SCOTTSDALE COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

Course Information

Semester & Year:	Fall 2024
Course Title:	Mathematics Methods and Curriculum Development
Course Prefix & Number:	EDU293
Section Number:	12790
Credit Hours:	3
Start Date:	October 17, 2024
End Date:	December 13, 2024
Room Number:	Online through Zoom
Meeting Days:	Thursdays
Meeting Times:	5:00 PM – 7:30 PM

Course Format

The course format for this course is Live Online. We will meet using Zoom each Thursday night starting on October 17th and ending on December 12th from 5:00 pm to 7:30 pm; except Thursday, November 28th.

Instructor Information

Instructor:	Dr. Lindsay Gilbert
Email:	lindsay.gilbert@scottsdalecc.edu
Phone:	(480) 382 – 8099
Office Hours:	Before or after class, or by appointment only

Course Description

Overview and practical application of teaching mathematics in K-8 grades. Development of lesson plans and assessment instruments emphasized. Current trends, Professional

Teaching Standards and National Council of Teachers of Mathematics Standards also covered. Includes current research findings related to the application and learning of elementary mathematics content.

Prerequisites

Baccalaureate Degree and formal admission to a state approved post-baccalaureate teacher preparation program.

Course Competencies

1. Identify current Professional Teaching Standards. (I)
2. Identify National Council of Teachers of Mathematics Standards. (I)
3. Summarize the factors involved in developing national and state mathematics standards. (I)
4. Develop a task analysis of mathematical concepts taught in K- 8 grade levels. (II)
5. Summarize characteristics of learners. (III)
6. Use various classroom management techniques. (IV)
7. Assess various teaching resources to teach math. (V)
8. Analyze the use of technology to teach mathematics. (VI)
9. Critique and analyze current research findings in mathematics education. (VII)
10. Develop math curriculum. (VII)
11. Demonstrate the ability to write lesson objectives. (VII)
12. Summarize various teaching strategies. (VIII)
13. Analyze the use of manipulatives in teaching mathematics. (IX)
14. Summarize assessment standards. (X)
15. Evaluate various assessment options. (X)
16. Develop assessment instruments for math. (X)
17. Prepare a lesson plan. (XI)
18. Teach a math lesson. (XI)
19. Complete field experience as a volunteer teacher aide. (XII)
20. Summarize the field experience. (XII)

Texts and Course Materials

*Elementary & Middle School Mathematics: Teaching Developmentally. 9th or 10th ed., Pearson, by John A. Van de Walle, Karen S. Karp, and Jennifer M. Bay-Williams.****

> ****We will reference this text in class; however, you are not required to purchase this book.*

Course Technologies

View the Accessibility Statements & Privacy Policies of technologies used in this course.

Maricopa Systems

This course uses key Maricopa systems for course management and communication.

- Canvas Learning Management System
- Student Maricopa Gmail Account
- Maricopa Open Educational Resource Learning System (MOER)

Synchronous Communication Tools

This course implements the use of web conferencing and/or other synchronous course tools.

- Zoom

Student Assignment Tools

This course requires students to participate in or submit assignments using desktop or cloud-based applications.

- Google Products
- Microsoft Office 365

Course Policies

The following are policies specific to this course. Students are also responsible for the college policies included on the Student Regulations page of the Maricopa Community College District website.

	5 **Exceeds Expectations**	**4** **Meets Expectations**	**3** **Needs Improvement**	**2** **Does Not Meet Expectations**
Learner Outcomes/Objectives	Observable, relates to purpose, include higher level thinking skills	Observable relates to purpose	Objectives given	Objectives unclear or not related to purpose
Materials/Resources	Creative, variety of resources that connect to “real world”, effectively integrate technology and/or manipulatives	Variety of resources that connect to “real world”	Resources included	Resources limited or not included

Anticipatory Set	Motivating, attention getting, taps prior knowledge	Attention getting, taps prior knowledge	Taps prior knowledge	Lesson introduction minimal or lacking
Activities	Meaningful, motivating, objective based, open-ended inquiry based	Objective based, meaningful, student centered	Objective based, meaningful	Activity limited or does not relate to objective
Check for Understanding	Variety of assessment strategies included & consistent with objectives	Both pupil and teacher assessment included	Includes teacher or pupil assessment strategies	Limited or no assessment strategies included
Meeting Individual Needs	Provides choices and open-ended activities for all abilities	Students have choices and variety of tasks of varying levels	Student tasks align with objectives	Tasks partially allow or do not allow for individual differences
Closure	Summaries & includes lesson objectives and future plans	Summaries & includes lesson objective	Summaries	Closure limited or not connected to lesson objectives
Overall Organization & Quality	Well-planned, sequential, clearly organized, thorough development	Organized, sequential	Some organization	Minimal or no organization and development

Generative Artificial Intelligence (AI) Policy

Opening Statement Regarding Generative Artificial Intelligence (AI)

The World Economic Forum defines generative AI as “a category of artificial intelligence (AI) algorithms that generate new outputs based on the data they have been trained on. Unlike traditional AI systems that are designed to recognize patterns and make predictions, generative AI creates new content in the form of images, text, audio, and more.”

Some examples of generative AI tools include but are not limited to: ChatGPT, Google Bard, Microsoft Copilot, Stable Diffusion, GrammarlyGo, and Adobe Firefly.

Some Generative Artificial Intelligence (AI) Allowed in Specific Circumstances

There are situations and contexts within this course where you may be permitted to use generative AI tools. In these cases, specific guidelines will be provided in the assignment details. If you are unsure if the tool or website you are using is a generative AI tool or if it is permitted on a specific assignment, please contact the instructor for further clarification before submitting your work.

Grading Standards & Practices

Grade Scale

Letter Grade	Points Range
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Assignments

Assignment Name	Points	Percent of Grade
Participation	200	30%
Observe a Master Math Teacher	25	10%
Discussions (3 @ 25 points each)	75	15%
Lesson Plan, Teach Math Lesson, & Lesson Reflection	150	25%
Geometry Unit Project	50	10%
Field Experience Reflection	25	10%
TOTAL:	**525**	**100%**

Response Time

Students can expect a response time of 24 hours during the week for the instructor to respond to messages sent via the Canvas Learning Management System or email. Students can expect assignments to be graded within one week of the assignment's due date.

Attendance Policy

Students will earn 25 points per session for participation in the class discussions and class assignments. Although attendance is vital to passing any course and attendance to every class session is highly recommended, I recognize that emergencies occur. If an absence is required, please email me as soon as you become aware, and I will let you know what can be made up to earn a portion of that week's points. The portion of the weekly participation points that can be recovered will vary per session. Please keep in mind class discussions cannot be recreated; therefore, these points cannot be

recovered. Please also remember that more than two absences will likely result in withdrawal from the program.

Instructional Contact Hours (Seat Time)

This is a three (3) credit-hour course. Plan to spend at least three hours on course content or seat time (direct instruction) and six hours on homework weekly. Accelerated courses will require additional time per week.

Students are responsible for the information contained in this syllabus, the Syllabus page in your Canvas course and the **College Policies & Student Services** page found in the First Steps module of your Canvas course. Students will be notified by the instructor of any changes in course requirements or policies.