



Course Syllabus

2022-2023

Download PDF Version

EDEM 6627 Math Methods I

College

College of Education

Section

OLA01

Term

2023SP

Class Time & Place

Asynchronous

Campus

Online

Course Description

Math Methods I is organized to provide candidates with an introduction to methods for teaching young children developmentally appropriate topics in patterns, geometry, algebra, measurement, and data analysis (graphs). Candidates will explore the teaching of mathematics; what it means to deliver mathematics instruction through individual, small group, and large group settings; and how to illustrate mathematical concepts for young children. Candidates will consider the different ways children might represent mathematical concepts and develop practices to help children build connections and see relationships among mathematical ideas. Candidates will also explore the characteristics of a classroom environment conducive to mathematical learning in PK-2 classrooms by reading about and discussing the classroom applications for mathematical tasks, mathematical tools, the roles of teachers and students, and the assessment of mathematical understanding.

Credits

3

Instructor

Dr. Lynda Luckie

Email Address

lluckie@piedmont.edu

Phone

(770) 364-2193

Office Hours

Via Zoom by appointment upon request.

Textbooks and Class materials

Required textbook:

Carpenter, T., Fennema, E., Loef Frank, M., Levi, L., Empson, S. (2015). (2nd). *Children's Mathematics, Cognitively Guided Instruction*. Portsmouth NH: Heinemann

ISBN 13 : 9780325052878

Supplemental readings will be required as needed throughout the course. These readings may include research, professional documents, and personal reading.

Access to mathematics manipulatives is also required, either physical or virtual.

Student Learning Outcomes

Upon the completion of this course, students will be able to:

1. Analyze and explain essential topics in math for grades PK-2.
2. Design math lesson plans that use select manipulatives such as linking cubes, attribute blocks, geoboards, base 10 blocks, or other digital tools to teach developmentally appropriate content.
3. Identify and use instructional strategies and techniques such as cooperative and peer group learning, activity centers, or presentations to teach math content to diverse learners.
4. Recognize and create traditional and alternative methods for assessing students' work in math.
5. Model positive dispositions toward mathematical learning and processes.
6. Synthesize educational research on 3-5 student motivation in math education.

Educational Technology Requirements

Online/Hybrid

Minimum technology requirements for online and hybrid courses may be found at the following URL: <https://www.piedmont.edu/academics/technology-requirements/>.

Active, weekly participation is required as a minimum standard to register attendance in an online or hybrid course. Logging onto a course, in the absence of active participation, is not sufficient to register attendance.

Grading Scale

To promote fair and consistent assessments, the following grading guidelines will be applied on the total points:

A	100%	to	90%
B	less than 90%	to	80%
C	less than 80%	to	70%
D	less than 70%	to	60%
F	less than 60%	to	0

Grading System

Grades will be weighted as follows:

25% Weekly Discussion Boards

25% Written Assignments

20% Lesson Plans

20% CGI Paper

10% Participation

Grading Scale is as follows:

A	100%	to	90%
B	< 90%	to	80%
C	< 80%	to	70%
D	< 70%	to	60%
F	< 60%	to	0%

Attendance

Attendance, timeliness, and participation are required in each course and are a part of professional dispositions. Each candidate is expected to be

regular and prompt in attendance. Every class should be attended in order to gain the most toward professional development. The only time a candidate should be absent from a class is if he or she has an illness, emergency, extenuating circumstance, or approved college absence (e.g., athletics, drama, field trips, school system function).

Contact the professor of the course in advance when possible (if you are attending a cohort program, you must also notify the cohort coordinator). Keep in mind that tardiness or leaving class early is also considered a partial absence. It is expected that a candidate make up work that was missed due to an absence. Understand that reading a classmate's notes cannot easily duplicate many of the experiences of the course.

For asynchronous courses, attendance, timeliness, and participation are required in each course and are a part of professional dispositions. Each candidate is expected to be prompt and actively participate in order to gain the most toward professional development. Points will be deducted from your participation grade if you are not an active participant.

Active participation means:

- Candidate contributes effectively and appropriately in all class activities.
- Candidate displays professionalism and demonstrates openness to constructive criticism.
- Candidate willingly enters a supportive/collegial role with other class members offering well-thought-out and helpful ideas.
- Candidate arrives and leaves on time, especially in collegial meetings.
- Candidate turns in all assignments on time.

As a candidate progresses through the program of study, he or she is developing a professional reputation. Upon completion of a program of study, a candidate often requests that a reference be provided to a school system for employment or for admission to an advance degree program. Almost every reference asks the recommender about a candidate's attendance, promptness, punctuality, dependability, and exercise of professional judgment in absences. Thus, a candidate should work toward developing an exemplary reputation regarding attendance and punctuality.

Furthermore, candidates for all professional educational roles are expected to model dispositions of professional educators. The GAPSC guidelines state: "Candidates' work with student, families, and communities reflects the dispositions expected of professional educators as delineated in professional, state, and institutional standards. Candidates recognize when their own dispositions may need to be adjusted and are able to develop plans to do so."

