



Course Syllabus Math and Science for Early Childhood CDEC 2307

Semester with Course Reference Number (CRN)	Fall, 2016 CRN 10873
Instructor contact information (phone number and email address)	Katherine A. Abba, MA, Ed. katherine.abba@hccs.edu 713.718.5471
Office Location and Hours	Wednesday 4-6:00pm, Thursday, 2:30-5:30 pm, or upon request. EDC Bldg. Central Campus/ Rm. D 106
Course Location/Times	Houston Community College, EDC D-116 Central Campus, W 6-9pm
Course Semester Credit Hours (lecture, lab)	Credit Hours 3.00 Lecture Hours 2.00 Laboratory Hours 3.00
Total Course Contact Hours	80
Course Length (number of weeks)	16 weeks
Type of Instruction	Lecture/Lab
Course Description:	An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play.
Course Prerequisite(s)	CDEC 1313, CDEC 1323, CDEC 1356
Academic Discipline/CTE Program Learning Outcomes	NAEYC Standard 4. Using Developmentally Effective Approaches NAEYC Standard 5. Using Content Knowledge to Build Meaningful Curriculum
Course Student Learning Outcomes (SLO)	1. Relate the sequence of cognitive development to the acquisition of math and science concepts. 2. Describe the scientific process and its application to the early childhood indoor and outdoor learning environments.

3. Develop strategies which promote thinking and problem-solving skills in children.
4. Utilize observation and assessment as a basis for planning discovery experiences for the individual child.
5. Create, evaluate, and/or select developmentally appropriate materials, equipment, and environments to support the attainment of math and science concepts and skills.

Learning Objectives

- 1.1 Summarize the sequential development of mathematical concepts.
- 1.2 Outline appropriate science concepts for children.
- 2.1 Summarize ways to nurture all children's natural curiosity by encouraging them to explore and make discoveries about their world (e.g., by using their sense to gain information, draw conclusions and report outcomes).
- 3.1 Explain techniques for integrating math and science throughout curriculum.
- 3.2 Plan developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry and inquiry experiences to help children develop intellectual curiosity, solve problems, make decisions and become critical thinkers.
- 4.1 Explain how assessment information is interpreted and used to provide developmentally appropriate learning activities.
- 4.2 Use a variety of assessment strategies to monitor children's progress in achieving outcomes and planning learning activities.
- 5.1 Evaluate children's books, software, manipulatives, music, blocks and other materials which enhance math and science concepts for developmental appropriateness.
- 5.2 Make and use developmentally appropriate, culturally diverse and nonsexist activities and materials to support development of specific math and science concepts.

SCANS and/or Core Curriculum Competencies**SCANS**

Relate the sequence of cognitive development to the acquisition of math and science concepts.

Workplace Competencies - Information -Acquires & Evaluates

Describe the scientific process and its application to the early childhood indoor and out learning environments.

Workplace Competencies - Information -Interprets & Communicates

Develop strategies which promote thinking and problem-solving skills in children.

Workplace Competencies - Information -Acquires & Evaluates

Utilize observation and assessment as a basis for planning discovery experiences for the individual child.

Workplace Competencies - Technology -Applies Technology to Task

Create, evaluate, and/or select developmentally appropriate materials, equipment, and environments to support the attainment of math and science concepts and skills.

Workplace Competencies - Technology -Maintains & Troubleshoots

Course Calendar

See Below

Instructional Methods

Face-to-Face

Web-enhanced (49% or less)

Required Component

This course includes at least one of the following required components: practicum assignment, key assessment, field experience hours, and/or First

Aid/CPR certification. If this assignment is not completed with 70% of possible points, you will not receive a passing grade in this class. Your instructor will explain the required component identified for this course-practicum assignment and activity file.

**Student
Assignments**

Descriptions are found in Eagle Online and include:
Lab Practicum, Thematic Unit and Activity Project, Article Summary, Science Discovery Tray, Literature-based Game Project, Field Trip Response, Program Observation Report (Total= 450)

**Student
Assessment(s)**

All of the above assignments, Note-taking, Midterm, and Final Exam

**Instructor's
Requirements**

Arrive to class on time, read all chapter material prior to class, participate actively in class, and use of academic English in all written assignments.

**Program/Discipline
Requirements**

NOTICE This course of study would not be appropriate for anyone who falls into the following category as noted by the Texas Department of Family and Protective Services. "No person with a conviction or who is under indictment for, or is the subject of an official criminal complaint alleging violation of any of the crimes listed as a felony against the person or felony violation of the Texas Controlled Substance Act may be present while children are in care."

Orientation Students who are completing lab, practicum, or field experience components at Houston Community College Child Development Lab School must complete a mandatory orientation. Contact the department at 713-718-6303 for more details about the orientation.

