



## *Master of Arts in* **Mathematics Education for Grade 5–9 Teachers**

*The Master of Arts in Mathematics Education (5–9) is a competency-based degree program that prepares already licensed teachers both to be licensed to teach mathematics in grades 5–9 and to develop significant skills in mathematics curriculum development, design, and evaluation. All work in this degree program is online and includes Mathematics, Mathematics Education, Instructional Design, and Research Fundamentals. All students complete a culminating Teacher Work Sample.*

## Understanding the Competency-Based Approach

Practically speaking, what does it mean when we say that WGU programs are competency-based? Unlike traditional universities, WGU does not award degrees based on credit hours or on a certain set of required courses. Instead, students earn their degrees by demonstrating their skills, knowledge, and understanding of important concepts through a series of carefully designed assessments.

Progress through your degree program is governed, not by classes, but by satisfactory completion of the required assessments that demonstrate your mastery of the competencies. Of course, you will need to engage in learning experiences as you brush up on competencies or develop knowledge and skills in areas in which you may be weak. For this learning and development, WGU has a rich array of learning resources in which you may engage under the direction of your mentor. You will work closely with your mentor to schedule your program for completing the assessments. (We discuss assessments in much more detail later in this guide.) You will work closely with additional faculty members as you proceed through courses of study that are designed to lead you through the content you must master in order to pass individual assessments.

The benefit of this competency-based system is that it makes it possible for people who are knowledgeable about a particular subject to make accelerated progress toward completing a WGU degree even if they lack college experience. You may have gained your skills and knowledge of a subject on the job, accumulated wisdom through years of life experience, or, indeed, took a course on a particular subject. WGU awards a degree to you based on the skills and knowledge that you possess and can demonstrate, not the number of credits you have on your transcript.

## Accreditation

Western Governors University is the only university in the history of American higher education to have earned accreditation from four regional accrediting commissions. WGU's accreditation was awarded by (1) the Northwest Commission on Colleges and Universities, (2) the Higher Learning Commission of the North Central Association of Colleges and Schools, (3) the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, and (4) the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. The university's accreditation status is now managed by the Northwest Commission on Colleges and Universities (NWCCU). The university is also accredited by the Distance Education and Training Council (DETC), and the WGU Teachers College is accredited by the National Council for Accreditation of Teacher Education (NCATE). The nursing programs are accredited by the Commission on Collegiate Nursing Education (CCNE). The Health Informatics program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

## State Licensure Requirements

Many states have specific licensure requirements that are not part of WGU programs that you will have to fulfill in addition to the degree requirements of your program. These state licensure requirements might include, but are not limited to, subject-specific licensure exams, performance assessments, course work related to state history, basic skills exams, and

background clearances. The WGU Student Handbook outlines the credentialing requirements of each state. Teacher candidates should consult the applicable section to become familiar with their state's expectations regarding licensure.

## **The Degree Plan**

The focus of your program is your personalized Degree Plan. The Degree Plan is a detailed blueprint of the learning resources and assessments that comprise your program. The length of your program depends on both the amount of new information you need to learn and the amount of time you plan to devote each week to study.

Students will vary widely in the specific skills and information they need to learn. For example, some may be highly knowledgeable in a subject matter and would not need to engage in new learning opportunities. Others may find that portions of the program require completely new learning and that they may need to take an online class or participate in a study module to acquire the knowledge and skills needed to pass the program competencies in that area. Some individuals may be able to devote as little as 15–20 hours per week to the program, while others may have more time. For this reason, you will complete pre-assessments to help your mentor form a profile of your prior knowledge and experience for use in creating your Degree Plan.

## **WGU's Mentoring Approach**

Our mentoring approach is a powerful component of the WGU educational experience. When you enroll at WGU, you will begin interacting with your personal mentor, course mentors, and support staff. Your mentor takes an active role and a personal interest in your success. Whether by e-mail or phone, your mentor will be your "point person" of communication throughout your program. Your mentor will help motivate you to work hard to complete your program. When you have questions or concerns, your mentor team will help you resolve them.

