# TEMPLATE FOR COURSE SPECIFICATION

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| HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW |

**COURSE SPECIFICATION**

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| This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification. |

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| 1. Teaching Institution | Al-Nahrain University/ College of Science |
| 2. University Department/Centre | Mathematics & Computer Applications |
| 3. Course title/code |  Calculus I |
| 4. Modes of Attendance offered |  |
| 5. Semester/Year |  First semester/ Year First |
| 6. Number of hours tuition (total) |  60 hours |
| 7. Date of production/revision of this specification |  |
| 8. Aims of the Course |
|  Learning the basic concepts of mathematics, the definition of function , Limit and differentiation with some properties and applications |
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| 9· Learning Outcomes, Teaching ,Learning and Assessment Methode |
| 1. Cognitive goals .

A1. Enabling the students to understand the basics of the scientific subjectsA2. Providing the students with the maximum amount of mathematical terms and definitionsA3. A4.A5. |
| B. The skills goals special to the course. B1. Providing the students with the sufficient amount of mathematical terms and definitionsB2.B3. |
| Teaching and Learning Methods |
|  Lectures, Homework, some activities in the class, Electronic references  |
| Assessment methods |
|  Pre final exam 40% Final exam 60% |
| C. Affective and value goals C1. Understanding the definition of function, continuous function , Limit and their applicationsC2. Enabling the students to solve the problems about differentiation C3.C4. |
| Teaching and Learning Methods |
|  Presenting on the wight board |
| Assessment methods |
|  Final exam 60% |

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| D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)D1.Providing the students with mathematical skills about differentiation to solve some real life problems D2.D3.D4. |

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| 10. Course Structure |
| Week | Hours | ILOs | Unit/Module or Topic Title | Teaching Method | Assessment Method |
| 1-2 | 8 | Basic concepts | function | lectures |  |
| 3-4 | 8 |  Solve problems about Limits | Limits and Continuity | lectures |  |
| 5-7 | 12 | Common on Derivative | Derivative | lectures |  |
| 8-9 | 8 | Solve problems about Implicit Differentiation | Implicit Differentiation | lectures |  |
| 10-12 | 12 | Derivative of Trigonometric Function  | Trigonometric Function | lectures |  |
| 13 | 4 | Derivative of Hyperbolic Functions | Hyperbolic Functions | lectures |  |
| 14-15 | 8 |  Curve Sketching | Applications of Derivative | lectures |  |

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| 11. Infrastructure |
| 1. Books Required reading: |  Calculus and analytic Geometry by Thomas |
| 2. Main references (sources) |  University Calculus with Analytic Geometry by Morry |
| A- Recommended books and references (scientific journals, reports…). |  Calculus with application brief version |
| B-Electronic references, Internet sites… |  Google.com |
| 12. The development of the curriculum plan |
|  Including some real life applications |
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