DATE OF LAST REVIEW: 02/2013
CIP CODE: 19.0708
SEMESTER: Departmental Syllabus
COURSE TITLE: Science in Early Childhood Settings
COURSE NUMBER: CHLD-0215
CREDIT HOURS: 3
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC- “issued email accounts are the official means for electronically communicating with our students.”

PREREQUISITES: None

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com/, for the required texts for your particular class.

COURSE DESCRIPTION: This is a basic course designed to assist Early Childhood Educators and prospective teachers, develop an awareness of the importance of science content, process skills, design of lesson plans that guide young children in science investigation. Activities in this course will pertain to life science, physical science and earth and environmental science. The process of integrating science with other subject areas will be included in writing of developmentally appropriate lesson plans. Investigation will include the use of observation and exploring skills, problem solving, and organizing information.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, learning experiences and performances outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. Concept Development in Science
   A. How concepts develop
   B. Promoting young children’s concept development through problem solving
   C. The basics of science
   D. Planning for science investigations

II. Fundamental Concepts in Science
   A. Language and concept formation
   B. Integrating the science throughout the early childhood curriculum
   C. Developmentally appropriate science applications for young children

III. Overview of Science Areas of Study
   A. Life science
   B. Physical science
   C. Earth and space science
   D. Environmental science
   E. Health and nutrition

IV. The Science Environment
   A. Materials and resources for science
   B. Fieldtrips for science discovery
   C. Creating opportunities for classroom discovery
   D. Code of practice on pets and animals in schools

V. The Science Curriculum
   A. Webbing to develop curriculum
   B. Selecting science activity plans for young children
   C. Teaching process skills in science investigation:
      Observation        Comparing
      Counting           Classifying
      Defining           Communicating
      Hypothesizing      Predicting
      Testing            Experimenting
   D. Guide young children in collecting and sorting objects

VI. Involving Parents and Community
   A. Parent newsletters
   B. Fieldtrip involvement
   C. Resource sharing
   D. Science events
   E. Community visitors

EXPECTED LEARNER OUTCOMES:
   A. The students will be able to define concepts of development.
B. The students will be able to promote young children’s concept development through problem solving.
C. The students will understand how young scientist use concepts.
D. The students will develop skills in planning for science investigation.
E. The students will become aware of fundamental concepts of science.

COURSE COMPETENCIES:

The students will be able to define concepts of development.
1. The students will be able to identify the concepts children are developing.
2. The students will describe the commonalities between math and science.
3. The students will understand the importance of professional standards for science.
4. The students will be able to label examples of Piaget’s developmental stages of thought.
5. The students will compare Piaget’s and Vygotsky’s theories of mental development.
6. The students will identify conserving and non-conserving behavior, and state why conservation is an important developmental task.
7. The students will explain how young children acquire knowledge.

The students will be able to promote young children’s concept development through problem solving.
8. The students will be able to identify six steps in instruction of science concepts.
9. The student will be able to state the advantages of the six problem solving techniques.
10. The students will be able to explain routine and non-routine problems.
11. The students will be able to implement developmentally appropriate problem solving assessment and instruction.

The students will understand how young scientist use concepts.
12. The students will be able to develop lesson plans using a variety of science process skills such as observing, comparing, measuring, classifying and predicting.
13. The students will apply strategies that encourage inquiry to lessons designed for young children.
14. The students will use data collecting and analysis for designing and teaching science lessons.
15. The students will design experiences for young children that enrich their experience at the pre-operational level and prepare them for the concrete operational level.
16. The students will describe the process of self-regulation.
17. The student will describe the proper use of a discrepant event in teaching science.

The students will develop skills in planning for science investigation.
18. The students will develop science concepts with subject area integration.
19. The students will explain and use the strategy of webbing unit planning for science.
20. The students will develop science concepts in lesson plans for teaching children.
21. The students will construct evaluation strategies for science experiences with young children.
The students will become aware of fundamental concepts of science.

