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|  | **Week** | **Sections** |  |
| 1 | 1/24 – 1/28 | 1.1, 1.2, 1.3 | 1. limits on the number line  2. one-side and limits of functions  3. graphical explanation of limits  4. Algebraic description of limits  5. properties and calculation of the limits  6. Continuity of a function.  7. average rate of change  8. difference quotient |
| 2 | 1/31 – 2/4 | 1.4, 1.5 | 1. tangent lines  2. limit of the difference of quotient – instantaneous change of rate  3. example of differentiation using the limit of quotient difference  4. notation of dy/dx.  5. derivative of power functions  6. derivative of linear functions  7. derivatives of sum and difference of functions |
| 3 | 2/7 – 9/11 | 1.6, 1.7, 1.8 | 1. derivative of the product of two functions  2. The derivative of the quotient of two functions  3. derivative of composite functions - chain rule  4. second-order derivatives and applications |
| 4 | 2/14 – 2/18 | 2.1, 2.2, a brief review for **Exam 1** | 1. exponential and logarithmic functions: definition and  2. applications of exp and log functions  **Exam #1:** |
| 5 | 2/21 – 2/25 | 2.3, 2.4, 2.5, | 1. derivatives of the exponential and logarithmic function with a natural base.  2. derivatives of exponential and logarithmic functions with a general base: ax and loga(x),  3. derivatives of functions involving exponential and logarithmic functions |
| 6 | 2/28 – 3/4 | 2.6, 3.1, 3.2 | 1. Business applications  2. 1st order derivative for detecting local minimum and maximum values of a function  3. 2nd order derivative for detecting absolute (global) maximum and minimum values of a function |
| 7 | 3/7 – 3/11 | 3.3, a brief review for  **Exam 2** | 1. curve sketching using first and second derivatives   **Exam #2** |
|  | 3/14 – 3/18 | **Spring break, no class** |  |
| 8 | 3/21 – 3/25 | 3.3, 3.4, | Asymptotes, curve-sketching |
| 9 | 3/28 – 4/1 | 3.5, 3.6\*, 3.7 | Global max, min, elasticity of demand |
| 10 | 4/4 – 4/8 | 3.8, 4.1. | Implicit differentiation, anti-derivative |
| 11 | 4/11 – 4/15 | 4.2, 4.3,  **Exam 3** | Area and definite integral |
| 12 | 4/18– 4/22 | 4.4, 4.5, | Substitution and integral by parts |
| 13 | 4/25 – 4/29 | 5.1\*, 6.1 | Functions of several variables |
| 14 | 5/2 – 5/6 | 6.2, 6.3\* | Partial derivatives |
| 15 | 12/6 – 12/10 |  |  |
|  | 12/13 | Catch-up/Review |  |