You and your mentor will work together to evaluate your educational background, strengths, and weaknesses. With this analysis, your mentors will help determine in which areas you are already competent (and can move quickly to assessment) and areas you need to work on; this will become your personalized Degree Plan. Your mentor will direct you to the Courses of Study that contain the best learning resources for you (courses, texts, independent study modules, etc.) and are supported by course mentors that serve as your content experts for each area of study. As you proceed through your academic program, you and your mentor will determine when you are ready for the required assessments. If you are ready, your assessment will be scheduled. You will follow this same process as you proceed through each domain.

## **Connecting with Other Mentors and Fellow Students**

As you proceed through your Degree Plan, you may also have direct contact with other faculty members. These communications can take a variety of forms, including participation in learning communities, office hours via the courses of study, and webinars. As a WGU student, you will have access to your own personal MyWGU Student Portal that will provide a gateway to courses of study, learning communities, and program communities where you will have interactions with faculty and other students. Courses of study and communities are specifically designed to support you as you develop competencies in preparation for your assessments through the utilization of threaded discussions, blogs, and chats that are guided by content

experts. You will access your program community during the Education Without Boundaries introductory course to network with peers who are enrolled in your program and to receive continued support through professional enrichment and program-specific chats, blogs, and discussions. WGU also provides a Student Services Associate to help you and your mentor solve any special problems that may arise.

## **Education Without Boundaries Orientation**

Education Without Boundaries (EWB) is a required orientation that focuses on acquainting the student with WGU's competency-based model, distance education, technology, and other resources and tools available for students. You will also utilize tutorials, message boards, online chats, and other activities to connect with other students in your program. This orientation is completed before you start your first term at WGU.

## **Transferability of Prior College Coursework**

Because WGU is a competency-based institution, it does not award degrees based on credits but on demonstration of competency. However, if you have completed college coursework at another accredited institution, you may have your transcripts evaluated and may be able to have some lower-division or co-requisite assessments cleared. The guidelines for determining what will "clear" through transfer vary based on the degree program.

The following transfer guidelines generally apply to graduate programs: Graduate domains (i.e., subject areas) cannot be cleared through transfer. Requirements in the domains that can be considered the degree major cannot be cleared through transfer. Furthermore, WGU does not clear any requirements based on the student's professional experience and does not perform a "resume review" or "portfolio review" that will automatically clear any degree requirements. Degree requirements and transferability rules are subject to change in order to keep the degree content relevant and current.

Remember, WGU's competency-based approach lets you take advantage of your knowledge and skills, regardless of how you obtained them. Even when you do not directly receive credit, the knowledge you possess may help you accelerate the time it takes to complete your degree program.

## **Continuous Enrollment, On Time Progress, and Satisfactory Academic Progress**

WGU is a "continuous enrollment" institution, which means you will be automatically enrolled in each of your new terms while you are at WGU. Your terms are six months long. Longer terms and continuous enrollment allow you to focus on your studies without the hassle of unnatural breaks between the shorter terms that you would experience in a more traditional environment. At the end of every six-month term, you and your mentor will review the progress you have made and revise your Degree Plan for your next six-month term.

WGU requires that students make measurable progress toward the completion of their degree programs every term. We call this On Time Progress – denoting that you are on track and making progress toward on time graduation. As full-time students, graduate students must enroll in at least eight (8) competency units each term, and undergraduate students must enroll in at

least twelve (12) competency units each term. Completing at least these minimum enrollments is essential to On Time Progress and serves as a baseline from which you may accelerate your program. We measure your progress based on the assessments you are able to pass, not on your accumulation of credit hours or course grades. Every time you pass an assessment, you are demonstrating that you have mastered skills and knowledge in your degree program. For comparison to traditional grading systems, passing an assessment means you have demonstrated competency equivalent to a “B” grade or better.

WGU has assigned competency units to each assessment so that we can track your progress through the program. A competency unit is equivalent to one semester credit of learning. Some assessments may be assigned three competency units while other assessments may be as large as 12 competency units.