22. The students will define the concepts and skills that are fundamental to science for young children.
23. The students will explain how children apply and extend concepts and skills in science investigation.
24. The students will design lessons that integrate fundamental science concepts.
25. The students will develop naturalistic, informal, and structured activities that utilize science concepts.
26. The students will develop an understanding of life science learning activities for young children.
27. The students will design physical science investigations appropriate for young children.
28. The students will develop an understanding of earth, environmental and space concepts appropriate for children.
29. The students will design and develop appropriate health and nutrition topics appropriate for young children.

ASSESSMENT OF LEARNER OUTCOMES:
Assessment is based on a combination of Attendance/Participation and material assigned.

GRADING:
Individual instructors will determine the grading system for final grades and these will be explained on individual syllabi.

1. Regular attendance and participation. Students should consult with the instructor when absence is anticipated. Absences will affect course grade.
2. Develop a Science Activity Center in one of the following science areas:
   - Life Science
   - Physical Science
   - Earth and Environmental Science
   Integrate your science topic into other learning centers in the classroom.
3. Explore a science field in the Kansas City area and collect information to share with the other students.
4. Explore five information books in a chosen area of science and five storybooks, explain the values of each.

EVALUATION:

Attendance/Participation: 25%
Development of a Science Activity center: 35%
Exploration of a Science Field Trip: 20%
Investigation of Informational & Storybooks: 20%

GRADING SCALE:

100-90% A
89-80% B
79-70% C
69-60% D
SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

*Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact Director of Academic Resource Center, in Room 3354 or call (913) 288-7670.*
Kansas City Kansas Community College
21st Century General Education Learning Outcomes

Learning Outcomes
Discipline knowledge and content mastery is expected of all graduates. More specifically, KCKCC is committed to the Learning Outcomes listed below. We believe that competence in the Learning Outcomes is essential for the success of graduates and will enhance their ability to become contributing members of our increasingly complex world. These areas of knowledge and skills are equally valid for all KCKCC graduates, whether they transfer to a four-year college or pursue a career after leaving college.

General Education Learning Outcomes
Communication Learning Outcomes
The learner will have the ability to express, interpret, and modify ideas/information effectively (both written and oral), including but not limited to reading text accurately and correctly; writing with a clear purpose and effective organization; speaking effectively using appropriate styles that suit the message, purpose, and content; and employing active listening techniques.

Computation Learning Outcomes
The learner will have the ability to understand and apply mathematical concepts and reasoning using numerical data.

Critical Reasoning Learning Outcomes
The learner will understand inductive and deductive reasoning and have the ability to define problems and use data (qualitative and quantitative) to make complex decisions utilizing analysis, synthesis, and evaluation skills.

Technology and Information Management Learning Outcomes
The learner will have the ability to define, collect, organize, analyze, and evaluate information from a variety of sources. The learner will also have the ability to understand basic technology concepts and functionality in order to use technology as a tool to locate and retrieve information.

Community and Civil Responsibility Learning Outcomes
The learner will demonstrate knowledge, awareness, and understanding of diverse ideas, values, and perspectives of a culturally diverse world; an understanding of the ethical issues and values that are prerequisites for making sound judgments and decisions; a recognition of the obligation to become actively involved as a contributing member of the community; and a sensitivity to the awareness of aesthetic expression.

Personal and interpersonal Skills Learning Outcomes
The learner will have the ability to work cooperatively and productively with others; to understand and evaluate his/her capabilities; to manage his/her personal growth by setting realistic and appropriate goals.

SOCIAL AND BEHAVIORAL SCIENCES
STUDENT SUCCESS STRATEGIES

Know your teacher’s name.

Turn off your electronic devices in class/make paying attention to the work of the class your only concern.

Miss class only when you cannot attend/acquire missed information and materials ASAP.

Know your syllabus.

Know the attendance policy.

Know the requirements for tests and assignments.

Know information about final exam and make-up exams.

Know instructor’s position on use of Wikipedia or other online sources.

Know the instructor’s preferred writing style (APA, MLA, etc.).

Always know your grade.

Contact your teacher ASAP with concerns or questions.

Know the benefits of the academic resource center.

Know if your course has a practicum, service learning component, or other exception.

Use an academic planner.

Know the course withdrawal policy.

Know your instructor’s office hours and make appointments when necessary.

Know the school’s scholastic honesty policy.

Be familiar with the course learning objectives, course competencies, and the college’s 21st century learning outcomes for general education.