George Mason University  
Schar School of Policy and Government

PUBP555 Economics Math Workshop “Math Camp”

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**Class Room:** Founders Hall, Room 121  
**Class Hours:** Monday, August 20th 6:00-9:00PM (Session I)  
Wednesday, August 22th 6:00-9:00PM (Session II)

**Review Hours:** Wednesday, August 22th, 4:00-5:30 pm (FH 121)  
Thursday, August 23rd, 4:00-6:00 pm (FH 602)

**OVERVIEW**
Math Camp (PUBP 555) is a free workshop dedicated to a review of fundamental mathematical concepts associated with microeconomics. *Managerial Economics and Policy Analysis* (PUBP 720) is a quantitatively demanding course that tends to move quickly and there is an expectation that students have the prerequisite math skills to succeed. Math Camp provides review and support of these prerequisite quantitative components.

**ENROLLMENT**
The fundamental quantitative skills reviewed in Math Camp will not be taught again in PUBP 720. Therefore, enrollment in Math Camp is expected for all students enrolling in PUBP 720. Students completing Math Camp do not receive grades or transcript credits, but attendance and completion of assessments and problem sets are expected. Students who have not taken calculus recently and/or students who need to refresh their math skills are highly encouraged to enroll. Any Schar student who is seeking a quantitative refresher is welcome to enroll.

**COURSE STRUCTURE**
Math Camp has three core components: a self-assessment test, online modules, and two in-class sessions. The self-assessment, which takes about an hour to complete, helps students determine which topics they should focus their efforts on. Any student who needs to cover all of the online modules should expect to take about four weeks to complete them.

1. **Required Self-Assessment Test (Available online on July 23rd)**
Use the self-assessment to evaluate your own skills and provide instructors with an idea of which math concepts you wish to improve on. The self-assessment should be completed by August 6th, and will not be accepted after August 17th. If you achieve a high level of proficiency, and feel comfortable with the material, then attendance at the in-class sessions is not necessary.
2. Online Modules
Through the course site, students will find links to relevant modules from Khan Academy (https://www.khanacademy.org/) Feedback provided on the self-assessment will guide students to the recommended learning modules.

3. In-Class Sessions
The in-class sessions of Math Camp will be divided into two evening sessions the week before the semester begins. The in-class sessions include a lecture followed by practice sessions covering applications of the material covered. Applications will cover more advanced material. Problem sets covering basic material will be provided for practice.

SCHEDULE
July 23rd: Self-assessment available on Blackboard (blackboard.gmu.edu)
August 6th: Recommendation to complete self-assessment
August 17th: Last day to complete self-assessment

August 20th (Monday) Session I Lecture
• Functions of One Variable
• Linear equations
• Geometry
• Derivatives

August 22nd (Wednesday) Session II Lecture
• Functions of Many Variables
• Partial Derivatives
• Differentials
• Optimization

RECOMMENDED SELF-STUDY RESOURCES AND REFERENCE MATERIALS
Although this workshop does not require any specific readings, we recommend the following books for those who prefer textbook references:


• Dowling, Edward. *Introduction to Mathematical Economics”, Schaum’s Outline Series*, Chapters 1-7. The first several chapters of this workbook include an abundance of solved problems and streamlined explanations of the fundamental math needed in microeconomics.

The Schar School has published several useful tools for refreshing and reviewing basic math skills. These tools are available to all students at: http://schar.gmu.edu/current-students/masters-advising/masters-101/topic-6- quantitative-skills/

After the completion of the course, we will provide an additional problem set packet for further practice.