

# Study Abroad for Mathematics Students

“Few experiences have the long-term and eye-opening impact as that of studying abroad. My own experience of a junior year in Aberdeen, Scotland, was that for me. Rarely having left my northeastern Indiana homeland, suddenly finding myself walking down brick streets that were over a thousand years old was amazing. I traveled all over Scotland, Ireland, and parts of England, competing with my cross country team. During the semester break, I had a month to do a EuroRail Youth Hostel tour of several parts of Western Europe. The best time to do this sort of thing is when you are a student – life starts to get complicated rather quickly after that.”

**Matt Wyneken, math professor**

Study abroad opens the world to you. Imagine studying mathematics in Turkey with students from around the world, teaching math to children in South Africa, or strolling among the myriad of historical sites in Rome after your Roman Architecture class. These experiences and more are available to you through the many study abroad programs offered through the Padnos International Center.

## **Study abroad can help you...**

- Find great mathematics coursework and curriculum
- Understand the field of mathematics from an international perspective
- Expand your cross-cultural communication and problem-solving skills
- Prepare to work in an increasingly diverse and international workplace
- Broaden your academic horizons
- Globalize your world view through direct contact with other cultures
- Experience a foreign culture from the inside

## **But what about.....**

### **Do I need to speak a foreign language?**

NO! Most study abroad programs offer instruction in English, even in non-English speaking countries.

### **Can I afford to study abroad?**

YES! Early planning for study abroad helps you make cost-effective program decisions, and it also helps you prepare your finances through savings, scholarships, and financial aid. Your financial aid applies to study abroad and, in some cases, your loan eligibility will increase to cover additional expenses. Furthermore, the Padnos International Center offers grants and scholarships specifically for qualified study abroad participants. Visit the Padnos Center to learn more about your options.

### **Will I take longer to graduate?**

With good advance planning, you can take courses that satisfy requirements in your mathematics major or the general education program. Study abroad doesn't have to delay completing your degree, but it will enrich your experience.

# What are my next steps?

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## Set goals and plan for results

Mathematics students can study abroad at almost any time during their undergraduate education. Education majors have opportunities for student assisting and student teaching while abroad as well. The process of selecting a study abroad program is similar to selecting your major or minor.

- Plan ahead. Begin at least six months in advance of your study abroad. Give yourself time to research and talk to advisors and students who have studied abroad. It is never too early to start planning so you don't miss application deadlines.
- Set some goals. There is not one program best suited for mathematics students. There are many good study abroad programs, and the best one for you depends on what you want.
- Prioritize your goals. Consider your long-term academic and professional goals, as well as your on-campus degree requirements.
- Consider long-term programs. You can study abroad for a summer session, a semester, or even an academic year.
- Prepare academically. You may need to take language or other prerequisite courses for your chosen program.
- With proper planning study abroad can help you prepare for your professional life in today's global context.

## Attend an Information Session

Learn about study abroad resources and advising by attending an Information Meeting at the Padnos International Center. See [www.gvsu.edu/studyabroad](http://www.gvsu.edu/studyabroad) or call 616-331-3898 for the latest schedule.

## Investigate Programs

Use the Study Abroad catalog, resource center, website, and advisors to find a program that fits your goals.

## Talk to your advisor

Use a credit transfer form to get approval from the math department for major-specific courses. Keep in mind, students are also able to fulfill general education requirements abroad, including a custom theme.

## Once you have selected a program

Mathematics students planning on studying abroad will need to communicate closely with their academic advisor throughout their planning process. When you decide on the program that will work best for you, you should begin an online study abroad application at [www.gvsu.edu/studyabroad](http://www.gvsu.edu/studyabroad). Be sure to pay close attention to application deadlines.

Be sure to meet with your advisor **at least three months prior** to departing for your program. The math department must approve any mathematics courses you wish to take to ensure that they will be counted toward your degree requirements. Bring the course descriptions of the courses you would like to take abroad to this meeting along with the credit transfer form provided by the Padnos International Center. Please note, students that wish to complete a custom theme abroad should contact the Padnos International Center directly for information on the appropriate process.

