HOUSTON COMMUNITY COLLEGE

Division of Liberal Arts, Humanities & Education
Child Development Department

https://www.hccs.edu/programs/areas-of-study/liberal-arts-humanities--education/child-development/

CDEC 2307: Math and Science for Early Childhood | Lecture/Lab | #10770
Spring 2020 | 16 Weeks (1/21/2020-5/17/2020)
Hybrid | Central EDC Room D117 | Wednesdays 6:00 p.m.-8:20 p.m. (and on-line)
3 Semester Credit Hours / 2 Lecture Hours / 3 Laboratory Hours | 80 Contact Hours Per Semester

Instructor Contact Information

Instructor: Dr. Pamela Norwood-Todd
Office: EDC Building, Rm. D106
HCC Email: pamela.norwoodtodd@hccs.edu
Office Phone: 713-718-6236
Office Hours: M/W 3:00pm-5:00pm
Office Location: EDC Building, Central

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear your concerns, clarify any misunderstandings, or just to discuss course topics in greater depth.

Instructor's Preferred Method of Contact

College policy requires instructors and students to communicate through the HCCS email system. If you have not activated your HCCS student email account please do so. You can reach me by email at pamela.norwoodtodd@hccs.edu. You can also use the Canvas Inbox to communicate with me. I will respond to emails within 48 hours Monday through Friday; I will reply to weekend messages on Monday mornings. If I am not available, please feel free to leave a message on my phone or contact our department's administrative assistant, Ms. Debbie Pinnock at 713-718-6303 or debbie.pinnock@hccs.edu.

What's Exciting About This Course

Early childhood curriculum and teaching methods are likely to be best when they address children's lively minds so that they are quite frequently fully intellectually engaged. ˜Lilian Katz, Ph.D.

According to Eckhoff (2017), young children can learn math and science concepts naturally as they explore the world around them. This course is designed to provide practicing and future early childhood educators with the content knowledge, best practices, and teaching ideas they will need to encourage hands-on experimentation and minds—on, inquiry focused learning experiences. We will utilize the same materials and supplies that children use to build mathematics and scientific conceptual understandings so that we will be better able

teach through intentional, meaningful guided learning experiences, independent investigations, and play. We don't just talk about math and science, we do it!

My Personal Welcome

Welcome to Math and Science for Early Childhood!—I'm delighted that you have enrolled in this course. You are probably taking this class because it is a requirement for the completion of your certificate or your degree. I sincerely hope however, that by the end of the semester you will find that it was worth your time. You will have a better understanding of the ways that early childhood educators can help support young children's numeracy and scientific development. In order for this to occur, I intend to present the information in ways that allow you to be an active, collaborative, and engaged learner so that you can grasp the concepts and apply them now and hopefully throughout your professional life. I hope that you will be willing to participate in our class discussions and activities and make use of the materials that are provided through Eagle Online (Canvas).

Prerequisites and/or Co-Requisites

The prerequisites required for CDEC 2307 are CDEC 1313, CDEC 1323, CDEC 1358, and CDEC 1356. Students who have had these courses typically have more success in this class when compared to those who have not taken them. Please carefully read and consider the repeater policy in the HCCS Student Handbook.

Canvas Learning Management System

This section of CDEC 2307 will use Eagle Online Canvas (https://eagleonline.hccs.edu) to supplement in-class assignments, exams, and activities. You will be taught how to access assignments, discussions, and quizzes online. Most of your assignments will be uploaded into Eagle Online Canvas. This allows for quicker access to grades and instructor comments, and provides a permanent record of your success in this class. HCCS Open Lab locations may be used to access the Internet and Eagle Online Canvas. It is recommended that you **USE FIREFOX OR CHROME AS YOUR BROWSER**.

HCC Online Information and Policies

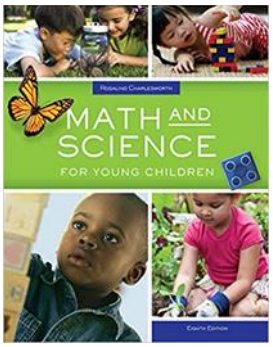
Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: http://www.hccs.edu/online/

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas or contact your instructor for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course.
https://eagleonline.hccs.edu/login/ldap

Instructional Materials

Textbook Information



The textbook listed below is ***required*** for this course.

