

Considering Mathematics Education:

So you think you might want to be a K-12 Mathematics teacher... But how do you know for sure?

There are two Grand Valley course options that encourage and facilitate career exploration that are great possibilities early in your academic career. Note that this education guide is geared towards students desiring to be a K-12 math teacher; those wanting to teach at a higher level do not need a teaching degree, instead they need a graduate degree, master's or higher.

On a broad level, there is

US 102 Career Exploration Course (1 credit): Designed for students seeking assistance in developing a career and educational plan suited to their needs, goals, and career choices. Emphasis and activities will be placed on personal and career assessment, career and occupational information, planning, and decision-making.

To specifically explore if teaching is right for you, consider taking

EDF 100 Teaching and Learning in a Diverse Environment (2 credits): Designed to acquaint students with teaching and culture of schools through a 25-hour field experience. Students will learn fundamental instructional principles, engage in one-on-one academic support, and write/discuss their experiences. General knowledge of public schools and the foundations of American education will be addressed through readings and discussions. This course is offered fall and winter semesters.

Beyond taking courses to experiment, there is quite a bit of self-reflection and exploration that can be done from the comfort of your own home. To start, check out websites such as [O*NET](#), the [Minnesota State CAREERwise Education Career Cluster Assessment](#), or [MyPlan Career Values Test](#) to familiarize yourself with how your interests and personality traits cluster together for specific careers. A complete list of career-related assessments recommended by GVSU to explore personality traits, work environments, and types of careers that are ideal for each individual can be found [here](#).

If you are interested in talking to someone about the careers you are considering, email your undecided advisor (name and email can be found in myBanner under Registration) and set up an appointment. An appointment can also be made with the Exploratory Advisor that specializes in the field(s) you are considering. For Math and Math Education, contact Nick Woodward at woodwani@gvsu.edu. The list of all exploratory advisors can be found [here](#).

It is recommended that you speak with a mentor or advisor at least once per semester to check in on your course sequence, discuss high impact learning opportunities, and get advice on your major. If you feel that you don't "click" with your assigned advisor you can always request a change to someone you connect with more. Also, most faculty love talking with students so

reach out to past, current, or future professors to set up a time to meet and ask questions. These informal meetings can be a great way to network, learn about career opportunities, and make awesome connections with people who truly care about you.

In-Classroom Observations

The best way to test if Math Education is right for you is to get experience in the classroom. Consider reaching out to the schools in your hometown and ask if teachers are willing to have you observe their classrooms. More often than not, teachers are thrilled to have helpers in the classroom and are sometimes willing to have you lead sections of your own. Keep in mind that public schools are often still going for a week after GV goes on winter break, during spring break, and all through May. Key things to look for while in a classroom include,

- Classroom management techniques
- Established classroom norms
- Lecturing strategies
- Breakdown of difficult concepts
- Balance to student vs. teacher led time

It is especially beneficial if you can visit the same class multiple days in a row. This will allow you to grow more comfortable with the teacher and students and more confident to step up and help. Don't be afraid to ask lots of questions! Good questions to ask may include,

- What made you choose to be a math teacher?
- What is your work schedule like? (start and end times, workload, etc.)
- What are your responsibilities outside of lesson planning and classroom teaching?
- What are your professional responsibilities in the summer?
- What is your favorite/least favorite part of the job?
- Do you have any tips on best ways to prepare to become a teacher?
- What was your academic path to get here? (i.e. schooling, degrees, masters etc.)

If it is inconvenient to travel to your hometown and would rather gain in-classroom experience near Grand Valley, consider asking your Math or Education professors or advisors if they have any connections to the local schools.

Tutoring Experience

A great way to practice explaining material to students of all ages, tutoring is a job you can work during the school year and/or summer. It is best to tutor in the subject(s) you are looking to teach so that you can practice explaining difficult concepts, familiarize yourself with a variety of math levels, and improve your flexibility and quick thinking skills.

