

Fall 2020																																																							
Math 21 section 02 (16138); Monday, Tuesday, Wednesday, Thursday; meets synchronously on Blackboard Collaborate Ultra from 8:00AM-9:00AM																																																							
Professor R. Sturm; office hours after 12:40PM (by appointment) on ZOOM																																																							
Prerequisite:	A grade of "C" or higher in Math 16																																																						
Textbook:	Calculus by Larson, Hostetler and Edwards, Alternate 6 th edition, ISBN 0-395-88902-2																																																						
Attendance Policy:	If a student fails to submit more than 6 assignments before the given due dates then the student will be considered excessively "absent" and may receive a grade of WU.																																																						
Mark Distribution:	Online "mathbreeze" homework 10% Short answer assignments 70% Exams 20% There are no make-up assignments or exams . If a student misses an exam then the final will count in its place.																																																						
Electronic devices:	Students may use a calculator																																																						
Email:	Students must communicate only via their KBCC email address.																																																						
Homework:	Homework is not accepted after the due date																																																						
Course description:	<table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. Parametric Equations and Plane Curves</td><td style="text-align: right;">12.1</td></tr> <tr><td>2. Parametric Equations and Calculus</td><td style="text-align: right;">12.2</td></tr> <tr><td>3. Polar Coordinates and Polar Graphs</td><td style="text-align: right;">12.3, 12.4</td></tr> <tr><td>4. Area and Arc Length in Polar Coordinates</td><td style="text-align: right;">12.5</td></tr> <tr><td>5. Vectors in the Plane</td><td style="text-align: right;">13.1</td></tr> <tr><td>6. The Dot Product of Two Vectors</td><td style="text-align: right;">13.2</td></tr> <tr><td>7. Vector – Valued Functions</td><td style="text-align: right;">13.3</td></tr> <tr><td>8. Space Coordinates and Vectors in Space</td><td style="text-align: right;">14.1</td></tr> <tr><td>9. The Cross Product of Two Vectors in Space</td><td style="text-align: right;">14.2</td></tr> <tr><td>10. Lines and Planes in Space</td><td style="text-align: right;">14.3</td></tr> <tr><td>11. Surfaces in Space</td><td style="text-align: right;">14.4</td></tr> <tr><td>12. Introduction to Functions of Several Variables</td><td style="text-align: right;">15.1</td></tr> <tr><td>13. Limits and Continuity</td><td style="text-align: right;">15.2</td></tr> <tr><td>14. Partial Derivatives</td><td style="text-align: right;">15.3</td></tr> <tr><td>15. Differential</td><td style="text-align: right;">15.4</td></tr> <tr><td>16. Chain Rules for Functions of Several Variables</td><td style="text-align: right;">15.5</td></tr> <tr><td>17. Directional Derivatives and Gradients (optional)</td><td style="text-align: right;">15.6</td></tr> <tr><td>18. Tangent Planes and Normal lines (optional)</td><td style="text-align: right;">15.7</td></tr> <tr><td>19. Extrema of Functions of Two Variables</td><td style="text-align: right;">15.8</td></tr> <tr><td>20. Iterated Integrals and Area in the Plane</td><td style="text-align: right;">16.1</td></tr> <tr><td>21. Double Integrals and Volume</td><td style="text-align: right;">16.2</td></tr> <tr><td>22. Change of Variables: Polar Coordinates</td><td style="text-align: right;">16.3</td></tr> <tr><td>23. Sequences</td><td style="text-align: right;">10.1</td></tr> <tr><td>24. Series and Convergence</td><td style="text-align: right;">10.2</td></tr> <tr><td>25. The Integral Test and p-Series</td><td style="text-align: right;">10.3</td></tr> <tr><td>26. Comparisons of series</td><td style="text-align: right;">10.4</td></tr> <tr><td>27. Alternating Series</td><td style="text-align: right;">10.5</td></tr> </tbody> </table>	1. Parametric Equations and Plane Curves	12.1	2. Parametric Equations and Calculus	12.2	3. Polar Coordinates and Polar Graphs	12.3, 12.4	4. Area and Arc Length in Polar Coordinates	12.5	5. Vectors in the Plane	13.1	6. The Dot Product of Two Vectors	13.2	7. Vector – Valued Functions	13.3	8. Space Coordinates and Vectors in Space	14.1	9. The Cross Product of Two Vectors in Space	14.2	10. Lines and Planes in Space	14.3	11. Surfaces in Space	14.4	12. Introduction to Functions of Several Variables	15.1	13. Limits and Continuity	15.2	14. Partial Derivatives	15.3	15. Differential	15.4	16. Chain Rules for Functions of Several Variables	15.5	17. Directional Derivatives and Gradients (optional)	15.6	18. Tangent Planes and Normal lines (optional)	15.7	19. Extrema of Functions of Two Variables	15.8	20. Iterated Integrals and Area in the Plane	16.1	21. Double Integrals and Volume	16.2	22. Change of Variables: Polar Coordinates	16.3	23. Sequences	10.1	24. Series and Convergence	10.2	25. The Integral Test and p-Series	10.3	26. Comparisons of series	10.4	27. Alternating Series	10.5
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	28. The Ratio and Root Tests	10.6
	29. Power Series	10.8
	30. Representations of Functions by Power Series	10.9
	31. Taylor and Maclaurin Series	10.10, 10.7
Academic integrity:	Please see: https://www.kbcc.cuny.edu/studentaffairs/student_conduct/Pages/academic_integrity.aspx	
<p>“This syllabus, and the course schedule of topics, are subject to change by consideration of the instructor, or by factors outside the instructor’s control”</p>		