

**NORTH CAROLINA STATE UNIVERSITY  
DEPARTMENT OF MATHEMATICS**

MA 121 - Elements of Calculus  
Fall 2019

**TEXT:**        Bittinger, M. L., Calculus (11th ed.)

MA 121 is a three-hour course. It is a terminal, one-semester course in calculus designed for those students whose degree programs require a single calculus course. The typical additional requirement is MA 114. Overall, about half of the students are in economics and business, a quarter to a third are in biological sciences, and the remainder are scattered among design, forestry, liberal arts, textiles and animal science.

This course is not a simplified 141, or even a 131. It is not easier, rather, different. It covers more topics, but in less depth, than either of those two courses. We should emphasize concepts and ideas, strive for plausibility rather than rigor, and push for as much manipulative skill as time allows. Applications should be emphasized (the text is excellent in this regard). Also to be emphasized are exponential functions and their applications, derivatives as rates of change, integrals as approximations to sums and as total change, simple models via differential equations, and computational aspects. These students are in areas where a brief introduction to multivariate mathematics is important. Trigonometry has been deleted.

Students sometimes appear in 121 classes who have poor backgrounds in algebra. For these, and others as well, a review is helpful. **However, MA 107 (or equivalent) is a prerequisite for this course, and it is reasonable to expect this background.** Poorly prepared students should be encouraged to go back to MA 107.

On the whole, this text has received a very favorable response from those who have taught from it over the past few years. Students have found it quite readable. The "margin exercises" and end of chapter tests seem to be helpful. However, there is a lot of material to be covered. Some sections are rather long and some selection/deletion of material may be necessary. Your experience serves as a valuable aid to future instructors. Please give any comments to the course coordinator, Jesus Rodriguez.

## MA 121 - ELEMENTS OF CALCULUS

TEXT: Calculus, by M. L. Bittinger (11th Edition)

Fall 2019 (Tuesday/Thursday Sections)

The schedule for classes meeting on Mondays and Wednesdays should be modified accordingly.

Topics and test dates

Chapter R: R.1 – R.5; Chapter 1: 1.1 – 1.6; test review  
**Test #1: Tuesday, September 17**

Chapter 1: 1.7, 1.8; Chapter 2: 2.1 – 2.5; test review  
**Test #2: Tuesday, October 8**

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Chapter 3: 3.1 – 3.5; Chapter 4: 4.1 – 4.3; test review  
**Test #3: Tuesday, November 5**

Chapter 4: 4.4 – 4.5; Chapter 5: 5.1 – 5.3, 5.6, 5.7; test review  
**Test #4: Thursday, November 21**

Chapter 6: 6.1 – 6.3; final exam review

