

**NORTH CAROLINA STATE UNIVERSITY
DEPARTMENT OF MATHEMATICS**

**MA 121 - Elements of Calculus
Fall 2018**

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, 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 the 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, running review is helpful. **However, MA 107 (or equivalent) is prerequisite to this course, and it is reasonable to expect this background.** Poorly prepared students should be encouraged to go back to MA 107. I strongly encourage you to use the new Webassign Plus package for your homework assignments. It not only contains the electronically delivered/submitted homework assignments, but this year offers links to videotaped lessons and old tests/solutions.

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. This is a stimulating and interesting course to teach. Your experience serves as a valuable aid to future instructors. Please give any comments, criticisms, etc. to the course coordinator, John Griggs.

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Fall 2018 (Monday/Wednesday Section)

Wednesday, August 22 – Wednesday, September 12:
Chapter R: R.1 – R.5; Chapter 1: 1.1 – 1.6; test review
Test #1: Monday, September 17

Wednesday, September 19 – Monday, October 8:
Chapter 1: 1.7, 1.8; Chapter 2: 2.1 – 2.5; test review
Test #2: Wednesday, October 10

Monday, October 15 – Wednesday, October 31:
Chapter 3: 3.1 – 3.5; Chapter 4: 4.1 – 4.3; test review
Test #3: Monday, November 5

Wednesday, November 7 – Monday, November 26
Chapter 4: 4.4 – 4.5; Chapter 5: 5.1 – 5.3, 5.6, 5.7; test review
Test #4: Wednesday, November 28

Monday, December 3 – Wednesday, December 5
Chapter 6: 6.1 – 6.3; final exam review
Comprehensive Final Exam: Monday, December 10 1:00 – 4:00