There are several ways to tutor right on campus! Starting with the [Math Center](#), this opportunity is located in Mackinac Hall and is for drop-in college students of varying mathematical levels. Tutoring at the Math Center promotes a positive learning environment for students and tutors alike, with many chances to learn from each other and try new things. There is also the general [Tutoring Center](#) located in Kleiner Commons in which you can work as an assigned weekly tutor with the same students in the same class each week. At the Tutoring Center there is also the option of being a Drop-In Tutor for math. Both of these positions are flexible in hours and provide training in advance.

Similar to tutoring, Grand Valley also offers the opportunity for students to facilitate Math courses such as MTH 097, MTH 110, or STA 215. This position is called a [Structured Learning Assistance](#) (SLA) Facilitator and provides experience working with classes of college students creating fun activities and teaching the best ways to learn. SLA workshops consist of weekly study and practice sessions of material being worked on up to that point. It also involves test-preparation, collaborative learning, and homework assistance. Throughout the whole process you will be supported by the professor of that class to help you identify what students are struggling with most and how to handle any confusion. Being an SLA facilitator is a great way to practice working with large groups of students and gaining insight into how students learn.

Interested in tutoring off-campus? Check out tutoring centers in the Grand Rapids area such as

- [Kumon of Grand Rapids - North](#)
- [Kumon of Grandville](#)
- [Mathnasium of Kentwood](#)
- [Outside the Box: Creative Tutoring](#)

Each of these locations offer tutoring services for math and hire college students to work at varying times and types of positions. Even if they are not outwardly posting available jobs, email the centers with your resume and information about yourself and an opportunity may come your way.

Networking Opportunities

[Math in Action](#): This conference is hosted at Grand Valley every year for PreK-12 math educators to gather and learn about best practices, new resources, and new ideas. Math Education students are encouraged to volunteer for half the conference and participate in the other half. This is a wonderful opportunity to meet math educators from West Michigan and listen in on interesting presentations. Contact professors David Clark or Paul Yu at mathinaction@gvsu.edu for more information!

[Career Fair](#): Grand Valley hosts several opportunities throughout the year for students to meet with employers, interview for jobs or internships, and learn more about careers in your field. Take advantage of these chances to ask questions of professionals, practice interviewing, and find high impact learning opportunities to prepare you to become a teacher. There are

workshops prior to these fairs to update your resume and meet with an advisor to plan your strategy going into the Fair.

In-State and Out-of-State Education Fair: This is even more specific to looking for jobs as a teacher post-graduation and finding a district and school that is the right fit for you. The exact details of this event such as date, time, and format can change each year so log into your student [Handshake](#) account with your GVSU login to read the details. Typically this fair is held in March or April and provides important practice interviewing and learning about the options available. Be sure to practice answering interview questions, prepare your resume, cover letter, and dress formally to the event to give a great impression to potential future employers.

Get Involved on Campus

Campus involvement is a great way to meet people with similar interests, volunteer your time for a good cause, and learn more about your program. Grand Valley has several awesome student organizations related to math and education. Don't feel like you have to try them all, but one or two could round out your resume and strengthen your connection with GV. Check out [LakerLink](#) to view all student organizations, and specifically the clubs below for math education relevant groups.

- Grand Valley Council of Teachers of Mathematics
- Math & Stats Club
- Council for Exceptional Children
- Teachers of Tomorrow

Making the Most of Your Summers

Study Abroad

Grand Valley strongly promotes studying abroad as a way to gain new perspectives, knowledge, and friendships from almost anywhere in the world. If there is a specific place you want to travel, chances are very high that there is a program there that will correspond with the classes you need.

Specifically, GV offers a faculty-led study abroad program to Tanzania for Math Education majors.

[Tanzania: Teaching, Learning and Culture](#) - This is a 4-week, faculty-led program that is highlighted by teaching 60 hours in a Tanzanian classroom, volunteering in a local orphanage, learning Swahili language, and a 4-day safari. Reach out to program director Lisa Kasmer (kasmerl@gvsu.edu) with any questions about the experience.