Satisfactory Academic Progress (SAP) is particularly important for financial aid students because you must make SAP in order to maintain eligibility for financial aid. We will measure your SAP quantitatively by reviewing the number of competency units you have completed each term. As full-time students, WGU graduate students must enroll in at least eight competency units each term, and undergraduate students must enroll in at least 12 competency units each term. In order to remain in good academic standing, you *must* complete at least 66.67% of the units you attempt – including any assessments you add to your term to accelerate your progress. Additionally, during your first term at WGU you must pass at least three competency units in order to remain eligible for financial aid. We know that SAP is complex, so please contact a Financial Aid Counselor should you have additional questions.

## Assessments

Your Degree Plan will include the assessments needed to complete your program. To obtain your degree you will be required to demonstrate your skills and knowledge by completing the following assessments:

**Performance Assessments** contain, in most cases, multiple scored tasks such as projects, essays, and research papers. Performance assessments contain detailed instructions and rubrics for completing each task and are submitted in TaskStream, an online project management and grading tool.

**Objective Assessments** are designed to evaluate your knowledge and skills in a domain of knowledge. Most objective assessments include multiple-choice items, multiple-selection items, matching, short answer, drag-and-drop, and point-and-click item types, as well as case study and video-based items.

**Teacher Work Sample Written Project and Oral Defense** are a culmination of the student’s WGU degree program. These are discussed in more detail later in this guide.

As mentioned earlier, we have assigned competency units (CUs) to each assessment in order to measure your academic progress. As a graduate student, you will be expected to enroll in a minimum of eight competency units each term. A standard plan, at eight units per term, would look similar to the one that follows.

Your personal progress can be faster, but your pace will be determined by the extent of your transfer units, your time commitment, and your determination to proceed at a faster rate.

## STANDARD PATH FOR MASTER OF ARTS IN MATHEMATICS EDUCATION (5-9)

CODE	ASSESSMENTS	CUs	TERM
QTT2	Finite Mathematics	2	1
QOT2	College Algebra	2	1
DNT2	Specific Teaching Practices: Mathematics Teaching Topics	1	1
DFT2	Specific Teaching Practices: Mathematics Technology	1	1
ROT2	Pre-Calculus	2	1
RQT2	Probability and Statistics I	2	2
QPT2	College Geometry	2	2
DLT2	Specific Teaching Practices: Mathematics History and Contributions	1	2
AYC2	Specific Teaching Practices: Mathematics Pedagogy	1	2
QJT2	Calculus I	2	2
CYV2	Middle School Mathematics	4	3
RFC1	Foundations of Research	2	3
JUT2	Literature Reviews for Educational Research	2	3
JVT2	Research Proposal	2	4
JTT2	Issues in Educational Research	2	4
IRT2	MA, Mathematics Education (5-9) Teacher Work Sample Written Project	3	4
IST2	MA, Mathematics Education (5-9) Teacher Work Sample Oral Defense	3	4

In this example, the program will take four terms for the student to complete. The standard path shown above lists the courses of study (assessments) and the associated competency units by term. The Degree Plan will include greater detail about the courses of study, including the assessments and their associated standard learning resources.

### Learning Resources

You will work with your mentor to select the various learning resources needed to prepare for the required assessments. In most cases, the learning materials you will use are independent learning resources such as textbooks, e-learning modules, study guides, simulations, virtual labs, and tutorials. WGU works with dozens of educational providers, including enterprises, publishers, training companies, and higher educational institutions to give you high quality and effective instruction that matches the competencies that you are developing. The cost of many learning resources is included in your tuition, and you can enroll directly in those through your Degree Plan as your mentor has scheduled them. Some resources (e.g., many textbooks) are not covered by your tuition, and you will need to cover those costs separately. WGU has excellent bookstore and library arrangements to help you obtain the needed learning resources.

# *Areas of Study Within the Master of Arts in Mathematics Education (5–9) Program*

The WGU Master of Arts in Mathematics Education (5–9) program content is based on research on effective instruction as well as national and state standards. It provides the knowledge and skills that enable teachers to teach effectively in diverse classrooms. The M.A. in Mathematics Education (5–9) program content and training processes are consistent with the accountability intent of the No Child Left Behind Act of 2001. The degree program is focused on the preparation of highly qualified teachers. As described in the federal legislation, a highly qualified teacher is one who not only possesses full state certification, but also has solid content knowledge of the subject(s) he or she teaches.

