# MTH 141 Calculus 1 Syllabus - Spring 2018 University of Rhode Island <br> <br> MTH 141 Spring 2018 - Calendar Version 01/20/2018 

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The following calendar gives a timetable for the course. Your class may be slightly behind or ahead at any given time. Some of the problems may be done in class, others as homework. Your instructor will be more specific. You should work out all the problems given below. NOTE: notation like " $3-9$ " means that all problems from 3 to 9 are to be done. Textbook: Calculus: Single Variable, by Hughes-Hallet et al, 7th ed., Wiley.

| Week | Dates | Sections/Events/Exams | Problems |
| :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Jan } 22 \\ & \text { Jan } 26 \end{aligned}$ | (1.1) Functions and Change <br> (1.2) Exponential Functions <br> (1.3) New Functions From Old <br> (1.4) Logarithmic Functions | (1.1) 1,2,5,7,9,13,16,18,33,35-38,43,53,63,67,71 <br> (1.2) $1,2,5,7,9,10,15,16,19,29,38,40,41,43,49,55$ <br> (1.3) $1,2,3,8-12,14-17,19,21,25,27,33,39,41,49,51,55,56,58,59,73$ <br> (1.4) $1-31$ (odd), $32,35,37,39,42,43,45,49,61,62$ |
|  | $\text { Jan } 29$ <br> Feb 2 | (1.5) Trigonometric Functions <br> (1.6) Powers, Polynomials, and Rational Functions <br> (1.7) Introduction to Limits and Continuity <br> (1.8) Extending the idea of a Limit | (1.5) $11,13,12,15,17,19,20,24,25,37,38,39,41,61,62,64,67,68,70,71$ <br> (1.6) $1 — 13$ odd, $18-21,27-32,45,48,53,62-66,73$ <br> (1.7) 1,3,4,5,6,7,8,11-17odd, 23,25-28,31,33,35,37,43,49,54,56,70, 71 <br> (1.8) $1,3,5,9,11,13,19,25,31,32,33,35,39,41-51$ odd, 57,61 |
|  | $\begin{aligned} & \text { Feb } 5 \\ & \text { Feb } 9 \end{aligned}$ | (1.9) Further Limit Calculations using Algebra <br> (2.1) How do we measure speed? <br> (2.2) The Derivative at a Point | (1.9) 1—23odd, 27—31odd, 39,45 <br> (2.1) $1,3,5,7,9,13,21,22,23,28$ <br> (2.2) $1,3,5,9,11,12,13,19,21,23,28,29,32,33,34,37,51,52,56,58,60,61$ |
|  | Feb 12 <br> Feb 16 | (2.3) The Derivative Function <br> (2.4) Interpretations of the Derivative <br> (2.5) The Second Derivative | (2.3) $1 — 13$ odd, $22,23,25,29,33,44-47,57,58$ <br> (2.4) 1,2,5,9-15odd,23,27,29,31,39,45,52 <br> (2.5) 1,3,4,5,9,11-25odd,37,39,41 |
|  | Feb 20 <br> Feb 23 | EXAM 1 6:30pm-8.00pm Tues Feb 20, CBLS 100 (2.6) Differentiability <br> (3.1) Powers and Polynomials | (2.6) 1-11,23-25,26-30 <br> (3.1) 1-43odd,69,71,77,83,95 |
|  | Feb 26 <br> Mar 2 | (3.2) The Exponential Function <br> (3.3) The Product and Quotient Rules <br> (3.4) The Chain Rule <br> (3.5) The Trigonometric Functions | (3.2) 1-25odd, 47 <br> (3.3) 1-39odd, 43,45,63,65 <br> (3.4) 1-69odd,86,87 <br> (3.5) 1-57odd,61,63 |
|  | Mar 5 <br> Mar 9 | (3.6) The Chain Rule and Inverse Functions <br> (3.7) Implicit Functions <br> (3.8) Hyperbolic Functions <br> (3.9) Linear Approximation and the Derivative | (3.6) 1-43odd,51,53,59,61,65,67 <br> (3.7) 1-33odd, 39 <br> (3.8) 1-13odd, 17,18,23,29,30 <br> (3.9) 1-13odd, 27,31,37 |
|  | Mar 12 <br> Mar 16 | Spring Break - No Classes |  |
|  | Mar 19 <br> Mar 23 | (4.1) Using First and Second Derivatives (4.2) Optimization | (4.1) 1-15odd,16-19,23,27,32,34,35,41,43,53,55 <br> (4.2) 1,5-9,11-19odd,23,24,31,33,3 |
|  | Mar 26 <br> Mar 30 | EXAM 2 6:30pm-8.00pm Tues Mar 27, CBLS 100 (4.3) Optimization and Modeling | (4.3) 1,5,7,8,9,11-19odd, 23,24,31,33,36,47 |
|  | April 2 <br> Apr 6 | (4.6) Rates and Related Rates <br> (4.7) L'Hopital's Rule, Growth, and Dominance | (4.6) 1-9odd, 10,15-25odd,30,31,33,41,42,49,51 <br> (4.7) 1-12,13-37odd,43,58-64,71-74 |
|  | Apr 9 <br> Apr 13 | (5.1) How Do We Measure Distance Traveled? <br> (5.2) The Definite Integral <br> (5.3) The Fundamental Theorem and Interpretations | (5.1) 1-9odd, 10,11,25,27,30,31,33 <br> (5.2) 1-15odd, $23,24,35,37,47-53$ odd <br> (5.3) 1,3,4,5,7,15-27odd, $33,35,53,54,55$ |
|  | $\begin{aligned} & \text { Apr } 16 \\ & \text { Apr } 20 \\ & \hline \end{aligned}$ | (5.4) Theorems About Definite Integrals <br> (6.2) Constructing Antiderivatives Analytically | (5.4) 1,3,4,5-21odd,22,25,29,31-37odd,41,53,55 <br> (6.2) 3-33odd,67-83odd,87,89,91 |
|  | Apr 23 <br> Apr 27 | EXAM 3 6:30pm-8.00pm Tues Apr 24, CBLS 100 (6.1) Antiderivatives Graphically and Numerically (6.4) The Second Fundamental Theorem of Calculus (3.10) Theorems about differentiable functions | $\begin{aligned} & \text { (6.1) } 3,7,9,13,25 \text { odd } \\ & (6.4) 5-17 \text { odd, } 23,27 \\ & \text { TBA } \end{aligned}$ |
|  | Apr 30 | Last Day of Classes - |  |

