Class Hours: 3 lecture
Credit Hours: 3
Instructor:
Office:
Office Phone:
Fax:
E-mail:

Description:
Math and Science in Early Childhood is a course covering the standards, principles, and practices in teaching mathematics and science to young children ages birth through eight. The course emphasizes developing an integrated math and science curriculum that includes appropriate content, processes, environment and materials, and child-centered choices. Field experiences required. **Pre-requisite:** 2015 or Department Approval

Required Texts:

NOTE: Science readings are linked inside the course shell and no additional textbook is required for this portion of the course.

Disclaimer: Textbooks frequently change editions, so please be sure to check with the school bookstore to verify the current ISBN of the textbook before purchasing the textbook.

Additional Resources:
The Tennessee Early Learning Developmental Standards

Student Learning Outcomes:
Upon successful completion of the course the student will be able to:
1. Identify learning outcomes for young children in math and science. (1a, 5c)
2. Identify standards for math and science instruction and programming in early education settings. (5c, 6d)
3. Identify appropriate individual child assessment methods in math and science learning. (3b)
4. Discuss how technology can be integrated to support development of math and science in the curriculum. (4b, 5b, SS5)
5. Design, implement, and evaluate science inquiry experiences for children in an integrated, research-based curriculum. (1c, 4b, 4c, 4d, 5a, 5b)
6. Design, implement, and evaluate math experiences for children that support the development of learning outcomes. (1c, 4b, 4c, 4d, 5a, 5b)
7. Identify effective strategies for involving families in supporting math and science for young children. (2c)

NAEYC Initial Standards:
The following standards are addressed in this course:
**Standard 1: Promoting Child Development and Learning**
1a. Knowing and understanding young children’s characteristics and needs, from birth through age eight.
1c. Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

**Standard 2: Building Family and Community Relationships**
2c. Involving families and communities in young children's development and learning.
Standard 3: Observing, Documenting, and Assessing to Support Young Children and Families
3b. Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment and data collection

Standard 4: Using Developmentally Effective Approaches
4b. Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology
4c. Using a broad repertoire of developmentally appropriate teaching/learning approaches.
4d. Reflecting on one's practice to promote positive outcomes for each child.

Standard 5: Using Content Knowledge to Build Meaningful Curriculum
5a. Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b. Knowing and using central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c. Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6: Becoming a Professional
6d. Integrating knowledgeable, reflective, and critical perspectives on early education

Supportive Skills
5. Skills in identifying and using professional resources.

IDEA Course Evaluation Objectives:
These objectives will be evaluated through student feedback on Course Evaluations.

- **Objective 1:** Gaining factual knowledge (terminology, classifications, methods, trends)
- **Objective 2:** Learning fundamental principles, generalizations, or theories
- **Objective 4:** Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

Major Content Areas:
- Standards & Assessment for Math and Science
- Science Curriculum
  - Science Inquiry
  - Life, Physical, and Earth Science
  - Science Trays & Discovery Center
  - Developing In-depth Science Studies
- Mathematics curriculum
  - Number and operations
  - Patterns and Symmetry
  - Measurement
  - Geometry and spatial sense
  - Displaying and Analyzing Data

Field Experiences: 3 Hours of required field experience
Students will be engaged in a minimum of 3 hours of field experiences in this course. These hours will include:
1. Math Activity - developing and implementing a math activity with children
2. Number Concept Book - developing and implementing a number concept book with children
3. Discovery Tray – developing and implementing a discovery tray activity with children
4. Math and science experiences with children.