The following section includes the larger domains of knowledge, which are then followed by the subject-specific subdomains of knowledge, their associated assessments (including the four-character code that is used to identify the assessment), and the sample learning resources that have recently been used to help students gain the competencies needed to pass the assessments. Your specific learning resources and level of instructional support will vary based on the individual competencies you bring to the program and your confidence in developing the knowledge, skills, and abilities required in each area of the degree. Please note that the learning resources included in the following sections are *sample resources* that will vary based on your own Degree Plan and the resources current at the time you enroll in the program. The Degree Plan and learning resources are dynamic, so you need to review your Degree Plan and seek the advice of your mentor regarding the resources before you purchase them.

## **Middle School Mathematics Content Domain**

This domain focuses on the following areas of mathematics: Finite Mathematics, College Algebra, Pre-calculus, Probability and Statistics I, College Geometry and Calculus I.

### **Finite Mathematics**

*This sub-domain focuses on the real number system, symbolic logic, number theory, set theory, graph theory and their applications.*

#### **Finite Mathematics (QTT2)**

Performance assessment

#### **Sample Learning Resources:**

**MyMathLab** includes videos, practice problems, and quizzes and provides an e-text version of the following text:

Blitzer, R. (2007). *Thinking mathematically* (4th ed.). Boston: Pearson Addison-Wesley. ISBN: 0131752049. (e-text, cost of this resource is included in tuition and fees)

**Prealgebra Online** provided by Thinkwell. This independent study course provides extra practice with basic operations, especially working with fractions.

## College Algebra

*This sub-domain focuses on equations, inequalities, polynomials, conic sections, and functional analysis including logarithmic, exponential, and inverse functions in problem solving.*

### College Algebra (QOT2)

Performance assessment

#### Sample Learning Resources:

**MyLabSchool** and **MyMathLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Blitzer, R. (2007). *Algebra and trigonometry* (4th ed.). New Jersey: Pearson Education (Prentice Hall). ISBN-13: 0321559851. (e-text, cost of this resource is included in tuition and fees)

**College Algebra Online** provided by Thinkwell. An independent study course.

## Pre-calculus

*This sub-domain focuses on the complex number system and trigonometry.*

### Pre-calculus (ROT2)

Performance assessment

#### Sample Learning Resources:

**MyMathLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Blitzer, R. (2010). *Algebra and trigonometry* (4<sup>th</sup> ed.). New Jersey: Pearson Education (Prentice Hall). ISBN-13: 9780321559852. ISBN-10: 0321559851. (e-text, cost of this resource is included in tuition and fees)

**Precalc ONLINE** provided by Thinkwell. An independent study course.

## Probability and Statistics I

*This sub-domain focuses on applications of probability and statistics to solve problems, make predictions, data collection and analysis, and probability distributions.*

### Probability and Statistics I (RQT2)

Performance assessment

#### Sample Learning Resources:

**MyMathLab** includes videos, practice problems, and quizzes and provides an e-text version of the following text:

Triola, M. F. (2008). *Elementary statistics* (11<sup>th</sup> ed.). Boston: Pearson Addison Wesley. ISBN: 9780321500243. (e-text, cost of this resource is included in tuition and fees)

**WGU Library E-Reserves** provides electronic access to the following:

Gelo, O., Braakmann, D., & Benetka, G. (2008). Quantitative and qualitative research: Beyond the debate. *Integrative psychological and behavioral science*, 42, 266-290. (cost of this resource is included in tuition and fees).

