



## Course Syllabus Math and Science for Early Childhood CDEC 2307

<b>Semester with Course Reference Number (CRN)</b>	Fall, 2013 (66772)
<b>Instructor contact information (phone number and email address)</b>	Dr. Pamela M. Norwood Telephone: (713) 718-6236 office, (713) 718-6303 department Email: <a href="mailto:pamela.norwood@hccs.edu">pamela.norwood@hccs.edu</a>
<b>Office Location and Hours</b>	Educational Development Center Building, Room D-103 Mondays through Thursdays 4:00-5:30, Fridays by appointment only
<b>Course Location/Times</b>	Educational Development Center Building, Room D-117 Thursdays, 12:00pm-3:00pm
<b>Course Semester Credit Hours (SCH) (lecture, lab) If applicable</b>	Credit Hours 3.00 Lecture Hours 2.00 Laboratory Hours 3.00
<b>Total Course Contact Hours</b>	80
<b>Continuing Education Units (CEU): if applicable</b>	
<b>Course Length (number of weeks)</b>	Five weeks
<b>Type of Instruction</b>	Lecture/Lab
<b>Course Description:</b>	An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play.
<b>Course Prerequisite(s)</b>	<b>CDEC 1313, 1323, 1356 or 1358</b>
<b>Academic Discipline/CTE Program Learning Outcomes</b>	1. NAEYC Standard 3. Observing, Documenting, and Assessing to Support Young Children and Families 2. NAEYC Standard 4. Using Developmentally Effective Approaches to Connect with Children and Families 3. NAEYC Standard 5. Using Content Knowledge to Build Meaningful Curriculum
<b>Course Student Learning Outcomes (SLO): 4 to 7</b>	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  
(Numbering system  
should be linked to SLO  
- e.g., 1.1, 1.2, 1.3, etc.)**

- 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: If  
applicable**

- 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

<b>Course Calendar</b>	<b>Week/Dates</b>	<b>Topic(s)</b>	<b>Required Readings and Assignment Due</b>
	Week 1/ Aug 29	Introductions, Course Overview, Review of Skills for Student Success	
	Week 2/ Sept 5	How Concepts Develop; How Concepts are Acquired; Language and Concept Formation	Units 1-2
	Week 3/ Sept 12	Promoting Young Children's Concept Development Through Problem-Solving; Assessing the Child's Developmental Level	Units 3-4
	Week 4/ Sept 19	The Basics of Science; How Young Scientists Use Concepts; Planning for Science	Units 5, 6, 7 <b>Lab #1-Program Observation DUE (50 points)</b>
	Week 5/ Sept 26	Fundamental Concepts in Science; Applications of Fundamental Concepts in Preprimary Science (EOL)	Units 15, 16 and 21
	Week 6/ Oct 3	Linking Children's Literature to Math and Science Conceptual Development (EOL)	<b>Lab #2- Discovery Tray DUE (100 points)</b>
	Week 7/ Oct 10	Math and Science in Action; Math and Science in the Home and Community;	Units 40, 41 <b>FIELD TRIP to Children's Museum</b>
	Week 8/ Oct 17	Planning for Math; One- to-One Correspondence; Number Sense and Counting	<b>MIDTERM EXAM (Review Units 1-7, 15-16, 21, 40, 41)</b> Units 8 and 9; Handouts TBD
	Week 9/ Oct 24	Logic and Classifying; Comparing	Units 10 and 11 <b>Lab #3-Book based Learning Game DUE (100 Points)</b>
	Week 10/ Oct 31	Early Geometry; Shape; Early Geometry; Spatial Sense;	Units 12 and 13
	Week 11/ Nov 7	Parts and Wholes; Ordering, Seriation, and Patterning	Units 14 and 17



