices and their accessories in class.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:

E – 1   Demonstrate understanding of instructional design and lesson planning by applying concepts from human development and learning theories.

E – 2   Demonstrate ability to maintain a student-centered learning environment that is safe, organized, equitable, flexible, inclusive and collaborative.

E – 3   Demonstrate effective instructional delivery and facilitation by utilizing deep and comprehensive knowledge.

E – 4   Demonstrate understanding of assessment by analyzing and applying data from multiple assessments to diagnose learning needs and inform instruction.

E – 5   Demonstrate continuous improvement by designing purposeful goals to strengthen instructional effectiveness and impact student learning.

E – 6   Demonstrates professional responsibility and ethical conduct and fulfills expected obligations to students, the public, and the education profession.

LINKING COURSE-LEVEL STUDENT LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES, ASSESSMENT METHODS, AND ARTIFACTS					
STUDENT LEARNING OUTCOMES FOR SCE 3320 The student will:	NSES/ State-Adopted Standards	FEAPs (Discipline Outcomes)	FL Competencies and Skills:		Assessment Activities
			Science 5-9	Professional Ed.	
Examine the issues related to middle school education by comparing the organizational structures of middle schools, junior high schools and various middle school models		E-1		13.1-2	Test & Q
Study the intellectual, physical, socio-emotional, moral, and aesthetic development of pre- and early adolescents.		E-1		7.1	Test & Q
Describe cognitive, physical, socio-emotional, moral, aesthetic development of the pre- and early adolescent with respect to how diverse middle school students learn meaningfully (for example, concept mapping, integrated process skills)	All NSES Science Teaching and Content Standards	E-2		7.1-5; 14.2	Test, MA1-RPT
Explain **NSES** Science Teaching, Assessment, professional Development and Content Standards (emphasizing their unifying concepts, processes, inquiry and their overall purpose of science literacy); and **State-Adopted Standards**.	All Standards	E-1, E-2, E-3, E-5		13.1, 13.2	4.4.1-RU 2.2.1-RU Test & Quiz

Plan for instruction at the middle school, relating the essential components of the lesson plan design (from introduction to review) to **NSES** and theory, historical perspectives, controversial issues and effective practice (5 E Model of Instruction)	All NSES Science Teaching Standards	E-1, E-2, E-3	All	10.2	4.4.1-RU 5.4.2-RU
Build a repertoire of teaching strategies (to be used in each part of the lesson plan) which promote inquiry (and discovery based science experiences): laboratory/demonstrations (with safety precautions); questions and discussion; technology; and those that promote critical, creative thinking and problem solving.	All NSES Science Teaching Standards	E-1, E-2, E-3, E-5	8.1-4	4.1, 4.2, 7.2, 7.3, 8.4	2.2.1-RU 4.4.1- RU 5.4.2-RU Teaching Assignment
Review science content contained in the Florida Competencies and Skills and NGSS	All NSES Content Standards All State-Adopted Standard benchmarks		All		CC8B-RU
Plans for and implements the central strategy for teaching science which is "inquiry" into authentic questions generated from student experiences"	NSES Teaching standards; selected NSES/State-Adopted Standards	E-1, E-2, E-3	9.1-10	4.1,4.2,10.1-3	MA2-SD (presents a critical thinking learning strategy) MA4-SD Teaching Assignments
Plan, critique (with colleagues) teach appropriate (grade, diverse learners) science lessons in at least one of the **State-Adopted** content areas: physical science, life science or earth and space science (include standards of: inquiry; science and technology; science in personal and social perspectives; history and nature of science **in each**)	All NSES Content and Teaching standards Selected benchmarks dependent on student lesson topic	E-1, E-2, E-3,	All	10.2	4.4.1-RU 5.4.2-RU MA3-SD Lesson Plan Analysis
Teach five (5) to ten (10) lessons (5 hrs in HS; 1 hr. class; 3-4 hrs college science class) with the effective use of strategies for: inquiry (questioning); engagement of students; adaptation to student learning needs; technology; and for use in each lesson plan component (e.g., review)	NSES Content Standards, depending on topic Selected benchmarks dependent on student lesson topic	E-3	9.1-10	1.2, 1.3, 1.4, 12.1-4	MA4-SD, Teaching Assignments

Assess student progress in science by: constructing an appropriate test; analyzing student learning gains; reflecting to alter instruction	All NSES Assessment Standards	E-2, E-3, E-5,	8.5	1.2, 2.2	2.2.1-RU
Participate in professional growth opportunities.	NSES Standard for professional development	E-5		3.1	CC3B-RU

Assessment Codes			
T = Tests Pre/Post = Pre- and Post-Tests OT = Objective Tests UT = Unit Tests Q = Quizzes F = Final Examination CF = Cumulative Final EX = Departmental Exam SE = Nat'l or State Standardized Exam	RPT = Report/Presentation SP = Skills Performance SD = Skills Demonstration W = Writing Assignments E = Essays DE = Documented Essays RP = Research papers J = Jury R = Recital	Proj. = Projects Exp. = Experiments Cap. Proj. = Capstone Project Cap. Course = Capstone Course Prac. = Practicum Intern. = Internship H = Homework PS = Problem Solving DB = Discussion Board	BO = Behavioral Observation Clin. = Clinicals CS = Case Study CP = Case Plan Port. = Portfolio Obs. = Teacher Observation Sk. Check = Skills Check-off Curriculum Frameworks JP = Judged Performance/Exhibition

MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:

1. Attend and participate in class regularly.
2. Read all assigned material before class.
3. Study in-class notes and online (Canvas) materials.
4. Complete assigned projects in a timely manner to enable reflections and revisions on the final product.
5. Seek opportunities to practice teaching skills through tutoring and substituting in K – 12 schools.
6. Collaborate with peers and other professionals.

ASSIGNMENT AND/OR COURSE OUTLINE

See your Instructor First Day Handout for individual instructor assignment schedule.