## College Geometry

*This sub-domain focuses on synthetic, analytic, and transformational geometry and modeling, measurement, spatial visualization and proofs of theorems in both Euclidean and non-Euclidean Geometries.*

### College Geometry (QPT2)

Performance assessment

#### Sample Learning Resources:

Venema, G.A. (2006). *Foundations of geometry*. Upper Saddle River, NJ: Pearson Prentice Hall. ISBN: 0-13-143700-3. (\$84.00)

Rich, B., & Thomas, C. (2009). *Schaum's outline of geometry* (4<sup>th</sup> ed.). New York: McGraw-Hill. ISBN: 978-0-07-154412-2. (\$19.00)

**Dynamic Geometry Software** like Geometer's Sketchpad or GeoGebra.

**Geometry** provided by Thinkwell.

## Calculus I

*This sub-domain focuses on limits, derivatives, continuity, and applications of differential calculus to mathematics and the sciences.*

### Calculus I (QJT2)

Performance assessment

#### Sample Learning Resources:

**MyMathLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Thomas, G., Weir, M., Hass, J., & Giordano, F. (2008). *Thomas' calculus, early transcendental, media upgrade* (11<sup>th</sup> ed.). Boston: Addison-Wesley. ISBN: 9780321495754. (e-text, cost of this resource is included in tuition and fees)

**Calculus** provided by Thinkwell.

**WGU Library E-reserves** provides electronic access to the following:

Fernandez, E. (2004). The students' take on the epsilon-delta definition of a limit. *Primus: Problems, resources, and issues in mathematics undergraduate studies*, 14 (1), pp. 43-54. (cost of this resource is included in tuition and fees)

## Comprehensive Exam

*The CYV2 is a comprehensive exam assessing the student's knowledge of the subdomains listed above.*

### Middle School Mathematics: Content Knowledge (CYV2)

## Specific Teaching Practices

Content focuses on the effective teaching of mathematics in grades 5–9.

### Specific Teaching Practices: Mathematics Teaching Topics (DNT2)

Performance assessment

#### Sample Learning Resources:

**Teaching Math Grades 5-12** provided by Pearson CourseCompass which includes videos, quizzes, and e-text versions of the following texts, one of which includes a companion website:

Van DeWalle, J.A., Karp, K.S., & Bay-Williams, J.M. (2010). *Elementary and middle school mathematics: Teaching developmentally* (7<sup>th</sup> ed.). ISBN: 9780205573526. (e-text, cost of this resource is included in tuition and fees)

Posamentier, A.S., Smith, B.S., & Stepelman, J. (2010). *Teaching secondary mathematics: Techniques and enrichment units* (8<sup>th</sup> ed.). Allyn & Bacon. ISBN: 9780135000038. (e-text, cost of this resource is included in tuition and fees)

### Specific Teaching Practices: Mathematics Technology (DFT2)

Performance assessment

#### Sample Learning Resources:

**Teaching Math Grades 5-12** provided by Pearson CourseCompass which includes videos, quizzes, and e-text versions of the following texts, one of which includes a companion website:

Van DeWalle, J.A., Karp, K.S., & Bay-Williams, J.M. (2010). *Elementary and middle school mathematics: Teaching developmentally* (7<sup>th</sup> ed.). ISBN: 9780205573526. (e-text, cost of this resource is included in tuition and fees)

Posamentier, A.S., Smith, B.S., & Stepelman, J. (2010). *Teaching secondary mathematics: Techniques and enrichment units* (8<sup>th</sup> ed.). Allyn & Bacon. ISBN: 9780135000038. (e-text, cost of this resource is included in tuition and fees)

### Specific Teaching Practices: Mathematics History and Contributions (DLT2)

Performance assessment

#### Sample Learning Resources:

Eves, H. (1990). *An introduction to the history of mathematics* (6<sup>th</sup> ed.). New York: Brooks/Cole. ISBN-10: 0030295580. ISBN-13: 978003095584. (\$153.00)

**WGU Library E-Reserves** provides electronic access to the following:

Fried, M.N. (2001). Can mathematics education and history of mathematics coexist? *Science & Education*, 10(4), 291-408. (cost of this resource is included in tuition and fees)

- Harding, S. & Scott, P. (2005). The history of the calculus. *Australian Mathematics Teacher*, 61(2), 2-5. (cost of this resource is included in tuition and fees)
- Marshall, D. & Scott, P. (2004). A brief history of non-Euclidean geometry. *Australian Mathematics Teacher*, 60(3), 2-4. (cost of this resource is included in tuition and fees)
- Rubenstein, R.N. & Schwartz, R.K. (2000). World histories: Melding mathematics and meanings. *The Mathematics Teacher*, 93(8), 664-669. (cost of this resource is included in tuition and fees)