Charlesworth, R. (2016). *Math and Science for Young Children (8th ed.)*. Stamford, CT: Cengage Learning.

Order your book here: HCC Bookstore

Other Instructional Resources

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at http://library.hccs.edu.

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.

Course Overview

CDEC 2307 is an exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play.

Core Curriculum Objectives (CCOs)

CDEC 2307 is not a core curriculum course and does not specifically address core curriculum objectives.

Program Student Learning Outcomes (PSLOs)

NAEYC Standard 1	Develop an understanding of child development and learning.
NAEYC Standard 2	Examine family and community relationships.
NAEYC Standard 3	Explain the observation, documentation, and assessment process needed to support young children and their families.
NAEYC Standard 4	Know, understand, and use a wide array of developmentally effective approaches, instructional strategies and tools to connect with children and families and positively influence each child's development and learning.
NAEYC Standard 5	Know, understand, and use the essential concepts, inquiry tools, and structure of content areas along with other resources to design, implement and evaluate meaningful curriculum for each child.
NAEYC Standard 6	Identify and conduct themselves as members of the early childhood profession.

Course Student Learning Outcomes (CSLOs)

Upon completion of CDEC 2307, the student will be able to:
1. Align the sequence of cognitive development to the acquisition of math and science concepts.
2. Explain the scientific process and its application to early care and education environments.
3. Develop strategies which promote critical thinking and problem-solving skills in children.
4. Plan discovery experiences using observation and assessment.
5. Evaluate developmentally appropriate materials, equipment, and environments to support the attainment of math and science concepts and skills.

Learning Objectives

Align the sequence of cognitive development to the acquisition of math and science concepts.
1.1 Summarize the sequential development of mathematical concepts.
1.2 Outline appropriate science concepts for children.

Explain the scientific process and its application to early care and education environments.
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).

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

Plan discovery experiences using observation and assessment
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.

Evaluate developmentally appropriate materials, equipment, and environments to support the attainment of math and science concepts and skills
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.

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to**:**

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to**:**

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Written Assignment

The assignments in this course include an Article Summary, Science Discovery Tray Project, Practicum Level 1 Observation, and Practicum Level 2 Interactions, Literature-based Math Game Project, an Integrated Thematic Curriculum Unit, and Activity Notebook.

Exams

Weekly chapter quizzes for the course are in the Eagle Online Canvas component of the course. There will also be a midterm and a final exam. Each of these exams will consist of at least 50 questions (multiple choice, true/false, fill in the blank, and/or short answer). Please check the course calendar included here for the exam dates.

In-Class Activities

Routinely, there will be a variety of in-class activities provided in various formats (large group, small group, individual). The purpose of these activities is to enhance your understanding of the course material. No points or grades are given but full participation is expected.

Required Components

This course includes 2 required components. The first required component is a laboratory assignment (Practicum Level 1). To successfully complete this assignment, the student must visit an NAEYC accredited school or center, or a Texas Rising Star (TRS) 4 star school or center. The student will observe at the school or center for at least three hours, complete an observation form to document the observation, and write a one-page summary of the observation. If this assignment is not completed with 70% of possible points, the student will not receive a passing grade in this class.

The second required component is an integrated Thematic Unit. Specific descriptions and instructions for this assignment will be provided by your instructor. If the assignments are not completed with 70% of possible points, you will not receive a passing grade in this class.

Grading Formula

The total possible points that can be earned in this course is **850**. Below you will find the grading scale:

765-850= A
680-764= B
595-679= C
510-594= D
509-below= F

Incomplete Policy:

Required component assignments/Key Assessments Revision Policy Only one revision is allowed on key assessments and required component assignments. The maximum grade you can earn on a revised assignment is 70% of the possible points. If you use any tutoring service, you must take/send assignment description or directions with the first draft. **IF** you do not pass the assignment the first time, any one 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)
c. See an in-person tutor at professor's discretion

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 AND has completed at least half of the required components for the course. 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 coursework 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").

