

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan
	No School	No School					
<i>Class Topic</i>			Introduction; Housekeeping		Vectors and Relative Motion (Analytic + Computational)		
<i>Core Idea(s)</i>			N/A		Pre-Class homework 1: due at 12:00pm		
<i>Activity</i>			Marshmallow Challenge; Introductory Assessment		Project 1: Toy Navy		
Week 2	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan
		Holiday					
<i>Class Topic</i>			Constant Force - 1 Dimension & 2 Dimension (Analytic)		Iterative Prediction of Motion - 2D Kinematics + Drag (Computational)		
<i>Core Idea(s)</i>			Forces cause change in momentum		Forces cause change in momentum		
<i>Activity</i>	Post-class homework 1: due at 8:00pm	Pre-class homework 2: due at 8:00pm	Project 2: Escape from Ice State McMurdo: Parts A & B		Project 2: Escape from Ice State McMurdo: Part C		
Week 3	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan
<i>Class Topic</i>			Predicting Motion with Non-constant forces - Gravitation (Analytical)		Predicting Motion with Non-constant forces - Gravitation (Computational)		
<i>Core Idea(s)</i>			Forces cause change in momentum		Forces cause change in momentum		
<i>Activity</i>	Post-class homework 2: due at 8:00pm	Pre-class homework 3: due at 8:00pm	Project 3: Geosynchronous Orbit		Project 3: Geosynchronous Orbit		
Week 4	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb
<i>Class Topic</i>			Predicting Motion with Non-constant forces - Springs (Analytic)		Exam 1		
<i>Core Idea(s)</i>			Forces cause change in momentum		Forces cause change in momentum		
<i>Activity</i>	Post-class homework 3: due at 8:00pm	Pre-class homework 4: due at 8:00pm	Project 4: Pinball Wizard Designer: Part A		In-class Individual & Collaborative Exam		

Week 5	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb
<i>Class Topic</i>			Ball and spring model; Tension and Compression		Friction		
<i>Core Idea(s)</i>			Atomic interactions cause macroscopic		Atomic interactions cause macroscopic		
<i>Activity</i>	Post-class homework 4: due at 8:00pm	Pre-class homework 5: due at 8:00pm	Project 5: Escape from Korath - Part A		Project 5: Escape from Korath - Part B		
Week 6	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb
<i>Class Topic</i>			Multiparticle systems; Conservation of linear momentum (Analytic)		Curving Motion (Analytic)		
<i>Core Idea(s)</i>			Atomic interactions cause macroscopic phenomenon; Forces cause change in momentum		Forces cause change in momentum		
<i>Activity</i>	Post-class homework 5: due at 8:00pm	Pre-class homework 6: due at 8:00pm	Project 6a: CSI East Lansing		Project 6b: Six Flags over East Lansing		
Week 7	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb
<i>Class Topic</i>			Energy Conservation; Work by Constant Forces; Single Particle Systems: Work-KE Theorem		Energy Conservation; total particle energy; Multiparticle systems: Change of identity		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved		Forces cause change in momentum; Energy is conserved		
<i>Activity</i>	Post-class homework 6: due at 8:00pm	Pre-class homework 7: due at 8:00pm	Project 7a and 7b: Purveyors of the misplaced crate		Project 7c: Purveyors of the misplaced crate		

Week 8	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar
<i>Class Topic</i>			Multiparticle systems; Potential Energy and Work; Local Gravitational PE		Exam 2		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved				
<i>Activity</i>	Post-class homework 7: due at 8:00pm	Pre-class homework 8: due at 8:00pm	Project 8: Breakneck - The new roller-coaster at Michigan's		In-class Individual & Collaborative Exam		
Week 9	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar
		Holiday	Holiday	Holiday	Holiday	Holiday	
<i>Class Topic</i>							
<i>Core Idea(s)</i>							
<i>Activity</i>							
Week 10	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar
<i>Class Topic</i>			Multiparticle Systems & Potential Energy; Newtonian Gravitational PE		Multiparticle Systems & Potential Energy; Newtonian Gravitational PE & graphing PE		
<i>Core Idea(s)</i>			Energy is conserved		Energy is conserved		
<i>Activity</i>	Post-class homework 8: due at 8:00pm	Pre-class homework 9: due at 8:00pm	Project 9: Launching a communications probe: Part A		Project 9: Launching a communications probe: Part B		
Week 11	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar
<i>Class Topic</i>			Multiparticle systems & Potential Energy; Spring PE		Multiparticle systems & Thermal Energy; Heat Exchange and Dissipation		
<i>Core Idea(s)</i>			Energy is conserved		Forces cause change in momentum; Energy is conserved		
<i>Activity</i>	Post-class homework 9: due at 8:00pm	Pre-class homework 10: due at 8:00pm	Project 10: Post-apocalypse now: Part A		Project 10: Post-apocalypse now: Part B		

Week 12	29-Mar	30-Mar	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr
<i>Class Topic</i>			Multiparticle systems; Rotational and Vibrational Energy; Center of mass		Multiparticle systems; Real vs Point Particle Systems		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved		Forces cause change in momentum; Energy is conserved		
<i>Activity</i>	Post-class homework 10: due at 8:00pm	Pre-class homework 11: due at 8:00pm	Project 11: Engineering a Movie Stunt: Part A		Project 11: Engineering a Movie Stunt: Part B		
Week 13	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr
<i>Class Topic</i>			Collisions; conservation of energy and momentum		Exam 3		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved				
<i>Activity</i>	Post-class homework 11: due at 8:00pm	Pre-class homework 12: due at 8:00pm	Project 12: Saving a satellite		In-class Individual & Collaborative Exam		
Week 14	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr
<i>Class Topic</i>			Conservation of angular momentum		Conservation of angular momentum		
<i>Core Idea(s)</i>			Torques cause changes in angular momentum - Analytical		Torques cause changes in angular momentum - Computational		
<i>Activity</i>	Post-class homework 12: due at 8:00pm	Pre-class homework 13: due at 8:00pm	Project 13a: You Spin Me Right Round		Project 13b: To Be Named		

Week 15	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr
<i>Class Topic</i>			Applying conservation theorems		Applying conservation theorems (spillover); post-assessment		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved; Torques cause changes in angular momentum		Forces cause change in momentum; Energy is conserved; Torques cause changes in angular momentum		
<i>Activity</i>			Project 14: Showdown at the Boar Tiger Corral		Project 14: Showdown at the Boar Tiger Corral		Post-class homework 13: due at 8:00pm
Week 16	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	1-May	2-May
<i>Class Topic</i>			Applying conservation theorems		Applying conservation theorems		
<i>Core Idea(s)</i>			Forces cause change in momentum; Energy is conserved; Torques cause changes in angular momentum		Forces cause change in momentum; Energy is conserved; Torques cause changes in angular momentum		
<i>Activity</i>			Project 15: Choose your own adventure part 1		Project 15: Choose your own adventure part 2		
Week 17	3-May	4-May	5-May	6-May	7-May	8-May	9-May
<i>Class Topic</i>				<i>Final</i>			
<i>Core Idea(s)</i>							
<i>Activity</i>				In-class Individual & Collaborative Exam			