SCIENCE & MATH – DEVELOPING CURRICULUM
Course Syllabus

Course Number: ECDS-0021F
OCAS Code: None
Course Length: 60 Hours
Career Cluster: Human Services
Career Pathway: Early Childhood Development & Services
Career Major(s): Early Care & Education Master Teacher

Pre-requisite(s):
This course is designed for early care and education students that have completed the Teacher Assistant course. The course is aligned with Oklahoma CareerTech duty/task lists for early childhood care and education occupations. This in-depth study is designed to provide training in the following areas: Master Teacher, Infant and Toddler, and School Age. The curriculum incorporates state licensing regulations and standards set forth by national organizations active in early childhood care and education. The curriculum offers project-based activities to assist the students in preparing for a rewarding career. Successful completion of Master Teacher curriculum with three months full-time experience meets the Licensing and Stars Criteria of Oklahoma for Master Teacher.


Course Objectives:

A. Plan and Implement Science Activities Appropriate to the Age of the Preschool Child.
1. Define the terms science, observing, measuring, comparing, classifying, predicting, and discovering using a dictionary as a reference.
2. Discuss the benefits to children of studying science.
3. Discuss opportunities science activities offer children.
4. Describe the optimum location and contents of a science area.
5. List sources of science supplies and equipment.
6. List and describe the five basic process skills.
7. Give examples of activities that would help promote the five basic process skills.
8. Answer the questions about science and related activities.
9. Give an example of one way to help children learn about each of their senses.
10. Demonstrate the use of open-ended questioning techniques.
11. Plan and present an activity using the child’s own body, gardening, air, magnets, wheels, color, water, foods, or animals to teach science concepts.

B. Plan and Implement Math Activities Appropriate to the Age of the Preschool Child.
1. List goals of early math experiences.
2. Match math terms with their definitions.
3. Observe a math activity in a preschool classroom.
4. Cite examples of mathematical language in children.
5. Discuss math concepts involved in a specific area of the classroom.
6. List equipment that can be used to teach math concepts.
7. Cite examples of equipment or materials that lead to the development of math concepts in each area of the classroom.
8. List ways to teach space, size, volume, and time.
10. List skills children should develop from participating in mathematical activities.
11. Describe and provide examples of the two counting stages.
12. Explain the process by which children develop classification skills.
13. Explain how children develop shape concepts.
15. Plan and present a math activity.

C. Plan and Implement Transitional Activities Appropriate to the Age of the Preschool Child. ¹
1. Define transition activity.
2. State the purpose of transition activities.
3. Discuss situations when transitional activities are needed.
4. State the types of activities that precede and follow transition times.
5. Describe the space or physical setting needed for the transition activity.
6. Discuss the amount of time to be spent in transition.
7. State ways teachers can provide smoother transitions throughout the teaching day.
8. List props to help during transition time.
9. Prepare five transitional activity cards from the following list of situations: arrival at the center, clean up, rest time, before lunch, relaxing, listening times, waiting times, moving places.
10. Prepare and present a transition activity to a group of preschoolers.

¹ ODCTE Objective
All unmarked objectives are TTC instructor developed.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and shop practice and performance.  2. Each course must be passed with seventy (70%) percent or better.  3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.
### Available Certifications/College Credit

The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

### College Credit Eligibility:

The student must maintain a grade point average of 2.0 or better.