Class Policies

Active Participation

Active participation in this class means that you will:

- prepare for classes by reading the text and/or other assigned readings;
- attend all classes for duration of allotted class time
- take active part and contribute significantly during class discussions and activities;
- be attentive and respectful of peers and the professor during the discussions, dialogue, and presentations.
- practice professional use of a laptop (no surfing, emailing, instant messaging, or use of Facebook during class)
- submit all assignments on time.

General Guidelines for Written Work:

Use APA style (7th Ed.). All papers for the course are to be typed using 12 point Times Roman or Arial font. Papers should be double-spaced, error-free, and grammatically correct (including punctuation, spelling, capitalization, etc.). It is assumed that you are actively using and will submit the Grammarly report with any written assignment for this class. Make good use of writing references such as dictionaries, writing handbooks, the writing reminder materials, computer spelling and grammar checks, and tutoring from the Learning Center. Work submitted should reflect your professionalism and college level writing. Your writing and reflections will be assessed according to the depth, breadth, clarity, and accuracy they convey. I reserve the right to deduct points from your total grade if there are significant grammar and/or APA style errors in what you have turned in.

Make-up Policy

Make-up Policy

All assignments and activities will utilize the Canvas platform. All work for the course is to be in on time, or handed in on an agreed upon future date. Work submitted late will automatically lose points unless prearranged by the professor and candidate. To meet the deadline, assignments may be sent electronically on or before the due date. Make-up work will be considered if a reason for missing the original work is justified.

Completion of all assignments is required for a passing grade in the course.

If at any time you are unclear about assignments or expectations, please contact me for clarification.

Other assignments or activities may be required as deemed necessary to assure the mastery of the course objectives as stated.

Course Outline/Schedule

1/9/2023 5:00-6:00 PM. Online Synchronous via Zoom, optional, but strongly encouraged.

Other classes will be Asynchronous for this course. Modules will be completed as assigned in Canvas.

Assignments in the modules will be completed in a timely manner. Please make submissions in Canvas by the due dates listed below.

1/9/2023

Module 1

Topics: Course Introduction and Thinking Mathematically

Chapter 1, Children's Mathematics

Assignments as described in Module 1 due 1/16/2023

1/16/2023

Module 2

Topics: Examining Addition and Subtraction

Chapters 2 and 3, Children's Mathematics

Assignments as described in Module 2 due 1/23/2023

1/23/2023

Module 3

Topics: Examining Multiplication and Division

Chapter 4, Children's Mathematics

Assignments as described in Module 3 due 1/30/2023

1/30/2023

Module 4

Topics: Effective Use of Manipulatives and Models, Concrete to Abstract

Various professional readings

Assignments as described in Module 4 due 2/6/2023

2/6/2023

Module 5

Topics: Instructional Strategies for Teaching Mathematics, Part I

Chapter 5, Children's Mathematics

Assignments as described in Module 5 due 2/13/2023

2/13/2023

Module 6

Topics: Instructional Strategies for Teaching Mathematics, Part II

Chapter 12, Children's Mathematics

Assignments as described in Module 6 due 2/20/2023

2/20/2023

Module 7

Topics: Examining Base-Ten Number Concepts

Chapter 6, Children's Mathematics

Assignments as described in Module 7 due 2/27/2023

2/27/2023

Module 8

Topics: Error Analysis and Student Work

Chapter 7, Children's Mathematics

Assignments as described in Module 8 due 3/6/2023

3/6 2023

Module 9

Topics: Problem Solving

Chapters 8 and 9, Children's Mathematics

Assignments as described in Module 9 due 3/13/2023

3/13/2023

Module 10

Topics: Differentiated Instruction and Student Engagement

Chapter 10, Children's Mathematics

Assignments as described in Module 10 due 3/20/2023

3/20/2023

Module 11

Topics: Relational Thinking and Number Sense

Chapter 11, Children's Mathematics

Assignments as described in Module 11 due 3/27/2023

3/27/2023

Module 12

Topics: What Does the Research Say?

Research paper due

4/3/2023

Module 13

Topics: Good Questioning and Assessment

Various professional readings

Assignments as described in Module 13 due 4/10/2023

4/10/2023

Module 14

Topics: Technology in the Mathematics Classroom

Various professional readings

Assignments as described in Module 14 due 4/17/2023

4/17/2023

Module 15

Topics: Bringing It All Together: Future Implications

Various professional readings

Assignments as described in Module 15 due 4/24/2023

Piedmont Policies

Non-Discrimination Policy: It is the policy of Piedmont University not to discriminate in its educational programs, activities, or employment on the basis of sex, gender identity, sexual orientation, physical or mental disability, pregnancy, race, age, religion, color, national or ethnic origin, veteran status, genetic information, or any other category protected by applicable federal, state, or local law.