Required component assignments/Key Assessments Revision Policy Only one revision allowed per student on key assessments and required component assignments. The maximum grade a student can earn on a revised assignment is 70 % of the possible points. If a student uses any tutoring service, he or she must take/send assignment description or directions with the first draft. **IF** student does not pass the assignment the first time, any or all of the following will be required:

- a. Conference with professor
- b. Take an APA and/or Plagiarism online tutorial and pass the quiz (upon instructor's request):

APA Tutorials

http://flash1r.apa.org/apastyle/basics/index.htm?_ga=1.19617784.1771959994.1463149658

OR

<http://www.lib.usm.edu/legacy/tutorials/apatutorial/definition.html>

Plagiarism Tutorial

<http://www.lib.usm.edu/legacy/plag/plagiarismtutorial.php>

- c. See an in-person tutor at professor's discretion

HCC Grading Scale

A = 100- 90	4 points per semester hour
B = 89 - 80:	3 points per semester hour
C = 79 - 70:	2 points per semester hour
D = 69 - 60:	1 point per semester hour
59 and below = F	0 points per semester hour
IP (In Progress)	0 points per semester hour
W(Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.

Incomplete Policy The grade of "I" (Incomplete) is conditional. Incompletes are at the discretion of the professor and aligned with departmental guidelines. The grade of "I" may be earned if a student is passing the course with a D or higher. Additionally, the student must have a justifiable and documented reason for not completing the work on schedule.

If you receive an "I" you must arrange with the instructor to complete the course work within six months. After the deadline, the "I" becomes an "F". All "I" designations must be changed to grades prior to graduation. The changed grade will appear on your record as "I"/Grade (example: "I/A") (see HCC Student Handbook, Academic Information Section).

Instructor Grading Criteria**Instructional Materials**

Charlesworth, R. and Lind, K. K. (2016). *Math and Science for Young Children* (8th ed.). New York: Cengage.

EGLS3 – Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

Access Student Services Policies on their Web site:

<http://www.hccs.edu/district/about-us/policies/d-student-services/>

Title IX

a) Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students' rights with regard to sex/gender discrimination. Information regarding these rights is on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance.

b) It is important that every student understands and conforms to respectful

behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations by logging in from your HCC student email account, go to www.edurisksolutions.org Go to the button at the top right that says Login and click. Enter your student number.

**Access DE Policies
on their Web site**

<http://de.hccs.edu/media/houston-community-college/distance-education/student-services/2013-2014HCCDEStudentHandbook-%28Revised8-1-2013%29.pdf>

Attendance Policy

For a 3-credit-hour lecture class, meeting 3 hours per week (48 hours of instruction), you can be dropped after 6 hours of absence. The 6 hours includes accumulated minutes late to class and leaving class early.

**DE Attendance
Policy**

All students are expected to attend classes regularly, thus DE students must login to this course on a regular basis. DE students who do not login and actively participate before the Official Day of Record will be AUTOMATICALLY dropped for non-attendance. Completing the DE online orientation does not count towards attendance.

Active participation means turning in assignments each week. If you are having technical difficulties and cannot login, you must immediately contact your professor and the *Eagle Online* Help desk or you will be counted as absent.

Course Calendar

<u>Date</u>	<u>Readings/ Assignments Due</u>	<u>CLASS WORK</u>
Week 1 Aug. 24	Introductions/Course Content/Writing Sample	Introductions; Computer Lab Attitudes towards Math and Science
Week 2 Aug. 31	Chapter. 1: Problem Solving and Assessment	NAEYC Position Statement on Math
Week 3 Sept. 7	Chapter 2: Science, Engineering and Technology	Science Position statement of the National Science Teachers Association, endorsed by NAEYC
Week 4 Sept. 14	Chapter 3: Pre-K and K Concepts and Skills Assignment #1 DUE 9/16	
Week 5 Sept. 21	Chapter 4: Geometry, Parts and Wholes, application of Concepts to Science and Engineering Assignment #2 DUE 9/21:Tray Activity in class; paper due online 9/23	Discovery Tray Presentation
Week 6 Sept. 28	Field Trip to the Children's Museum – Sept. 29	Thursday night class at the Children's Museum
Week 7 Oct.5	Chapters 5 and 6: Applying Fundamental Concepts Assign. #3 DUE 10/7: Field Experience Response Paper	Field Experience Responses
Week 8 Oct. 12	Chapter 7: Symbols and Higher-Level Concepts and Activities	
Week 9 Oct. 19	Midterm Test	Midterm Test
Week 10 Oct. 26	Chapters 8: Math Concepts, Operations for Primary Grades (Whole Numbers, Patterns, Fractions)	
Week 11 Nov.2	Chapter 9 : Math Concepts, Operations for Primary Grades (Place Values, Geometry, Data Analysis, Measurement) Assign. #5 DUE 11/4: Children's Literature- Based Game project due in class Nov. 2	Lab School Practicum
Week 12 Nov. 9	Chapters 10: Investigations in Primary Science (Life, Physical Science)	
Week 13 Nov. 16	Chapter 11: Investigations in Primary Science (Earth and Space, Environment, Engineering, and Technology Applications Assignment #4 DUE 11/18: Program Observation Report due online	
Week 14 Nov. 23	<i>Thanksgiving Holiday Week- NO CLASS</i>	
Week 15 Nov. 30	Chapter 12: The Math and Science Environment Assignment #6 DUE 11/30-Thematic Unit and Activity Project due in class	
Week 16 Dec. 7	Final Exam	Final Exam

Revised 7/2016