

## MTH 265 Syllabus

Calculus & Analytical Geometry III – 4 credit hours

Summer 2021, 6-week session – MTWR 6:00-8:15 – Section 050A – Synchronous Online

<b>Instructor</b>	Betsy McCall, M.A., M.S. Office: AA 352 Phone: 703-845-6220 (Math office); 614-372-8042 (Home) Email: <a href="mailto:bmccall@nvcc.edu">bmccall@nvcc.edu</a> Office Hours: MTWR 8:15-8:45 and by appt Archive Site: <a href="http://www.betsymccall.net/prof/courses/summer21/nova/calc3.html">http://www.betsymccall.net/prof/courses/summer21/nova/calc3.html</a>
<b>Course Description</b>	Presents vector-valued functions, partial derivatives, multiple integrals and topics from the calculus of vectors.
<b>Textbook</b>	Stewart, <i>Calculus: Early Transcendentals</i> , 8th edition, Cengage 2016
<b>Evaluation</b>	<p style="text-align: center;"><b>Tests:</b> 3 tests, 130 points each (39%)  <b>Quizzes:</b> 160 points (16%)  <b>Homework:</b> 200 points (20%)  <b>Final Exam:</b> 250 points (25%)</p> <p style="text-align: center;">The course is graded out of 1000 points.            900+ points = A, 800-899 points = B, 700-799 points = C,            600-699 points = D, 0-599 points = F</p> <p style="text-align: center;">Tests can only be made up for documented emergencies, or prior arrangement.            Quizzes cannot be made up or submitted late once the key is posted. Homeworks can be submitted late for 50% credit until the date of the final exam.</p>
<b>Electronic Devices</b>	You may use a graphing calculator for this class, but if you wish to use it during tests and quizzes, it cannot be on your phone or tablet. A TI-83/84 will work or TI-89. There may be some portions of tests that will be calculator-free. Use of other devices during tests or quizzes (including phones, smart-watches, tablets, etc.) are strictly prohibited.
<b>Academic Honesty</b>	Cheating of any kind will not be tolerated. This includes using unauthorized resources (such as notes) or technology during a test, copying from another student or allowing your work to be copied, leaving the room without permission during a test, or any other violation of ethics will result in an F for the course. Violations will also be reported to the Dean of Students.
<b>Attendance</b>	Attendance is extremely important in this class. Even if you can only attend a portion of the class live, some is better than none.

### Tentative Schedule

Week	Dates	Topics	Notes/Due
1	5.17	Introduction to the course, Vectors	
	5.18	Dot Products, Cross Products (12.1-12.3)	Quiz #1
	5.19	Functions of Several Variables (14.1), Coordinate Systems and Parametric Surfaces (15.8, 15.9,16.6), Limits and Continuity (14.2)	Quiz #2
	5.20	Vector-Valued Functions, Derivatives and Integrals (13.1,13.2), Vector Fields (16.1)	Quiz #3
2	5.24	Line Integrals (16.2), Partial Derivatives, Total Differential (14.3, 14.4)	Homework #1
	5.25	Gradients, Del Notation, Traces, Level Curves (14.1, 14.6, 16.5), Review for Exam #1	Homework #2 Quiz #4
	5.26	<b>Exam #1</b>	Homework #3
	5.27	Conservative Vector Fields & Potential Functions (16.3)	Homework #4
3	5.31	Memorial Day, no class	

	6.01	Iterated Integrals, Double Integrals and Volume (15.1, 15.2, 15.3)	Quiz #5
	6.02	Integrals in Polar Coordinates (15.4)	Quiz #6
	6.03	Triple Integrals (15.7, 15.8, 15.9) Review for Exam #2	Homework #5 Quiz #7
4	6.07	<b>Exam #2</b>	Homework #6
	6.08	Tangents and Normal Vectors (13.2), Directional Derivatives (14.6)	Quiz #8
	6.09	Tangent and Normal Lines (14.4), Parametric Surfaces (16.6)	Quiz #9
	6.10	Arc Length and Curvature (13.3), Surface Area (15.6, 16.6)	Homework #7
5	6.14	Conservative Vector Fields and Independence of Path (16.3) Green's Theorem (16.4)	Quiz #10
	6.15	Surface Integrals (15.6)	Homework #8
	6.16	Divergence Theorem & Stokes' Theorem (16.8,16.8) Review for Exam #3	Quiz #11
	6.17	<b>Exam #3</b>	Homework #9
6	6.21	Implicit Differentiation and Chain Rule (14.5)	Quiz #12
	6.22	Extrema of Two Variables (Relative and Absolute) (14.7)	Homework #10
	6.23	Change of Variables (15.10), Velocity & Acceleration (13.4)	Quiz #13
	6.24	Centers of Mass (15.5, 15.7, 15.8, 15.9) Review for Final Exam	Homework #11 Quiz #14
7	6.28	<b>Final Exam</b> <b>Monday, June 28<sup>th</sup>, 2021</b>	
*Section numbers correspond to related textbook sections.			

### The Greek alphabet

Letter name	Uppercase	Lowercase	Letter name	Uppercase	Lowercase
Alpha	A	$\alpha$	Nu	N	$\nu$
Beta	B	$\beta$	Xi	$\Xi$	$\xi$
Gamma	$\Gamma$	$\gamma$	Omicron	O	$o$
Delta	$\Delta$	$\delta$	Pi	$\Pi$	$\pi$
Epsilon	E	$\epsilon$	Rho	P	$\rho$
Zeta	Z	$\zeta$	Sigma	$\Sigma$	$\sigma$
Eta	H	$\eta$	Tau	T	$\tau$
Theta	$\Theta$	$\theta$	Upsilon	$\Upsilon$	$\upsilon$
Iota	I	$\iota$	Phi	$\Phi$	$\phi$
Kappa	K	$\kappa$	Chi	X	$\chi$
Lambda	$\Lambda$	$\lambda$	Psi	$\Psi$	$\psi$
Mu	M	$\mu$	Omega	$\Omega$	$\omega$