

THE COLLEGE OF STATEN ISLAND  
DEPARTMENT OF MATHEMATICS

SPRING 2004  
PM/

**MTH 221 – Applied Finite Mathematics and Business Calculus**

Required Text: Mathematical Applications for the Management, Life and Social Sciences, 7<sup>th</sup> Edition  
by Harshbarger and Reynolds, Houghton Mifflin Co. Publishers

Required Calculator: TI-82 or TI-83 (If needed, find the calculator instructions handout on the Math Dept.

Website: <http://www.math.csi.cuny.edu/Courses/Syllabi> then click on TI-82/83 Instructions.)

Required: Easy Steps to Success Using the TI-82/ TI-83 Graphing Calculators,  
by Yocco and Harshbarger, Houghton Mifflin Co. Publishers

| LESSON  | TOPIC                                  | SECTION    | HOMEWORK ASSIGNMENT                                         |
|---------|----------------------------------------|------------|-------------------------------------------------------------|
| 1       | Review on Functions                    | 1.2<br>1.3 | p.81/1-7odd, 6,11,15,17,<br>23-41 odd<br>96/1-25odd         |
| 2       | Linear Functions & Quadratic Equations | 1.3<br>2.1 | 97/29,35,43-49odd<br>155/3-19odd,25,27,35,37,41,51,59       |
| 3       | Limits                                 | 9.1        | 630/1,7,11,13,17,21,25,37                                   |
| 4       | Limits                                 | 9.1        | 632/55,57,59,61,65,69                                       |
| 5       | Continuous Functions                   | 9.2        | p.644/3,5,9,11,15,21                                        |
| 6       | Limits at Infinity                     | 9.2        | p.644-5/27,31,37,43,45,47,49                                |
| 7       | The Derivative                         | 9.3        | p.660/3,5,9,11,13,19                                        |
| 8       | Rates of Change; Tangent to a Curve    | 9.3        | p.662/29,33,35,39,41                                        |
| 9       | Derivative Formulas                    | 9.4        | p.675/1,3,5,7,9,11,15,19                                    |
| 10      | Derivative Formulas                    | 9.4        | p.675/23,43,45,47,49                                        |
| 11      | Product & Quotient Rules               | 9.5        | p.685/1,3,7,11,13,15,43,45                                  |
| 12      | The Chain Rule & Power Rule            | 9.6        | p.694/1,3,5,9,13,17,25,37,39                                |
| 13      | Using Derivative Formulas              | 9.7        | p.702/3,7,9,21,31,37,39,43                                  |
| 14      | Higher-Order Derivatives               | 9.8        | p.708/1,5,9,13,15,21,41,45                                  |
| 15      | Applications of Derivatives            | 9.9        | p.719/3,9,11,13                                             |
| 16      | Applications of Derivatives            | 9.9        | p.720/17,19,21,23,25,27                                     |
| 17      | REVIEW OF CHAPTER 9                    |            |                                                             |
| 18 & 19 | TEST #1                                |            |                                                             |
| 20      | Relative Maxima & Minima               | 10.1       | p.747/5,7,9,11,15,17,21,25                                  |
| 21      | Curve Sketching                        | 10.1       | p.748/31,33,43,45,49,53                                     |
| 22      | Concavity: Points of Inflection        | 10.2       | p.761/1,3,13,15,19,21                                       |
| 23      | Concavity: Points of Inflection        | 10.2       | p.763/29,33,35,37,39                                        |
| 24      | Optimization in Business & Economics   | 10.3       | p.774/3,5,9,11,13,15,21                                     |
| 25      | Application of Maxima & Minima         | 10.4       | p.785/1,3,5,7,11,15,19                                      |
| 26      | Asymptotes                             | 10.5       | p.798/1,3,5,7,11,15,17                                      |
| 27      | More Curve Sketching                   | 10.5       | p.798/19,23,25,35,37,41                                     |
| 28      | Exponential & Logarithmic Functions    | 5.1<br>5.2 | p.388/3,5,7,11,13,15,25,27,31<br>p.402/1-15, odd, 19-29 odd |

|         |                                                         |      |                                     |
|---------|---------------------------------------------------------|------|-------------------------------------|
| 29      | Derivatives of Logarithmic Functions                    | 11.1 | p.819/3,5,7,13,19,21,23,27,43,45,47 |
| 30      | Derivatives of Exponential Functions                    | 11.2 | p.827/1,3,5,13,19,25,41,43          |
| 31      | Implicit Differentiation                                | 11.3 | p.839/1,3,7,9,11,15,43,57           |
| 32      | Related Rates                                           | 11.4 | p.846/1,3,7,11,17,19,21             |
| 33      | Applications in Business & Economics                    | 11.5 | p.856/1,3,5,7                       |
| 34      | Applications in Business & Economics                    | 11.5 | p.856/9,13,15,17                    |
| 35      | REVIEW OF CHAPTERS 10 & 11                              |      |                                     |
| 36 & 37 | TEST #2                                                 |      |                                     |
| 38      | Solution of Exponential Equations                       | 5.3  | p.414/1,3,7,9,11,15                 |
| 39      | Applications of Exponential & Logarithmic Equations     | 5.3  | p.415/ 17,19,21,25,27,33            |
| 40      | The Indefinite Integral                                 | 12.1 | p.872/1,3,5,9,13,19,25,39,43,49     |
| 41      | The Power Rule                                          | 12.2 | p.883/1,5,9,15,17,23,29             |
| 42      | The Power Rule                                          | 12.2 | p.883/39,43,45,47                   |
| 43      | Integrals Involving Logarithmic & Exponential Functions | 12.3 | p.892/1,3,5,13,17,19,25,29,45       |
| 44      | Applications of Integrals                               | 12.4 | p.902/1,5,7,9,11                    |
| 45      | Applications of Integrals                               | 12.4 | p.903/15,21,23,25                   |
| 46      | Differential Equations                                  | 12.5 | p.911/1,3,5,7,9,37,39               |
| 47      | Area Under a Curve                                      | 13.1 | p.931/1,3,5,7,9,15,17,21,27,29      |
| 48      | The Definite Integral                                   | 13.2 | p.942/1,3,9,13,17,21,23             |
| 49      | The Fundamental Theorem of Calculus                     | 13.2 | p.942/31,33,35,39,43,45,51          |
| 50      | Area Between Two Curves                                 | 13.3 | p.953/3,5,7,9,13,17,21,35,41        |
| 51      | Applications of Definite Integrals                      | 13.4 | p.966/1,3,5,7,9                     |
| 52      | Applications of Definite Integrals                      | 13.4 | p.966/13,15,17,25,27,33             |
| 53      | REVIEW OF CHAPTERS 12 & 13                              |      |                                     |
| 54 & 55 | TEST # 3                                                |      |                                     |
| 56      | REVIEW FOR THE FINAL EXAM                               |      |                                     |