Topic(s)	Required Readings and Assignment Due	Week/Dates
Week 12/ Nov 14	Measurement: Volume, Weight, Length, Time and Temperature	Units 18 and 19 <b>Lab #4-Child's Assessment DUE (50 points)</b>
Week 13/ Nov 21	Interpreting Data Using Graphs; Implementation of Math/Science Teaching	Unit 20
Nov 28	<b>NO CLASS</b>	
Week 14 / Dec 5	Microteaching Presentations	<b>Unit Plan DUE (Key Assessment, 100 points)</b> <b>Activity Notebook DUE (100 Points)</b>
Week 15/ Dec 12	<b>FINAL EXAM</b>	<b>(100 points)</b>



### 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 notebook.

### Student Assignments

Written child's skill assessment report, 3 oral presentations, classroom observation checklist, thematic unit plan, activity resource notebook (detailed descriptions will be provided in a separate handout)

### Student Assessment(s)

One cumulative exam (format=multiple choice, true/false, short answer), quizzes, student assignments

### Instructor's Requirements

IR 1. **Extra Credit**-Students who are not absent more than twice will be eligible for 25 extra credit points that will be applied towards the final grade. They will also be able to submit **one (1) additional extra credit assignment** from a list that is provided on the Assignment Descriptions handout.

IR 2. **Late Assignments**-Course assignments will be considered LATE if they are not received by Friday of the week during which the assignment is due. Five (5) points per class session will be taken off the original grade of each assignment that is turned in beyond but within two weeks of the due date. After two weeks, these assignments may still be accepted but the final grade will be reduced by 20% as a penalty. No LATE ASSIGNMENTS will be accepted during the week of finals.

**IR 3. Use of Electronic Devices-**Although admittedly convenient, most modern technological devices are considered inappropriate and distracting in the classroom. The use of cell phones, pagers, beepers, and/or palm pilots is severely discouraged in this class. If you must carry one of these devices, make sure you turn it OFF or on VIBRATE before arriving to class. Please refrain from answering or responding to any calls, text messages, or other means of communication inside the classroom. Leaving the class to respond to such a call should be done only in the case of a verifiable emergency. Repeated violations of this policy will result in you being asked to leave the class session or withdraw from the course.

**IR 4. Make-Ups-**All students who have a documented, college- approved excuse for missing an assignment may make up the assignment without any grade reduction or penalty. Approved excuses include personal illness, a death in the immediate family, and participation in official college functions. Students who are unable to attend during an examination day should contact the instructor as soon as possible to reschedule. Make-up examinations must be completed in the instructor's office or other designated location within TWO WEEKS of the original date of the exam. Please note that failure to take the collaborative exam(s) on the date scheduled will result in the student having to take the examination on an individual basis!

**IR 5. Monitoring of Student Progress-**It is highly recommended that you keep backup copies of all of your submitted work and that you keep all of your graded assignments until the final grades are posted.

**Program/Discipline Requirements: If applicable**

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."

**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.

See "Health Science Program/Discipline Requirements" for grading scale.

**Instructor Grading  
Criteria**

**\_\_\_\_\_ points total are possible**  
**A=\_\_\_\_\_ accumulated points    D=\_\_\_\_\_ accumulated points**  
**B=\_\_\_\_\_ accumulated points    F=\_\_\_\_\_ or fewer accumulated points**  
**C=\_\_\_\_\_ accumulated points**

**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.

**Instructional Materials**

Charlesworth, R. and Lind, K. K. (2013). Math and Science for Young Children (7th ed.). New York: Delmar.

**HCC Policy Statement:**

**Access Student Services Policies on their Web site:** <http://hccs.edu/student-rights>

**Distance Education and/or Continuing Education Policies**

**Access DE Policies on their Web site:** [http://de.hccs.edu/Distance\\_Ed/DE\\_Home/faculty\\_resources/PDFs/DE\\_Syllabus.pdf](http://de.hccs.edu/Distance_Ed/DE_Home/faculty_resources/PDFs/DE_Syllabus.pdf)

**Access CE Policies on their Web site:** <http://hccs.edu/CE-student-guidelines>