A COURSE MODULE DESCRIPTOR FORM

(Course Book)

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| **Module Information** | | | |
| **Course Module Title** | Graphic Design | | |
| ناوە کۆرس مۆدیول | دیزاینی گرافیکی | | |
| عنوان الوحدة | التصميم الجرافيكي | | |
| **Course Module Type** |  | **Module Code** |  |
| **ECTS Credits** |  | **Module Level** |  |
| **Semester of Delivery** | 1st | **Dept. Code** |  |
| **College (Code)** |  | | |
| **Module Website (CMW)** | <https://classroom.google.com/c/NTI4Nzk3Mjg5ODM3> | | |
| **Module Leader (ML)** | Ahmed Salahalddin Mohammed | | |
| **e-mail** | Ahmed.salahaddin@lfu.edu.krd | | |
| **ML Acad. Title** | Assistant Lecturer | **ML Qualification** | M.Sc. |
| **ML ORCID** |  | | |
| **ML Google Scholar Acc.** | Ahmed Salahalddin Mohammed | | |

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| **Course Module Tutor** | N/A | | |
| **Module Tutor email** | N/A | | |
| **Date Approved** | 2/02 /2025 | **Version Number** | 1.0 |

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| **Relation With Other Modules** | |
| **Pre-requisites** |  |
| **Module Aims, Learning Outcomes and Indicative Contents** | |
| **Module Introductory Description** | This course is an introduction to modern computer graphics systems. Fundamental concepts of graphic systems are covered, including mathematical foundations, architecture of high-resolution graphics systems, and the algorithms used in computer graphics programming. Topics include graphics systems and models, implementation of computer graphics using C++, or any program for design geometrical transformations, viewing and projections, lighting and shading, clipping and rasterization, rendering, and interaction techniques. |

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| **Module Aims** | The course aims to   * This course prepares students for activities involving the design, development, testing of modeling, rendering, and animation solutions to a broad variety of problems found in entertainment, sciences, and engineering. * Students will learn how to develop interactive programs that use effectively the graphics functionalities available in contemporary personal computers. * The fundamental principles and technologies upon which these functionalities, and possibly their future evolutions, are based. * The skills for designing and implementing practical graphic solutions to challenging problems in different application domains. |
| **Module**  **Learning Outcomes** | Upon the completion of this course, successful students will be able to:   * Describe the core concepts and mathematical foundations of graphics * Identify fundamental graphics algorithms. * Identify display devices. * Coding of computer graphics. * Design and develop interactive computer graphics applications. * Construct 2D and 3D transformations including translation, rotation, scaling, shearing, and reflection * Apply projections and visible surface detection techniques to display 3D scenes on 2D screens. * Demonstrate an understanding of lighting and shading models. * Utilize different clipping methods to extract 3D scenes. * Animation development. |
| **Learning and Teaching Strategies** | |
| **Strategies** | The learning and teaching strategies will be both student center approach and teacher center approach depending on the requirement of the class delivery.  Lectures to deliver modern computer graphics theory, methods, and tools. Laboratories to solve and practice some problems and learned theory methods. Assignment is to give the student the chance to show his/her understanding of learnt concepts  theoretically/practically. Exams and quiz to evaluate the overall understanding. |

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| **Module Delivery** | |
| **Structured workload (h/w)** | 6 |
| **Unstructured workload (h/w)** | 7 |
| **Total workload (h/w)** | 13 |

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| **Module Assessment** | | | | |
|  | **Time/Number** | **Weight (Marks)** | **Week Due** | **Relevant Learning Outcome** |
| **Quizzes** | 2 | 5% (5) | 5, 10 | Identify fundamental graphics algorithms. Identify different display devices. |
| **Assignments** | 2 | 5% (5) | 2,10 | Design and develop interactive computer graphics applications. Construct 2D and 3D transformations including translation, rotation, scaling, shearing, and reflection using adobe illustrator |
| **presentation** | 1 | 5% | 10 | Developing presentation skills and explain how the design picture |
| **Projects / Lab.** |  |  |  |  |
| **Midterm Exam** | 1 | 10% | Continuous | Apply the concepts learnt  practically. |
| **Final Exam** | 1 hr | 25% | 8 | Students ability to understand  and solve problems using different methods. |
| **Total** | 2 hr | 40% (40) | 16 | All |
|  |  | 100% (100 Marks) |  |  |

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| **Learning and Teaching Resources** | | |
|  | **Text** | **Available in the**  **Library?** |
| **Required Texts** | * Fundamentals of Graphic design, Viraj Circar and Veena Sonwalkar * Graphical design . C Version Donald Hearn 2nd edition |  |
| **Recommended Texts** |  | NO |

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|  | Computer Graphics: Principles and Practice by Foley, Van Dam, Feiner, & Hughes, Addison-Wesley |  |
| **Websites** |  | |

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| **Delivery Plan (Syllabus)** | |
|  | **Material Covered** |
| **Week 1** | Introduction To Graphic Design |
| **Week 2** | Graphic designer’s **tool kit**. |
| **Week 3** | Principles of design |
| **Week 4** | What does this mean in art and design |
| **Week 5** | Computer Graphic |
| **Week 6** | Video Display Devices. |
| **Week 7** | 2D transformations: introduction, translation, rotation, and scaling. |
| **Week 8** | **Midterm** |
| **Week 9** | 3D transformations: introduction and translation. |
| **Week 10** | Student Project. |
| **Week 11** | 3D Transformations: rotation and shearing. |
| **Week 12** | Curves. |
| **Week 13** | Clipping. |
| **Week 14** | Revision week |
| **Week 15** | **Final Exam** |

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| **Course Keywords** |
| Graphical design, 2D,3D. |

**APPENDIX: (Help and Information)**

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| **BAYAN UNIVERSITY** | | | | |
| **GRADING SCHEME** | | | | |
| **Group** | **ECTS Grade** | **%of Students/Marks** | **Definition** | **GPA** |
| **Success Group (50 - 100)** | **A -** Excellent | Best 10% | Outstanding Performance | **5** |
| **B -** Very Good | Next 25% | Above average with some errors | **4** |
| **C -** Good | Next 30% | Sound work with notable errors | **3** |
| **D -** Satisfactory | Next 25% | Fair but with major shortcomings | **2** |
| **E -** Sufficient | Next 10% | Work meets minimum criteria | **1** |
| **Fail Group (0 – 49)** | **FX –** Fail | (45-49) | More work required but credit awarded |  |
| **F –** Fail | (0-44) | Considerable amount of work required |  |
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| Note: | |  | | |
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