



KINGDOM OF SAUDI ARABIA
 IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
 COLLEGE OF COMPUTER AND INFORMATION SCIENCES
 INFORMATION SYSTEMS DEPARTMENT
 BACHELOR OF INFORMATION SYSTEMS



المملكة العربية السعودية
 جامعة الإمام محمد بن سعود الإسلامية
 كلية علوم الحاسب والمعلومات
 قسم نظم المعلومات
 بكالوريوس نظم المعلومات

SYLLABUS

IS 350: *Decision Support Systems.*

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| PREREQUISITE | IS STAT 111 | CREDIT HOURS | 3 |
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| Instructor: Dr. Muhammad Badruddin Khan | |
| Contact information and office hours | |
| Office No: | 2076 |
| Office Hours: | Sunday – Tuesday 12:30 – 1:30 |
| E-mail: | mbkhan@imamu.edu.sa |

| COURSE DESCRIPTION |
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| <p><i>This course has been designed to integrate theoretical concepts of decision support system with their practical applications found in operation research so as to teach both the theory and the practice of Information systems management and decision making. The emphasis on practice is important because in many areas of information systems theory lags practice. In fact, it is the objective of this course not only to understand the current practices but also to contribute to them. For this reason some optimization methods have been included to solve real known problems in life. The students will learn how to model problems and determine the right techniques to solve them; and be able to make the right decision.</i></p> |

| COURSE LEARNING OUTCOMES (CLOs) | | Aligned SOs |
|---------------------------------|--|-------------|
| 1 | Knowledge and Understanding | |
| 1.1 | Define the concepts of decision making as a problem solving approach | 1 |
| 1.2 | Outline decision support models, methods, and technologies. | 1 |
| 1.3 | | |
| 2 | Skills : | |
| 2.1 | Design and model systems for supporting specific business decisions | 2 |
| 2.2 | Apply business intelligence tools and algorithm to optimize and solve problems | 1 |
| 2.3 | Develop a system to support business decision in a specific field | 2 |
| 3 | Values: | |
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| 3.3 | | |
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| TEACHING Strategies |
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| Lectures Tutorials Self learning |

List of Topics to be Covered

| No | List of Topics | Contact Hours |
|--------------|--|---------------|
| 1 | Overview of BI, Analytics, and Decision Support (Chapter 1) | 6 |
| 2 | Nature of Data, Statistical Modelling and Visualization (Chapter 3) – <i>Classroom teaching</i> | 6 +2 |
| | ----- Data Preprocessing Tasks and Methods and Examples – <i>self-learning</i> | |
| 3 | Predictive Analytics: Data Mining Process, Methods, and Algorithms (Chapter 4) - <i>Classroom teaching</i> | 6 |
| 4 | Text Mining, Sentiment Analysis, and Social Analytics (Chapter 7) - <i>Classroom teaching</i> | 6 +2 |
| | ----- Web mining and Web analytics – <i>Self-learning</i> | |
| 5 | Prescriptive Analytics: Optimization and Simulation (Chapter 8) - <i>Classroom teaching</i> | 6 +2 |
| | ----- Examples – <i>Self-learning</i> | |
| 6 | Big Data, Cloud Computing, and Location Analytics (Chapter 9) - <i>Classroom teaching</i> | 3 |
| 7 | Project Presentation and Discussion | 3 |
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| Total | | 66+6(SL) |

| TEXT BOOK |
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| <i>Analytics, Data Science and A I: Systems for Decision Support, (11th Edition), Dursun Delen, Efraim Turban, and Ramesh Sharda, Pearson Publications .</i> |

| REFERENCES |
|---|
| <ul style="list-style-type: none"> <i>Operations Research: An Introduction, 10th edition, by Hamdy A. Taha, published by Prentice-Hall, 2017, ISBN:978-8120330436.</i> |



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| Course Assessment Methods | | | |
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| No | Assessment Method | Due Week | %Total Assessment |
| 1 | Quiz | 3 | 10 |
| 2 | Assignment | 8 | 10 |
| 3 | Midterm | 5 | 20 |
| 4 | Project / Lab Exam | 12 | 20 |
| 5 | Final Exam | 13 | 40 |