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| **Jerash University**  **Faculty of Science**  **Department of Science/Mathematics**  **First Semester 2019-2020** | **C:\Users\HP\Dropbox\Jarash University\Jarash Logo.jpg** |

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| **Course Information** | | | | | | |
| **Course Title** | | | Real Analysis I | | | |
| **Course Number** | | | 303411 | | | |
| **Prerequisites** | | | 303312 | | | |
| **Instructor** | | |  | | | |
| **Office Location** | | |  | | | |
| **Office Hours** | | |  | | | |
| **E-mail** | | |  | | | |
| **Course Description** | | | | | | |
| This course covers the following topics: Derivatives; l Hôpital rule; Riemann integral;  fundamental theorem in calculus; sequence and series of functions; uniform convergence;  Absolute convergence. | | | | | | |
| **Text Book** | | | | | | |
| **Title** | | | | Introduction to Real Analysis | | |
| **Author(s)** | | | | Manfred Stoll | | |
| **Publisher** | | | | Addison-Wesley | | |
| **Year** | | | | 2000 | | |
| **Edition** | | | | Second Edition | | |
| **Course Objectives** | | | | | |
| 1) Deep understanding of calculus.  2) Distinguishing differentiable, integrable functions from others.  3) Highlight the importance of uniform convergence. | | | | | |
| **Course Content** | | | | | | |
| **Week** | **Topics** | | | **Chapter in Text (handouts)** | | |
| 1-4 | **Differentiation**  5.1 The derivative  5.2 The mean value theorem  5.3 L’Hospital’s Rule | | | Chapter 5 | | |
| 5-10 | **The Riemann Integral**  6.1 Riemann integral  6.2 Properties of Riemann integral  6.3 Fundamental theorem of calculus  6.4 Improper Riemann integral | | | Chapter 6 | | |
| 11-15 | **Sequences and Series of Functions**  8.1 Pointwise convergence  8.2 Uniform convergence  8.7 Power series expansions | | | Chapter 8 | | |