### Specific Teaching Practices: Mathematics Pedagogy (AYC2)

Proctored, computer-based assessment

#### Sample Learning Resources:

**Teaching Math Grades 5-12** provided by Pearson CourseCompass which includes videos, quizzes, and e-text versions of the following texts, one of which includes a companion website:

Van DeWalle, J.A., Karp, K.S., & Bay-Williams, J.M. (2010). *Elementary and middle school mathematics: Teaching developmentally* (7<sup>th</sup> ed.). ISBN: 9780205573526. (e-text, cost of this resource is included in tuition and fees)

Posamentier, A.S., Smith, B.S., & Stepelman, J. (2010). *Teaching secondary mathematics: Techniques and enrichment units* (8<sup>th</sup> ed.). Allyn & Bacon. ISBN: 9780135000038. (e-text, cost of this resource is included in tuition and fees)

## Research Fundamentals Domain

The research fundamentals domain prepares students to conduct research and also to become informed consumers of research. Your studies in this domain will include the following:

### Foundations of Research

*Focuses on differentiating between different research paradigms, including qualitative, quantitative, and action research.*

#### Foundations of Research (RFC1)

Proctored, computer-based objective exam

#### Sample Learning Resources:

**MyEducationLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Gay, L. R., Mills, G. M., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications* (8th ed.). Pearson. ISBN: 9780132338776. (e-text, cost of this resource is included in tuition and fees)

The **E-Reserves** in the WGU Library provides e-text versions of the following texts:

Gallagher, J.D. (1998). *Classroom assessment for teachers*. Upper Saddle River, NJ: Merrill. ISBN: 0137481047. (e-text, cost of this resource is included in tuition and fees)

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative and qualitative approaches*. Newbury Park, CA: SAGE Publishing. (e-text, cost of this resource is included in tuition and fees)

## Literature Reviews for Educational Research

*Focuses on selecting an appropriate research topic, evaluating the reliability of primary and secondary source information, and conducting a literature review.*

### Literature Reviews for Educational Research (JUT2)

Performance assessment

#### Sample Learning Resources:

American Psychological Association. (2009). *Publication manual of the American psychological association*. (6th ed.). ISBN: 978-1-4338-0561-5. (\$28.95)

Ruszkiewicz, J., Walker, J.R., & Pemberton, M. (2006). *Bookmarks: A guide to research and writing* (3<sup>rd</sup> ed.). New York: Longman. ISBN-13: 9780321271341. (\$48.00)

Jonassen, D. (2005). *Modeling with technology: Mindtools for conceptual change* (3<sup>rd</sup> ed.) Upper Saddle River, NJ: Pearson Education. ISBN: 9780131703452. (\$51.00)

CourseSmart provides an e-text version of the following text:

Gay, L. R., Mills, G. M., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications* (8th ed.). Pearson. ISBN: 9780132338776. (e-text, cost of this resource is included in tuition and fees)

Smaldino, S., Heinrich, R., & Russell, J (2007). *Instructional technology and media for learning* (9<sup>th</sup> ed.). ISBN: 978-0132391740. (e-text, cost of this resource is included in tuition and fees)

**MyEducationLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Roblyer, M., & Doering, A. (2009). *Integrating educational technology into teaching* (5<sup>th</sup> ed.). Pearson/Allyn & Bacon. ISBN: 9780135130636.

Online independent-study courses provided by **Atomic Learning Library** and **ASCD**.