HCC Grading Scale can be found on this site under Academic Information:
http://www.hccs.edu/resources-for/current-students/student-handbook/

Course Calendar

Week	Dates	On-Line and Out of Class Activities (Complete the Thurs Before Next Class)	In Class Discussions of Topics and Assignments Due (Tues)
1	1/20,**22**		Introductions, Review Syllabus, Course Requirements, Complete the **Checking In assignment (10 points)**; Explore DAP
2	1/27, **29**	Read Chapter 1, Review PowerPoint Slides, Explore ZPD and Inquiry Based Learning	Development, Acquisition, Problem Solving, and Assessment
3	2/3,**5**	Read Chapter 2, Review PowerPoint Slides, Complete **Quiz 1 (20 points)**; Participate in **Discussion 1 (15 points)**	Basics of Science, Engineering, and Technology
4	2/10, **12**	Read Chapters 10 and 11, Review PowerPoint Slides, Conduct On-line Research	Overview of Primary Science, Life Science, and Physical Science; Earth and Space Sciences, Environmental Awareness, Engineering, Technology and Science Applications **Article Summary DUE (25 points)**
5	2/17, **19**	Read Chapter 12, Review PowerPoint Slides, Participate in **Discussion 2 (15 points)**, Conduct On-line Research, Complete **Quiz 2 (20 points)**	Materials and Resources and Math and Science in the Classroom and in the Home
6	2/24, **26**	Conduct On-line Research and complete Tray Project	Engineering, Technology and Science Applications **Science Discovery Tray Project (Collection or Inquiry-Focused) DUE (100 points)**
7	3/2, **4**	Read Chapter 6, Review PowerPoint Slides, Conduct Online Research to Select Theme Topic	Integrating the Curriculum and Curriculum Planning
8	3/9, **11**	Review Chapters 1-2, 6, and 10-12 Complete the **Checking Up Assignment (10 points)**	**Midterm Exam (100 points)**

Week	Dates	On-Line and Out of Class Activities (Complete the Thurs Before Next Class)	In Class Discussions of Topics and Assignments Due (Tues)
	3/16, 18	**SPRING BREAK**	
9	3/23, **25**	Read Chapter 3, Review PowerPoint Slides, Participate in **Discussion 3 (15 points)**, Visit Early Learning Program	Prekindergarten and Kindergarten Concepts and Skills
10	3/30, 4/**1**	Read Chapter 4, Review PowerPoint Slides, Complete **Quiz 3 (20 points)**, Visit Early Learning Program	Early Geometry, Parts and Wholes, and Applications of Fundamental Concepts to Science and Engineering
11	4/6, **8**	Read Chapter 5, Review PowerPoint Slides, Complete Project	Pre-K/K Ordering, Measurement, and Data Collection and Analysis **Program Observation (Practicum Level 1) DUE (100 points)**
12	4/13, **15**	Read Chapter 7, Review PowerPoint Slides, Complete **Quiz 4 (20 points)**	Transitioning from Preschool to Kindergarten to Primary; Early Robotics and Complex Constructions (Engineering)
13	4/20, **22**	Read Chapter 8, Review PowerPoint Slides, Visit early learning site	Whole Number Operations, Patterns and Fractions **Literature-based Game Project DUE (100 points)**
14	4/27, **29**	Read Chapter 9, Review PowerPoint Slides, Complete **Quiz 5 (20 points)**, Complete Project	Place Value, Geometry and Data Analysis, and Measurement **Thematic Unit Project DUE (100 points); Oral Presentations (50 points)**
15	5/4, **6**	Review Chapters 3-5, 7-9; Complete the **Checking Up Assignment (10 points)**	Course Wrap-Up
16	5/11, **13**	Study for Final Exam (Chapters 3-5, 7-9)	**Final Exam (100 points)**

*No required assignments will be accepted after **May 6, 2019**

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

If you have a documented, college approved excuse for missing an assignment, you may make it up without any grade reduction or penalty. Approved excuses include personal illness, a death in the immediate family, and participation in official college functions. If you are unable to attend class on a scheduled midterm examination day, you should contact me as soon as possible to reschedule but within two weeks of the original date. There is no "make-up" for the final exam.

