

George Washington University School of Business  
MSF Math—Summer 2021: Aug. 16 – Aug. 26  
Mathematics Workshop

<https://www.savickas.education/MSFMath/>

<b>Section #:</b> N/A	<b>Professor:</b> Robert Savickas, Ph.D.
<b>CRN:</b> N/A	<b>Office:</b> Fungler 501R
<b>Class time:</b> 19:00-23:00	<b>Office hours:</b> After class or by appt.
<b>Class room:</b> Online	<b>Phone:</b> 994–8936
	<b>E-mail:</b> savickas@gwu.edu

**Description:** The course is designed to provide incoming MSF students with working knowledge of necessary mathematical methods and to prepare them for the upcoming coursework.

**Text:** Recommended: *Fundamental Methods of Mathematical Economics* by Alpha C. Chiang and Kevin Wainwright, McGraw-Hill/Irwin, 4th edition (2005), ISBN: 0070109109.

**Background:** Mathematical background will help, but is not required. The only prerequisite is the motivation and willingness to submerge oneself into some interesting math work for four weeks.

**Grading:** MSF Summer Workshops are not graded.

**Participation:** Occasionally, students will have an invited opportunity to volunteer to solve a problem, explain an issue, or otherwise significantly participate in the classroom.

**Homeworks:** For their practice, students will be assigned ungraded homework, which can be discussed in class (not to conflict with the time-table) and in office hours. Motivated students, who want to perform well in the exams and subsequent MSF courses will find it highly beneficial to practice all the homeworks regularly and ask the instructor any questions.

**Web site:** <https://www.savickas.education/MSFMath/> The web site will contain current information on the class assignments, possible extensions to the lecture material, class announcements, and other time-sensitive information. It is a good habit to check the web site regularly.

**Schedule:**

The chapters and sections indicated below are from the Alpha Chiang book.

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Aug. 16: Univariate functions; differentials; derivatives; review of the rules of differentiation. Ch. 6, 7, 9.

Aug. 18: Differentiation continued; univariate optimization. Ch. 6, 7, 9.

Aug. 20: Systems of linear equations; review of matrix algebra. Ch. 4, 5.

Aug. 23: Matrix algebra continued. Cramer's rule. Multivariate calculus. Ch. 4, 5, 11.

Aug. 26: Taylor series; convexity; concavity; Jensen's inequality; unconstrained multivariate optimization. Ch. 11.

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