# 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 subjects  A2. Providing the students with the maximum amount of mathematical terms and definitions  A3.  A4.  A5. |
| B. The skills goals special to the course.  B1. Providing the students with the sufficient amount of mathematical terms and definitions  B2.  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 applications  C2. 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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