Academic Integrity

HCC expects all students to conduct themselves with honor and integrity in fulfilling course requirements. Proceedings may be initiated by instructors, department chairs, and/or instructional deans against a student accused of a violation of academic integrity. "Scholastic Dishonesty" includes but is not limited to cheating, plagiarism, and collusion. Discretion is given to the instructor as to the administration of consequences for academic integrity violations at the classroom level, subject to any rules imposed by the relevant program/division/center of excellence. Consequences might include such penalties as a 0 on the particular assignment, a mandatory retaking or redoing of the assignment in question, a significant deduction from the final overall course grade, dismissal from the course (if prior to the date of last withdrawal) or failure of the entire course.
https://www.hccs.edu/media/houston-community-college/district/pdf/2018-2019-Student-Code-of-Conduct.pdf

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):
http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

You are expected to attend each class session. Research has shown that regular class attendance correlates with good grades. Please be on time and plan to attend the entire class period. If you must be absent, know that you will still be held responsible for the material covered in class. Make sure that you ask for the handouts or other supplemental information that may have been distributed in the missed session. Please be advised that instructors may drop students who fail to attend class by the official date of enrollment or who miss more than six hours of classroom time.

Student Conduct

"According to its policy on student conduct, the Houston Community College views college-level students as adults who subscribe to a basic standard of conduct…Moreover, a student's membership in the community of scholars is a privilege and carries with it obligations to participate in and contribute to the educational mission of the college and to avoid any behavior that is contrary to that mission. Therefore, no student may disrupt or otherwise interfere with any educational activity being performed by a member of the college district. In addition, no student may interfere with his/her fellow students' right to pursue their academic goals to the fullest in an atmosphere appropriate to a community of scholars."
https://www.hccs.edu/media/houston-community-college/district/pdf/2018-2019-Student-Code-of-Conduct.pdf

Instructor's Course-Specific Information (As Needed)

Students who are not absent more than twice during the semester will be eligible for 25 extra credit points that will be applied towards the final grade. In addition, these students will also be eligible to submit one (1) additional extra credit assignment from a list of extra credit options that will be provided.

Every effort will be made to grade your assignments in a timely manner. Typically, they can be returned to you within a week of submission. Late assignments are accepted but 5 points per class session will be deducted from the original grade if they are submitted within the first two weeks of the due date. After that, the grade will be reduced by 25%. The last date to submit any assignment is the week before the final exam. Please be sure to make backup copies of all submitted work and keep all graded assignments until final course grades are posted.

Electronic Devices

Most technological devices are considered distracting in the classroom. Please turn your cell phone OFF or on VIBRATE before coming to class. Please refrain from answering or responding to any calls or text messages during class. Leaving the class to respond to 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 and an appointment for a personal conference.

Child Development Program Information

The A.A.S. Child Development Program at Houston Community College is accredited by the Commission on the Accreditation of Early Childhood Higher Education Programs of the National Association for the Education of Young Children. Accreditation is awarded to programs that demonstrate evidence of excellence by meeting the NAEYC Professional Preparation Standards. There are currently 204 institutions in 40 states with NAEYC accredited programs. HCC is one of the 11 in Texas. The accreditation term runs from beginning date March, 2017 through March, 2024.

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 the YMCA Children's Academy at the HCC Central Campus must complete a mandatory orientation. Contact the department at 713-718-5470 or 713-718-6303 for more details about the orientation.

HCC Policies

Here's the link to the HCC Student Handbook http://www.hccs.edu/resources-for/current-students/student-handbook/ In it you will find information about the following:

- Academic Information

- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

EGLS^3

The EGLS^3 (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS^3 surveys are only available for the Fall and Spring semesters. –EGLS3 surveys are not offered during the Summer semester due to logistical constraints.
http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
http://www.hccs.edu/departments/police/campus-carry/

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (http://www.hccs.edu/departments/institutional-equity/)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/

Department Chair Contact Information

Saran Winters, saran.winters@hccs.edu, 713-718-6237.