## What classes can I take while studying abroad?

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### General Education Requirements

Students may take selected general education requirements through study abroad. Many students choose to fulfill foundation requirements, including courses within the World Perspectives category.

### Custom Theme Abroad

Another popular option is to fulfill your theme requirement while studying abroad. For information on how to propose a unique study abroad theme, visit the Padnos International Center website at <http://www.gvsu.edu/studyabroad/>.

### Major courses

Many study abroad programs offer a wide selection of courses, including math courses that can be approved by the math department to contribute to your math major.

### Living what you are learning

A great advantage of studying abroad is living in the region you are studying. Learning about the history, language, and literature of your home-away-from-home enhances your experiences outside the classroom. Your daily interaction with the local culture also brings the subjects you are learning to life.

## Suggested program options for mathematics students

Including math courses already approved for GVSU credit; other math courses may also be available for transfer credit. Instruction is in English unless otherwise indicated.

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### Africa & Middle East

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#### Ghana

The University of Cape Coast was established in 1962 primarily to serve as a leader in teacher education. The university is located just west of Cape Coast, on a hill overlooking the Atlantic Ocean. Two of the most historical sites in Ghana, Elimina Castle, and Cape Coast Castle, are located just a short distance from the university.

#### GVSU course

MTH 304 Differential Equations  
MTH 360 Operations Research  
MTH 405 Numerical Analysis  
MTH 408 Advanced Calculus I

#### UCC Semester course

MAT 405 Ordinary Differential Equations  
MAT 409 Operations Research  
MAT 407 Numerical Analysis I  
MAT 303 Introductory Analysis

To view additional course options, visit:

[http://www.ucc.edu.gh/faculty/faculty\\_of\\_science/programmes/courses/bsc\\_mathematics.php](http://www.ucc.edu.gh/faculty/faculty_of_science/programmes/courses/bsc_mathematics.php)

See Padnos International Center for course descriptions

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## Asia & Oceania

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### Australia

Founded in 1994, University of the Sunshine Coast (USC), located in Sippy Downs just one-hour away from Queensland's capital of Brisbane, is considered an outstanding performer of higher education in Australia. USC is one of the fastest growing campuses in Australia with a current enrollment of 4,000 students from over 39 different countries.

#### GVSU course

MTH 345 Discrete Mathematics

MTH 304 Differential Equations

MTH 405 Numerical Analysis

#### University of the Sunshine Coast course

MTH 212 Discrete Mathematics

MTH 302 Applied Math and Theoretical Physics

MTH 312 Numerical Analysis

To view additional course options, visit:

<http://www.usc.edu.au/Students/Handbook/Courses/StudyAbroad/StudyAbroad.htm#2007sem1>

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## Central and South America

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### Mexico

Tecnológico de Monterrey is located in the third largest city in Mexico, known for its beautiful natural surroundings as well as its variety of cultural and entertainment activities. The university attracts students from Latin America and throughout the world, and is characterized by its capacity to give students a solid academic formation, based on the learning of the latest methodologies and knowledge available. Monterrey makes wireless Internet access available to its students and professors, which fosters electronic communication with colleagues, experts, and information sources from any part of the world. The courses listed below can be taken in Spanish or English.

#### GVSU course

MTH 202 Calculus II

MTH 227 Linear Algebra I

MTH 304 Differential Equations

#### Tecnológico de Monterrey course

MA00816 Mathematics for Engineering II

MA00843 Linear Algebra

MA00841 Differential Equations

To view additional course options, visit:

[www.mty.itesm.mx/rectoria/pi/internationalstudents/courses\\_undergraduate/reg\\_courses\\_eng.htm](http://www.mty.itesm.mx/rectoria/pi/internationalstudents/courses_undergraduate/reg_courses_eng.htm)

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## Europe

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### England

Kingston University, with an enrollment of 13,500 students, has many years of experience receiving overseas students on study abroad programs. Visiting students take the same classes as Kingston students, offering them an opportunity to integrate into student life. Located on the River Thames, only 20 minutes by train from the center of London, Kingston is a mixture of old and new.

