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| **UNITED INTERNATIONAL UNIVERSITY**  Department of Computer Science and Engineering (CSE)  **Course Syllabus** | | | | | | |
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| **1** | **Course Title** | Database Management Systems Laboratory | | | | |
| **2** | **Course Code** | CSE 3522/CSI 222 | | | | |
| **3** | **Trimester and Year** | Summer 2023 | | | | |
| **4** | **Pre-requisites** | NIL | | | | |
| **5** | **Credit Hours** | 1.00 | | | | |
| **6** | **Section** | -- | | | | |
| **7** | **Class Hours** |  |  |  |  |  |
|  |  |  |  |
| **8** | **Classroom** | |  |  | | --- | --- | |  |  | |  |  | | | | | |
| **9** | **Instructor’s Name** | Sadia Islam | | | | |
| **10** | **Email** | [sadia@cse.uiu.ac.bd](mailto:sadia@cse.uiu.ac.bd), 01688744226 | | | | |
| **11** | **Office** | Room # 536(A) | | | | |
| **12** | **Counselling Hours** | As per booking schedule. See in my door to get the class and counseling hours. | | | | |
| **13** | **Text Book** | 1. Database System Concepts (6th Edition)   by Abraham Silberschatz, Henry F. Korth and S. Sudarshan   1. Database Systems: The Complete Book by Garcia-Molina, Ullman and Widom | | | | |
| **14** | **Reference** | <http://www.db-book.com/> | | | | |
| **15** | **Course Contents (approved by UGC)** | Laboratory work based on CSI 221. | | | | |

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| **16** | **Course Outcomes (COs)** | | | | | | **COs Description**  CO1 Implement relational database models and capable to manage correlated data based on software requirements.  CO2 Extrapolate the theories and techniques in developing database applications, management and security.  CO3 Engage in effective communication through presentation of the project work, database modeling and project reports.  CO4 Contribute to the DBMS project development using enterprise DBMS products such as SQL server and lead the team. | | | | | | | | | | | | | | | | |
| **17** | **Teaching Methods** | | | | | | Lecture (L), Case Study (CS), Q/A, Assignment (A), Quizzes, Project | | | | | | | | | | | | | | | | |
| **18** | **CO with Assessment Methods** | | | | | |  | | | | | | | | | | | | | | | | |
|  | **CO** | | | **Assessment Method** | | | | | | **(%)** | |  | | | | |
| - | | | Attendance | | | | | | 10% | |
| - | | | Assignment | | | | | | 10% | |
| CO1 | | | Class Performance | | | | | | 10% | |
| CO3 | | | Presentation, Report and Viva | | | | | | 15% | |
| CO4 | | | Project Development | | | | | | 35% | |
| CO2 | | | Lab Quiz | | | | | | 20% | |
| **19** | **Mapping of COs and Program outcomes** | | | | | | | | | | | | | | | | | | | | | | |
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|  | **COs** | | **Program Outcomes(POs)** | | | | | | | | | | | | | | | | | |  | |
| **PO1** | | **PO2** | | | **PO3** | **PO4** | | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | | **PO1 0** | | **PO1 1** | **PO1 2** |
| **CO1** | | C | |  | | |  |  | |  |  |  |  |  | |  | |  |  |
| **CO2** | |  | | C | | |  |  | |  |  |  |  |  | |  | |  |  |
| **CO3** | |  | |  | | |  |  | |  |  |  |  |  | | A | |  |  |
| **CO4** | |  | |  | | |  |  | |  |  |  |  | C | |  | |  |  |
| **20** | **Lab Outline** | | | | | | | | | | | | | | | | | | | | | | |
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|  | | **Class** | | **Topics/Assignments** | | | | | | | | | **Cos** | **Lab Outcomes/Activities** | | | | | | | |  |
| Lab1 | | Introduction to relational databases.  Environment to work with relational databases. | | | | | | | | | CO2 | Students will be familiarized with  relational database system as well as environment to work with it. | | | | | | | |
| Lab2 | | Implementation of relational database based on case study. | | | | | | | | | CO2 | Students will learn how to design  and implement a database from any case study. | | | | | | | |

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|  |  | Lab3 | Manipulation of implemented relational databases. | CO1 | Student will implement the  manipulation operations in a relational database. |  |
| Lab4 | Introduction to the development of database project using database server and web server. | CO4 | Student will learn the difference of web server and database server. They will initiate the project using  web server and database server. |
| Lab5 | Basic database queries implementation using sql | CO1 | Student will learn Basic database  queries with mathematical and logical operations. |
| Lab6 | Intermediate database queries implementation using sql | CO1 | Student will learn Intermediate  database queries like joining, aggregation, and grouping. |
| Lab7 | Advanced database queries implementation using sql | CO1 | Student will learn Advanced  database queries like subqueries and set operations |
| Lab8 | Partial project presentation and group  work evaluation | CO3,  CO4 | Student will understand the team  work to build a project. |
| Lab9 | Develop the initiated project with database theories and techniques | CO4 | Students will formally develop the  final databases for project using theories and techniques. |
| Lab10 | Project presentation and group work  evaluation | CO3,  CO4 | Team work and management will be evaluated for project. |
| Lab11 | Final Presentation of the developed  projects using database and web server in team | CO3, CO4 | Student will learn to impose the  security, integrity and management hierarchies in database. |
| Lab12 | Lab Exam | CO2 | Team work as well as project  management will be evaluated. |

Appendix 1: Assessment Methods

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| **Assessment Types** | **Marks** |
| Attendance | 10% |
| Home Assignment | 10% |
| Lab Performance | 10% |
| Lab Quiz | 20% |
| Project Proposal; Report and Viva | 15% |
| Project Development | 35% |
| **Total** | **100%** |

Appendix 2: Grading Policy

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| **Letter Grade** | **Marks %** | **Grade Point** | **Letter Grade** | **Marks%** | **Grade Point** |
| A (Plain) | 90-100 | 4.00 | C+ (Plus) | 70-73 | 2.33 |
| A- (Minus) | 86-89 | 3.67 | C (Plain) | 66-69 | 2.00 |
| B+ (Plus) | 82-85 | 3.33 | C- (Minus) | 62-65 | 1.67 |
| B (Plain) | 78-81 | 3.00 | D+ (Plus) | 58-61 | 1.33 |
| B- (Minus) | 74-77 | 2.67 | D (Plain) | 55-57 | 1.00 |
|  |  |  | F (Fail) | <55 | 0.00 |

Appendix-3: Program outcomes

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| **POs** | **Program Outcomes** |
| **PO1** | An ability to apply knowledge of mathematics, science, and engineering |
| **PO2** | An ability to identify, formulate, and solve complex engineering problems |
| **PO3** | An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for  public health and safety, cultural, societal, and environmental considerations |
| **PO4** | An ability to investigate complex problems using research-based knowledge and research  methods design and conduct experiments, as well as to analyze and interpret data |
| **PO5** | An ability to use the techniques, skills, and modern engineering tools necessary for  engineering practice |
| **PO6** | The broad education necessary to understand the impact of engineering solutions in a  global, economic, environmental, and societal context |
| **PO7** | Understand and evaluate the sustainability and impact of professional engineering work  in the solution of complex engineering problems in societal and environmental contexts |
| **PO8** | An understanding of professional and ethical responsibility |
| **PO9** | An ability function effectively as an individual, and as a member or leader in diverse  teams and in multi-disciplinary settings |
| **PO10** | An ability to communicate effectively |
| **PO11** | Project management and finance |
| **PO12** | A recognition of the need for, and an ability to engage in life-long learning |