Assessment: Student learning will be assessed through the following:
1. In-class Work: complete as assigned by the instructor.
2. Journal: completed weekly
3. Math Activity: develop an activity with children and share in class
4. Math File: develop a math file related to learning outcomes for 3-5 year old children
5. Number Book: develop a number concept book
6. Discovery Tray: develop a science discovery tray and share in class
7. Science Study: develop a plan for an in-depth, science study for preschool age children
8. Exams: complete a mid-term exam and final exam
Grading Criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total Points</th>
<th>Approximate Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math File</td>
<td>100 points</td>
<td>20%</td>
</tr>
<tr>
<td>Math Activity</td>
<td>50 points</td>
<td>10%</td>
</tr>
<tr>
<td>Number Book</td>
<td>25 points</td>
<td>5%</td>
</tr>
<tr>
<td>Discovery Tray</td>
<td>50 points</td>
<td>10%</td>
</tr>
<tr>
<td>Science Study</td>
<td>100 points</td>
<td>20%</td>
</tr>
<tr>
<td>In-class work</td>
<td>50 points</td>
<td>10%</td>
</tr>
<tr>
<td>Journal</td>
<td>40 points</td>
<td>8%</td>
</tr>
<tr>
<td>Mid-Term Exam</td>
<td>35 points</td>
<td>7%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>50 points</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>500 points</td>
<td>100%</td>
</tr>
</tbody>
</table>

Grading Scale:

Grades reflect student progress in course content. Nashville State Community College grades on a four-point system.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Class Points</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 100%</td>
<td>450 – 500 points =</td>
<td>A</td>
</tr>
<tr>
<td>80 – 89%</td>
<td>400 – 449 points =</td>
<td>B</td>
</tr>
<tr>
<td>70 – 79%</td>
<td>350 – 399 points =</td>
<td>C</td>
</tr>
<tr>
<td>60 – 69%</td>
<td>300 – 349 points =</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>Below 300 points =</td>
<td>F</td>
</tr>
</tbody>
</table>

NOTE: All ECED majors in the AAS degree and Technical Certificate programs are required to receive a C or above in all ECED classes.

It is the student’s responsibility to check D2L and MyNSCC email on a regular basis. These are the official communication channels between the college and students. Students are responsible for the information communicated through those channels. D2L contains specific course information and MyNSCC contains information important for other purposes.

Nashville State Community College has implemented an Early Warning System to notify students via e-mail about academic problems such as poor classroom attendance, poor performance on assignments/tests, poor communication skills, late/missing assignments, and/or lack of classroom participation. Please note that Early Warning Alerts do not affect a student’s academic standing.

Revised December 2013
ECED COURSE POLICIES

These are course policies required for this course. Read these carefully. Following these policies will assist you in completing this course successfully. Please ask questions if you do not understand any expectation in this course. The ECED faculty wants you to do well!

Attendance/Participation Policy

1. Each student is expected to be on time, attend all scheduled classes, and stay for the entire class session. It is not acceptable to walk in and out of class, unless there is an emergency.
2. An absence is defined as non-attendance for any reason, including illness or emergency.
3. Absences Allowed:
   Regular Fall & Spring Semester: No more than 3 absences.
   Summer 10 week term or Practicum Courses: No more than 2 absences
4. Any student who has more than allowed absences above will receive a grade of “FA” for the term. An FA computes the same as an F in your grade point average. Coming to class late (after the instructor has taken attendance) and/or leaving early (before the instructor dismisses the class) counts as a tardy. Three (3) tardies count as one (1) absence. Any student arriving more than 30 minutes after class has started or leaving more than 30 minutes before class is dismissed will be considered as absent for the entire class.
5. Any student who is absent is responsible for the content of the class missed and any assignments given. The student is encouraged to get notes and information missed from another student in the class or contact the instructor.
6. In-class assignments cannot be made up.
7. The instructor’s grade book serves as the official record for grades and attendance.