#### GVSU course

MTH 110 Algebra  
or MTH 125 Survey of Calculus  
MTH 227 Linear Algebra I  
MTH 304 Differential Equations  
MTH 408 Advanced Calculus I

#### Kingston University course

MA 1101 Mathematics and Statistics  
MA 1030 Introduction to Linear Algebra  
MA 2020 Ordinary Differential Equations  
MA 2110 Real Analysis

For additional course options, visit:

[http://extranet.kingston.ac.uk/avsp\\_courses/list\\_all.asp?course\\_group1=MA&Title=Mathematics](http://extranet.kingston.ac.uk/avsp_courses/list_all.asp?course_group1=MA&Title=Mathematics)

### Hungary

Initiated by Paul Erdos, Laszlo Lovasz, and Vera T. Sos, the program *Budapest Semesters in Mathematics* provides a unique opportunity for North American undergraduates. Through this program, mathematics and computer science majors in their junior/senior years may spend one or two semesters in Budapest and study under the tutelage of eminent Hungarian scholar-teachers.

#### GVSU course

MTH 310 Modern Algebra  
MTH 345 Discrete Mathematics

#### Budapest Semester course

ALG1 Introduction to Abstract Algebra  
COM1 Introduction to Combinatorics

For additional course options, visit:

<http://www.stolaf.edu/depts/math/budapest>

### Italy

John Cabot University was founded in 1972 as a four-year college of liberal arts and sciences, with all courses taught in English (except Italian language and literature). The main campus is situated near St. Peter's and the Vatican in the charming Trastevere quarter in Rome. The central Rome location means that students are literally surrounded by the history and art of thousands of years.

**GVSU course**

MTH 110 Algebra

MTH 125 Survey of Calculus

MTH 131 Introduction to Mathematics

**John Cabot University Course**

MA 197 Pre-Calculus

MA 198 Calculus

MA 102 Finite Mathematics

For additional course options, visit:

<http://www.johncabot.edu/academics/curriculum/courseschedule.htm>**Turkey**

Imagine a highly selective, world-class research institution, a gigantic and forested campus of over 11,000 acres, a rich history with ancient artifacts continually unearthed on campus, and regular bus service to clear Mediterranean beaches: you have Middle East Technical University in Ankara. The most selective of all of GVSU's partner institutions, METU is renowned for its range of first-rate science, technology, and engineering programs, as well as its strong programs in the humanities and social sciences.

**GVSU course**

MTH 201 Calculus I

MTH 203 Calculus III

MTH 304 Differential Equations

MTH 345 Discrete Mathematics

**Middle East Technical University course**

MATH 119 Calculus with Analytic Geometry

MATH 120 Calculus with Analytic Geometry

MATH 219 or MATH 254 Introduction to  
Differential Equations

MATH 112 Introductory Discrete Mathematics

For additional course options, visit:

<http://www.math.metu.edu.tr/courses/undergrad.shtml>**Teacher Assisting****South Africa**

The College of Education at GVSU collaborates with professors at the University of Stellenbosch School of Education to offer teacher education students a six week Teacher Assisting experience in the Rhenish Elementary or Secondary Schools, both English medium schools. Stellenbosch is a university town located 30 miles from Cape Town, and is considered to be one of the safest areas in South Africa. GVSU students do 7-10 weeks of Teacher Assisting in a West Michigan School. They complete their experience in Stellenbosch by Teacher Assisting five mornings (half days) a week for five weeks. Students also do two afternoons of service learning in a poverty level township school. During the South African one week school vacation break, GVSU students participate in a week of travel and touring throughout the Cape Peninsula.

For more information, visit: [www.gvsu.edu/studyabroad](http://www.gvsu.edu/studyabroad)