

Math 223, Multivariable Calculus Spring 2018 Prof. George Melvin

	(Tentative) Timetable (Opdated: March 11)				
	Monday	Tuesday	Wednesday	Thursday	Friday
2/12-2/16	introduction		<i>§1.1-1.3</i> linear algebra recap, dis- placement vectors		<i>§1.4</i> cross product
2/19-2/23	<i>§1.5</i> affine ge- ometry: lines, planes etc.		<i>§1.7</i> coordi- nate systems I		1 NO CLASS 1
2/26-3/2	<i>§1.7</i> coordi- nate systems II		<i>\$3.1</i> parame- terised curves		\$3.3 vector fields I, flow lines
3/5-3/9	Case Study A: Kepler's Laws I NE		Case Study A: Kepler's Laws II NE	‼ Exam I ‼	<i>§2.1</i> functions of several vari- ables I PFDD
3/12 - 3/16	<i>§2.1</i> functions of several vari- ables II, level sets		<i>§2.2</i> limits, continuity		<i>§2.3</i> partial derivatives, the derivative I DD
3/19 - 3/23	<i>§2.3-2.4</i> the derivative II		<i>§2.5</i> chain rule		<i>§2.6</i> tangent plane, directional deriva- tives, gradient
4/2-4/6	<i>§3.3-3.4</i> vector fields II, grad, potential functions		<i>§6.3</i> The Potential Function Problem		<i>§6.1</i> line integrals
4/9-4/13	§6.3 The Funda- mental Theorem of Line Integrals			‼ Exam II ‼	<i>§4.2</i> extrema
4/16-4/20	<i>§4.3</i> Lagrange multipliers I		§5.4 Lagrange multipliers II, applications		Spring Symp. !! NO CLASS !!
4/23 - 4/27	\$5.1-5.2 integration of functions of several variables I		\$5.2-5.4 integration of functions of several variables II		<i>§5.4</i> integration of functions of several variables III
4/30-5/4	\$5.5 change of variables		\$5.6 applications of integration		<i>§6.2</i> Green's Theorem
5/7 - 5/11	§7.1-7.2 parame- terised surfaces, surface integrals		<i>§7.2</i> sur- face integrals		<i>\$7.3</i> Stokes' Theorem
5/14	<i>§7.3</i> Gauss' Theorem				

(Tentative) Timetable (**Updated:** March 11)

Notes:

- 1. Topics may not be covered precisely as timetabled.
- 2. This schedule is subject to change.
- 3. §*X*.*y* refers to Chapter X, Section y of the course textbook *Vector Calculus*, by Colley (4th Edition).
- 4. PFDD = Pass/Fail/D Deadline, DD = Drop Deadline, NE = non-examinable
- 5. Lectures shaded red will follow the 'flipped classroom' model. Further details can be found at the course website.