Student Conduct

Nashville State has a zero tolerance policy for disruptive conduct in the classroom. The instructor has primary responsibility for control over classroom behavior and maintenance of academic integrity. He/she can order temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct which violates the general rules and regulations of the College. Disruptive behavior in the classroom may be defined as, but is not limited to, behavior that obstructs or disrupts the learning environment (e.g., offensive language, harassment of students and professors, repeated outbursts from a student which disrupt the flow of instruction or prevents concentration on the subject taught, failure to cooperate in maintaining classroom decorum, etc.), the continued use of any electronic or other noise or light emitting device which disturbs others (e.g., disturbing noises from beepers, cell phones, palm pilots, lap-top computers, games, etc.). Each student should refer to the current Nashville State Student Handbook for guidelines for student conduct.

Class Procedures

The class will be a mixture of lecture, discussion, in-class activities and class participation. The instructor will make every effort to work with you, but you are expected to read assignments before class, pay attention, participate in class, and put effort into assignments.

Assignments, Instructions, and Grading Rubrics

For all assignments, you are expected to follow instructions carefully, study the grading criteria, and ask questions if you do not understand an assignment. For some assignments, you may be required to complete the grading rubric as a self-grading component of the assignment. The purpose of this self-grading is to focus your attention on the expectations for the assignment and enhance your own self-evaluation and critical thinking skills. Even though you may submit a self-scored rubric, the instructor will make the final determination on all grades and scores.

Assignment Format

All assignments are to be typed (using 10, 11 or 12 pt. font) unless otherwise instructed. Assignments of more than one page should be handed in stapled in the upper left corner. Spelling, punctuation, grammar, and legibility will be taken into consideration in grading all assignments. Assignments should reflect college-level work. Misspelled words, incorrect grammar, and messy assignments will be penalized. Always re-read and proof your work prior to turning it in to the instructor.

Revised December 2013
Any assignment turned in that is not typed or is unreadable with numerous grammatical and/or spelling errors may be returned to the student ungraded. The student will need to resubmit the assignment, but will receive a reduction in points (see policy for assignments not turned in on the assigned due date).

**Cheating and Plagiarism**

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. The work you submit must be written in your own words. This means if you use words directly from a textbook, the internet, or another source for information to complete an assignment or exam, you must cite the source. Students guilty of academic dishonesty, either directly or indirectly through participation or assistance are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular institutional procedures as a result of academic misconduct, the instructor has the authority to assign an "F" or "zero" for the exercise or examination or to assign an "F" for the course.

**Late Assignments**

Students are encouraged to turn in all assignments on time. In the event that you miss a due date, you may turn in the assignment late, up to one week beyond the due date, but no later. Ten percent (10%) of the points for an assignment will be deducted on late work. No assignments will be accepted more than one week late and no assignment will be accepted beyond the last class meeting. It is the student’s responsibility to make sure the instructor receives the assignment if it is turned in late. See example below:

**EXAMPLE:** An assignment worth 100 points is due Feb. 10th. The next class meeting is Feb. 17th, a week later. If not turned in on Feb. 10th, then it is considered late and will have 10% (10 points) deducted from total score. You have up until Feb. 17th to turn in the assignment, but no later. As for grading, if you turned in late and earned 90, 10 points will be deducted and your final score will be 80.

**Exams**

Exam dates are listed on the course outline. You are expected to take the exam on the exam date and to be on time for the exam. If you cannot be in attendance on the exam day, you may take the exam in the Testing Center. Any student who arrives more than 10 minutes after the exam has begun will not be allowed to take the exam in class; they will be required to take the exam in the Testing Center. The instructor will take the exams to the center after the class session the exam is scheduled for. Any exam in the Testing Center must be taken within one week of the date when the exam was scheduled. 10% of possible points will be deducted from any exam taken in the Testing Center.

**Experiences with Children**

Learning about early childhood requires you to interact and engage with young children throughout the coursework in the early childhood program at NSCC. Some assignments in this course may require you to engage in activities with young children from ages birth through age 8. (See specific instructions on assignments.) You may be able to complete these experiences with children in informal settings such as family or relatives homes, but it is preferable, if possible, to do these experiences in an early childhood program such as a child care center or family child care home. These experiences require the student to be in the "teacher" role; thus, it is not acceptable to do these with your own children. Let the instructor know if you need help or clarification.

