# MATH 135-102: Mathematics for Business
## *Spring 2019 Course Syllabus*

**NJIT Academic Integrity Code**: All Students should be aware that the Department of Mathematical Sciences takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

## COURSE INFORMATION

**Course Description**: Intended for students with major offered by SOM. An introduction to mathematics of business, principles of differential and integral calculus, and optimization.

**Number of Credits**: 3

**Prerequisites**: MATH 107 with a grade of C or better or MATH 110 with a grade of C or better or NJIT placement.

**Course-Section and Instructors**

| Course-Section | Instructor |
|---|---|
| Math 135-102 | Professor D. Hussein |

**Office Hours for All Math Instructors**: Spring 2019 Office Hours and Emails

**Required Textbook**:

| | |
|---|---|
| **Title** | *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences* |
| **Author** | E. F. Haeussler, Jr., R. S. Paul, R. J. Wood |
| **Edition** | 13th |
| **Publisher** | Pearson |
| **ISBN #** | 978-0321643728 |
| **Notes** | w/ MyMathLab |

**University-wide Withdrawal Date**: The last day to withdraw with a **W** is **Monday, April 8, 2019**. It will be strictly enforced.

## POLICIES

**DMS Course Policies**: All DMS students must familiarize themselves with, and adhere to, the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. DMS takes these policies very seriously and enforces them strictly.

**Grading Policy**: The final grade in this course will be determined as follows:

| Quizzes | 10% |
|---|---|
| Midterm Exam I | 20% |
| Midterm Exam II | 20% |
| Midterm Exam III | 20% |
| Final Exam | 30% |

Your final letter grade will be based on the following tentative curve.

| A | 90 - 100 | C | 66 - 74 |
|---|---|---|---|
| B+ | 85 - 89 | D | 55 - 64 |
| B | 80 - 84 | F | 0 - 54 |
| C+ | 75 - 79 | | |

**Attendance Policy**: Attendance at all classes will be recorded and is **mandatory**. Please make sure you read and fully understand the Math Department's Attendance Policy. This policy will be strictly enforced.

**Homework Policy**: There will be homework assignments to complete during the semester. The assignments and their due dates will be given in class.

**Quiz Policy**: Every week there will be a short quiz on the topics presented the previous week. **There are no make-up quizzes**. In case of an *excused* absence, the quiz will not be included in the final grade.

**Exams**: There will be three midterm exams held in class during the semester and one comprehensive final exam. Exams are held on the following days:

| Midterm Exam I | Week 4 |
|---|---|
| Midterm Exam II | Week 8 |
| Midterm Exam III | Week 12 |
| Final Exam Period | May 10 - 16, 2019 |

The final exam will test your knowledge of all the course material taught in the entire course. Make sure you read and fully understand the Math Department's Examination Policy. This policy will be strictly enforced.

**Makeup Exam Policy**: There will be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event an exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

**Cellular Phones**: All cellular phones and other electronic devices must be switched off during all class times.

## ADDITIONAL RESOURCES

**Math Tutoring Center**: Located in the Central King Building, Lower Level, Rm. G11 (See: Spring 2019 Hours)

**Further Assistance**: For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for Instructor Office Hours and Emails.

All students must familiarize themselves with and adhere to the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. The Department of Mathematical Sciences takes these policies very seriously and enforces them strictly.

**Accommodation of Disabilities**: Disability Support Services (DSS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please contact Chantonette Lyles, Associate Director of Disability Support Services at 973-596-5417 or via email at lyles@njit.edu. The office is located in Fenster Hall Room 260. A Letter of Accommodation Eligibility from the Disability Support Services office authorizing your accommodations will be required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Disability Support Services (DSS) website at:

- http://www5.njit.edu/studentsuccess/disability-support-services/

**Important Dates** (See: Spring 2019 Academic Calendar, Registrar)

| Date | Day | Event |
|------|-----|-------|
| January 22, 2019 | T | First Day of Classes |
| February 1, 2019 | F | Last Day to Add/Drop Classes |
| March 17 - 24, 2019 | Su - Su | Spring Recess - No Classes, NJIT Open |
| April 8, 2019 | M | Last Day to Withdraw |
| April 19, 2019 | F | Good Friday - No Classes, NJIT Closed |
| May 7, 2019 | T | Friday Classes Meet/ Last Day of Classes |
| May 8 & 9, 2019 | W & R | Reading Days |
| May 10 - 16, 2019 | F - R | Final Exam Period |

# Course Outline

| Lecture | Sections | Topic | Assignment |
|---------|----------|-------|------------|
| 1 | 0.5 | Factoring | p.20: 1-49 multiples of 3. |
| | 0.6 | Fractions | p. 26: 1-45 multiples of 3. |
| | 0.8 | Quadratic Equations | p. 40: 1-27 multiples of 3. 55, 57 |
| | 7.1 | Linear Inequalities | p.86: #5-29, 31, 37, 39, 45-49 |
| | 7.2 | Linear Programming | p.90: #17-22, 29-33 |
| 2 | 4.1 | Exponential Functions | p.184: #1-11 odd, 15, 18-31, 47-49 |
| | 4.2 | Logarithmic Functions | p.191: #1-8, 17-56, 58, 59, 61, 63 |
| | 5.1 | Compound Interest | p. 212: #1-13, 19-21 |

| 3 | 5.2 | Present Value | p.216: #1-15 |
|---|-----|---------------|--------------|
| | 5.4 | Annuities | p.227: #5-16, 18-20, 22 |
| | | **EXAM 1 - REVIEW** | |
| **4** | | **MIDTERM EXAM 1** | |
| **5** | 10.1 | Limits | p.467: #1-4, 9-34, 37-40 |
| | 10.2 | One-Sided Limit | p.475: #1-54 |
| | 10.3 | Continuity | pg. 481, #1-34 |
| **6** | 11.1 | The Derivative | pg. 499, #3-25; |
| | 11.2 | Rules for Differentiation | p.507: #1-88 |
| | 11.3 | Derivative as a Rate of Change | p.516: #3, 10, 13-26, 32-39, 41- 42, 45 |
| **7** | 11.4 | The Product and Quotient | p.525: #1-51 odd and 71 |
| | 11.5 | Rules: The Chain Rule | p.532: #1-51 odd, 55-71 odd; |
| | | **EXAM 2 - REVIEW** | |
| **8** | | **MIDTERM EXAM 2** | |
| **9** | 13.1 | Relative Extrema | p.586: #1-18, 35, 37, 53-61, 68, 69, 71 |
| | 13.2 | Absolute Extrema on a Closed | pg. 590, #1-8, 12 |
| | | Interval | |
| **10** | 13.3 | Concavity | p.596: #1-53 odd |
| | 13.6 | Applied Maxima & Minima | p.616: #1-7, 11-13, 15, 18-19, 21-22, 24, 27, 30 |
| **11** | 14.2 | Indefinite Integral | p.636: #1-49 odd |
| | 14.3 | Integration (initial conditions) | pg. 641, #1-15 odd |
| | | **EXAM 3 - REVIEW** | |
| **12** | | **MIDTERM EXAM 3** | |
| **13** | 14.7 | The Fundamental Theorem of Calculus | p.665: 1-47 odd and 59 |
| | 15.4 | Average Value of a Function | p.707: 1-11 |
| **14** | | **FINAL EXAM REVIEW** | |