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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 derivative5.2 The mean value theorem5.3 L’Hospital’s Rule  | Chapter 5 |
| 5-10 | **The Riemann Integral**6.1 Riemann integral6.2 Properties of Riemann integral6.3 Fundamental theorem of calculus6.4 Improper Riemann integral | Chapter 6 |
| 11-15 | **Sequences and Series of Functions**8.1 Pointwise convergence8.2 Uniform convergence8.7 Power series expansions | Chapter 8 |