Education majors also have the opportunity to complete their Teacher Assisting in Spain.

[Spain: Teacher Assisting](#) - This is a 6-week, faculty-led program with no language-fluency requirements that boasts the opportunity to observe a classroom in Michigan for 6-weeks then a classroom in Spain for 6-weeks. Highlights include immersing in the culture by living with a host family, field trips to The Plaza Mayor, the Cathedral, the Capilla del Cristo, the Ponte Vella (Old Bridge), the Spa and Thermal area, and other additional cultural experiences. Reach out to faculty advisor Sherie Klee (willishe@gvsu.edu) with any questions about this program.

Grand Valley also promotes studying abroad by partnering with other universities or companies to provide experiences that can account for class credits.

Examples include:

- [Consortium for Overseas Student Teaching](#)
- [Germany: PHSG \(Education Practicum\)](#)
- [Spain: Comparative Perspectives on Education](#)
- [Budapest Semesters in Mathematics Education](#)

These are just some examples of study abroad programs that align with Grand Valley's math education curriculum. You are by no means restricted to these programs and if you are interested in fulfilling general education credits, just mathematics credits, or just education credits, there are many more opportunities all over the world. Meet with a study abroad advisor or the specific faculty advisors for the programs listed above to learn more and get advice about what program and courses are best for you.

Summer School/Daycare

Another great way to build experience over the summer is to work or volunteer at a nearby child care location. Below are linked some daycare centers that hire college students and are located near Grand Valley. Do not feel restricted by these options, do a google search and there are so many possibilities. If you are living in your hometown, check out options there!

- [Grand Valley Children's Enrichment Center](#)
- [Little Mitten Childcare](#)
- [AppleTree Early Care and Preschool](#)
- [YMCA of Greater Grand Rapids](#)

Residential Math Camps

An opportunity to travel, gain experience with students, and grow in your mathematical skills, residential math camps pay for college students like you to work as a Camp Counselor/Assistant Teacher at a wide variety of programs. Many of these programs are designed for talented and gifted children to explore mathematics they won't see in their typical K-12 curriculum. Several of these programs are quite elite so try to apply early for the best shot at earning a position. Listed below are some options to investigate, keep in mind that several programs switch location each year.

- [The Summer Program for Verbally and Mathematically Precocious Youth](#)
- [The Hampshire College Summer Studies in Mathematics](#)
- [Program in Mathematics for Young Scientists](#)
- [The Ross Mathematics Program](#)
- [Epsilon Camp](#)
- [Math Path](#)
- [AwesomeMath Summer Program](#)
- [Stanford Mathematics Camp](#)

Research Experience for Undergraduates

An REU is a program designed to support active research by undergraduates for 6-10 weeks in the summer and is hosted by institutions all over the country. These experiences are incredible opportunities to meet people with similar interests, dive deep into a topic you may not be very familiar with, and if you make significant progress in your research you could even get published in a mathematics journal! Typically funded by NSF, there are many programs specifically focused on pure mathematics research such as graph theory, game theory, matrices, data science and so much more. However, there are significantly fewer REUs designed for Math Education research. Listed below are Research Experiences for Undergraduates that currently or in the past have hosted programs specific to math education research. Browse through the sites and do some Google searching to find a program that fits your needs, keep in mind that the topics rotate each year so keep checking on them.

- [Discipline-Based Education Research](#) at North Dakota State University
- [Mathematics Research Experience for Pre-service and for In-service Teachers](#) at Illinois State University
- [Preparing Aspiring Teachers to Hypothesize Ways to Assist Young Students](#) at Salisbury University
- [Teaching Experiences for Undergraduates](#) at Brown University
- [Discipline-Based Education Research](#) at The Rochester Institute of Technology
- [Summer Program for Undergraduate Research](#) at The University of Utah
- [Math REU](#) at The University of Connecticut
- [Research in Interdisciplinary Stem Education](#) at Washington State University
- [Air Force Research Laboratory Scholars Program](#) at varying locations