Piedmont University adheres to the federal definition of a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement. For the purposes of this definition, an instructional hour equates to direct instruction of 750 minutes for each credit hour awarded. The standard expectation for direct instruction classes is that students will spend a minimum of two hours outside the classroom for each hour spent in class, which is, 1500 minutes per credit hour awarded. Courses that are offered on a schedule other than the full 15-week semester contain the same number of hours as if the course were scheduled for a full semester. No reduction in direct instruction time or work time outside of class is permitted for courses offered in accelerated terms.

The Learning Center exists to help our students reach their various academic goals. The Learning Center offers academic support in all areas, including accounting, foreign languages, math, science, writing, and more. All tutors have excelled in the subjects that they help support and tutors are trained in the art of tutoring. Tutoring sessions and athletes in the Study Hall are monitored to provide the individualized attention our students need to achieve their personal best. We offer support by appointment in Starfish and walk-in availability is provided on a first come first served basis. For more information, please contact Oliver Howington ohowington@piedmont.edu or call 706-778-8500, ext. 1176 or visit: <https://www.piedmont.edu/learning-center>.

Piedmont University strives to make learning experiences accessible to all participants and will provide reasonable accommodations for students with disabilities. If you experience difficulties, based on the impact of a disability or health condition, please contact the **Office of Accessibility, Resources, and Services (OARS)** to initiate a conversation with our Director of Compliance, Equity, and Inclusion, Courtney Snow, about your options. Please know that accommodations are not retroactive, so avoid any delays. Contact Courtney Snow. at csnow@piedmont.edu or 706-778-8500, ext. 1504, or visit Daniel 303 Suite D. To request accommodations (*academic, dietary, housing, or emotional support animals*) please click the link below and use your Piedmont email and password: https://piedmont-accommodate.symplicity.com/public_accommodation/. If you are already receiving accommodations and need to update your memo or information, please click the link below and use your Piedmont email and password: <https://piedmont-accommodate.symplicity.com/students>

Statement on Academic Integrity: Students must be familiar with the university academic integrity policy. Plagiarism and other violations of this policy will not be tolerated. Instructors must send any academic integrity concerns directly to the dean who is responsible for the discipline in which the course is taught. See catalog at <https://piedmont.smartcatalogiq.com/> for complete policy.

Directives on Completion of Student Work: Course activities designated as quizzes, tests and exams are always to be completed by a student individually and without assistance from other people or resources UNLESS permission for collaboration or the use of external resources is explicitly permitted by the course professor(s). Hence all quizzes, tests and exams are to be considered closed-book/closed-notes and closed-internet (e.g., Google searches). Artificial intelligence apps are also banned on quizzes, tests and exams unless explicitly permitted by the course professor(s).

Student Email Policy: All Piedmont University students are required to use their Piedmont Lions email account (see Catalog at <https://piedmont.smartcatalogiq.com/> for complete policy). Since the Lions account is an official communications channel of the university, students are responsible for all information distributed to them through their account. Students are expected to check it daily.

Withdrawal Policy: Within the first several days of a term, students may add and drop courses with the permission of their advisor. The ranges for drop/add vary depending on the term (Fall, Spring, or Summer) and duration of the class (8 week or 15 week). Students should check the academic calendar for specific information. After this time, students may withdraw from a class. Please refer to the university catalog at <https://piedmont.smartcatalogiq.com/> for the particulars regarding the withdrawal policy.

Excused Absence Policy: Student absences for university-sanctioned events are generally considered excused absences because they are supportive of the university program. However, there are exceptions to the policy as noted in the University catalog. When absences are excused, instructors must allow students to make up any work that has been missed. Students are responsible for notifying their instructors, in advance, about absences from class due to participation in university-sanctioned events. See full policy in the University catalog at <https://piedmont.smartcatalogiq.com/>.

Starfish®: We Care About Your Success! We have partnered with Starfish Retention Solution, creating a platform for communication and resources focused on supporting your efforts throughout your educational journey. During the semester you may receive emails or texts from Starfish® regarding your course grades or academic performance. Please pay attention to these communications and consider taking the recommended actions. They are sent to help you be successful. In addition, your instructor may: (1) request that you schedule an appointment by going to Starfish, or (2) recommend that you contact a specific campus resource, such as tutoring or counseling. You may also be contacted directly by one of these services. You can quickly connect to many resources using Starfish. We hope you will choose to use the tool to support your success. You may access Starfish at <https://piedmont.starfishsolutions.com/starfish-ops/support/login.html?tenantId=9379>.

Piedmont University Library is dedicated to the success of our on- and off-campus students. The Library's website (<https://library.piedmont.edu/home>) offers the fastest, simplest solution to finding the authoritative sources you need: journal citations and full-text articles, access to books and eBooks, study guides, encyclopedias, streaming video, and more. Overwhelmed? Need help navigating? No problem: speedy assistance is available via chat or email with the Ask a Librarian service.