**Photographs for Assignments**

Some assignments may require you to take photographs of your work or project as part of the assignment instructions. You will need access to a camera of some type in order to meet this expectation. Even though you are asked to document your work through photos, you are NOT required to take photos of children themselves. Many families do not wish their children to be photographed. You must have written permission from families to photograph children.

**Questions about Graded Assignments and Appointments for Assistance**

If you would like to discuss a grade on an assignment or exam, see the instructor after class to discuss the assignment briefly or make an appointment. Class time will not be used to discuss or review individual grades. You are encouraged to make an appointment with your instructor to discuss any questions or concerns in depth.

**College Resources for Support**

The college provides several resources to support the academic success of students. The Learning Center, located inside the Library, offers students free, drop-in academic assistance with courses in which they are currently enrolled at the college. Services include access to computers for research, email, tutorials in course content, and software.
applications used in classes. In addition, tutors are available to help in many subjects, especially mathematics and writing. Free online tutoring for other subjects is also available to students through Smarthinking. The Library facilitates learning and research for Nashville State students, staff, and faculty. For more information, visit the college website at www.nscc.edu.

Grading Policy for Early Childhood Majors
A grade of C or above must be earned in all early childhood courses prior to graduating with an AAS or Technical Certificate in ECED. If you are majoring in the AAS and/or Technical Certificate programs must receive a C or above in this class in order to meet prerequisite requirements for subsequent classes.

Early Warning Alerts
Nashville State Community College has implemented an Early Warning System to notify students via e-mail about academic problems such as poor classroom attendance, poor performance on assignments/tests, poor communication skills, late/missing assignments, and/or lack of classroom participation. Please note that Early Warning Alerts do not affect a student’s academic standing.

Accommodations
Nashville State complies with the Americans with Disabilities Act. Consult with the office of Student Disability Services. If you need any accommodation(s) for this class, notify the instructor by the second class meeting.

NS Online and Course Shell
All courses, face-to-face, hybrid and totally online, have an online course shell that contains important information (syllabus and additional resources) about your course. It is highly important that you become familiar with the online course shell and use it as a resource to support your learning. [This shell is where your instructor will post information in case of class cancellation. See “Class Cancellations” below.]

To access your course through NS Online, first go to the NSCC homepage (http://www.nscc.edu), then click on “Connect” and scroll down to MyNSCC. Enter your A number and your login to gain access to MyNSCC. You will then click on “NS Online Courses” on the upper right-hand side of the page. Click on the course title under the listing of all your courses and you will be at the home page for your course. Or you may go directly to the NS Online login: https://elearn.nscc.edu/ to gain access to your course.

Class Cancellations – NS Online Assignment
When a class is cancelled due to inclement weather or other unusual circumstances, the instructor will post an assignment on NS Online to be completed before the next class meeting. If you have trouble accessing the internet, notify the instructor through a phone message requesting an alternate assignment.

MyNSCC Email
It is the student’s responsibility to check D2L (NS Online) and MyNSCC email on a regular basis. These are the official communication channels between the college and students. Students are responsible for the information communicated through those channels. D2L (NS Online) contains specific course information and MyNSCC contains information important for other purposes. It is strongly recommended that course related communication to your instructor be sent through D2L (NS Online) course email. The email is located inside your course website. Contact the Help Desk at 615-353-3678 for support.

Cellular Telephone/Pager Policy
The use of cellular telephones and pagers in the classroom is prohibited at Nashville State Community College.

Children in Class
It is the policy of Nashville State Community College that students may not bring children into instructional settings such as classrooms, labs, or the Learning Center.

Breaks/Food in Class
The classroom is not an appropriate place or time to eat meals. Please plan on eating before class or during break times.

Revised December 2013
NOTE: This syllabus is a master syllabus. Specific course requirements are subject to revision at the discretion of the individual instructor. A course syllabus will be provided the first day of class.