## Research Proposal

*Focuses on developing a research proposal that includes the literature review, research questions, methodology, and data analysis.*

### Research Proposal (JVT2)

Performance assessment

#### Sample Learning Resources:

American Psychological Association. (2009). *Publication manual of the American psychological association*. (6th ed.). ISBN: 978-1-4338-0561-5. (\$28.95)

**MyEducationLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Gay, L.R., Mills, G.M., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications (9<sup>th</sup> ed.)*. Upper Saddle River, NJ: Pearson. ISBN-13: 978-0-13-2338776. (e-text, cost of this resource is included in tuition and fees)

## Issues in Research Fundamentals

*Focuses on developing a research strategy that clarifies what data to collect and how to analyze it using descriptive and inferential statistics.*

### Issues in Research Fundamentals (JTT2)

Performance assessment

#### Sample Learning Resources:

American Psychological Association. (2009). *Publication manual of the American psychological association*. (6th ed.). ISBN: 978-1-4338-0561-5. (\$28.95)

Ruszkiewicz, J., Walker, J.R., & Pemberton, M. (2006). *Bookmarks: A guide to research and writing (3<sup>rd</sup> ed.)*. New York: Longman. ISBN-13: 9780321271341. (\$48.00)

**MyEducationLab** provided by Pearson CourseCompass. An online, interactive resource that includes an e-text version of the following text:

Gay, L. R., Mills, G. M., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications (8th ed.)*. Pearson. ISBN: 9780132338776. (Cost of this resource is included in tuition and fees)

## Teacher Work Sample Written Project

The Teacher Work Sample Written Project is the culmination of the student's WGU degree program. It requires the demonstration of competencies through a deliverable of significant scope that includes both a written project and an oral defense.

### MA, Mathematics Education (5-9) Teacher Work Sample Written Project (IRT2)

The Teacher Work Sample is a written project containing a comprehensive, original, research based curriculum unit designed to meet an identified educational need. It provides direct evidence of the candidate's ability to design and implement a multi-week, standards-based unit of instruction, assess student learning, and then reflect on the learning process. The WGU Teacher Work Sample requires students to plan and teach a multi-week standards-based instructional unit consisting of seven components: 1) Contextual factors, 2) learning goals, 3) assessment, 4) design for instruction, 5) instructional decision making, 6) analysis of student learning, and 7) self-evaluation and reflection.

### MA, Mathematics Education (5-9) Teacher Work Sample Oral Defense (IST2)

The final master's exam will be a comprehensive oral defense. This exam may be face-to-face when possible but will most likely be held by telephone conference. Questions related to your work in the program will test your preparation and ability to synthesize and practically apply information obtained from your courses, self-directed study, and project experiences. The oral exam will include a presentation (typically PowerPoint) and defense of the Teacher Work Sample (TWS). Candidates will be asked to reflect upon the TWS, note its strengths and weaknesses, discuss its impact on student

learning, and suggest future improvements. The purpose of the exam is a checkpoint to ensure that you have acquired the critically required skills and knowledge specified in the program competencies.

## External Content Exams

Prior to graduation, Western Governors University requires that candidates pass the state-mandated content exam that aligns with their WGU program. This exam may or may not be the PRAXIS II. Specific information regarding required content exams required for each program can be found in the WGU Student Handbook. It is the candidates' responsibility to register and pay for the required exams and submit their official passing score reports to WGU.

## Need More Information? WGU Student Services

WGU has a Student Services team dedicated exclusively to helping students achieve their academic goals. The Student Services Office is available during extended hours to assist students with general questions and administrative or accessibility issues. The Student Services team members help students resolve issues, listen to student issues and concerns, and make recommendations for improving policy and practice based on student feedback. The Student Services team provides a formal means by which students can express their views, and those views in turn inform the decisions we make.

Student Services team members also assist students with unresolved concerns to find equitable resolutions. To contact the Student Services team, please feel free to call **(866) 903-0110** or email **[studentservices@wgu.edu](mailto:studentservices@wgu.edu)**. We are available **Monday through Friday, 6 AM to 12 AM and Saturday and Sunday, 10 AM to 7 PM, MT.**

If you have inquiries or concerns that require technical support, please contact the WGU IT Service Desk. The IT Service Desk is available **Monday through Friday, 6 AM to 12 AM and Saturday and Sunday, 10 AM to 7 PM, MT.** To contact the IT Service Desk, please call 1-877-HELP-WGU (877-435-7948) and select option 2 or email **[servicedesk@wgu.edu](mailto:servicedesk@wgu.edu)**.

For the most current information regarding WGU support services, please visit the "Help" tab on the Student Portal at **<http://my.wgu.edu>**.