Course Schedule

**ECED 2085 Math and Science in ECE**
(Subject to Revision by Instructor)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>READING</th>
<th>ASSIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>Introduction to Science and Math: Principles of a High Quality Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>Standards and Assessment for Math and Science Math &amp; Science for Toddlers</td>
<td></td>
<td>Display: Commercial Math and Science Materials</td>
</tr>
<tr>
<td>Class 3</td>
<td>Science Inquiry Science Trays Open-Ended Questions</td>
<td></td>
<td>Display: Science Tools</td>
</tr>
<tr>
<td>Class 4</td>
<td>Physical Science Life Science</td>
<td></td>
<td>Display: Science Informational Books (2 different types) NOT FICTION</td>
</tr>
<tr>
<td>Class 5</td>
<td>Earth Science Science Discovery Center</td>
<td></td>
<td>Display: Wall Display for Science Centers Science Discovery Tray</td>
</tr>
<tr>
<td>Class 6</td>
<td>Planning a Science Study</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LAST DAY TO WITHDRAW AND RECEIVE A “W”**

| Class 7 | Midterm Exam Integrated Math | | |
| Class 8 | Math: Number Collections Math Manipulatives | | Display: Collection (sortable by at least 3 attributes) |
| Class 9 | Math: Number (Continued) Grid Games & Path Games | | Display: Grid Games or Path Games |

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<table>
<thead>
<tr>
<th>Class</th>
<th>Math: Algebra &amp; Patterns</th>
<th>Display: Items That Can Patterned Math Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 11</td>
<td>Math: Geometry &amp; Spatial Sense</td>
<td>Display: Shapes (2-Dimensional and 3-dimensional-D)</td>
</tr>
<tr>
<td></td>
<td><a href="http://cont.vrml.k12.la.us/tltc/prek/geometry_and_spatial_sense.htm">http://cont.vrml.k12.la.us/tltc/prek/geometry_and_spatial_sense.htm</a></td>
<td>Science Study Due</td>
</tr>
<tr>
<td>Class 12</td>
<td>Math: Displaying and Analyzing Data</td>
<td>Display: Children's Books That Can Be Used to Support Mathematical Concepts</td>
</tr>
<tr>
<td>Class 13</td>
<td>Home-School Connections Review</td>
<td>Math File Due</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

Revised December 2013
Early Childhood Education  
Student Information Form  
Please legibly print all information on form.

Course Title________________________________    Semester & Year____________________

Name_____________________________________________   “A” Number___________________

HOME CONTACT INFORMATION

Street & Number____________________________________________________
City and Zip_______________________________________________________
Home Phone__________________   Cell Phone___________________________
E-mail address______________________________________________________
Emergency Contact _________________________________________________

WORK INFORMATION

Employer’s Name_______________________________________________
Current Position Title_______________________Full-time or Part-time?_______
Street & Number____________________________________________________
City and Zip_______________________________________________________
Work Phone________________________________________________________

Why did you enroll in this course? To meet requirements for which of the following:
_____ Associate’s Degree in Early Childhood (AS degree)
_____ Associate of Applied Science in Early Childhood (AAS degree)
_____ Technical Certificate in Early Childhood
_____ Non-degree (CDA preparation, CDA renewal, etc.)
_____ Other reason?

Sign below verifying: I understand the Early Childhood Education Grade Policy and Syllabus.

_________________________________________  Date ________________________

My signature below indicates that I have read the entire syllabus and understand its contents. I agree to abide by the class policies set forth for the course and will be held accountable to such policies. In particular, I am aware of the Attendance/Participation and Late Assignment policies.

I also give my permission to use my work and/or pictures taken of me in class activities for use by my instructor or by other instructors in the Early Childhood department for the purpose of instructing others in appropriate early childhood practices.

Signature_________________________________________________________  Date ________________________

Revised December 2013