



Course Specifications

Course Title:	Project - I
Course Code:	0607-304
Program:	Management Information Systems
Department:	Management Information Systems
College:	Business
Institution:	King Faisal University



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A. Course Identification

1. Credit hours: 2			
2. Course type			
a.	University ☐	College ☐	Department ☒ Others ☐
b.	Required ☒	Elective ☐	
3. Level/year at which this course is offered: Level 6 / 3rd year			
4. Pre-requisites for this course (if any): 0607-302 Systems Analysis and Design			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	30
Other Learning Hours*		
1	Study	130
2	Assignments	
3	Library	
4	Projects/Research Essays/Theses /CASE	30
5	Others (specify):	
	Total	160

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times.

B. Course Objectives and Learning Outcomes

1. Course Description

The purpose this course is to provide students with an opportunity to apply the knowledge they have acquired, their intellectual abilities and practical skills to solve real life business problems. The students are required to carry out a research or a systems development project. This part of the project will comprise the initial activities pertaining to the problem definition and solution design.

2. Course Main Objective

The purpose of this course is to integrate the various components of knowledge, skills, and competencies acquired within the program and provide the students with an opportunity to practice their knowledge.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Recognize the economic, social, and environmental issues involved in design and development of business solutions or research.	K1
1.2	Describe the organizational performance/ efficiency issues to be undertaken.	K4
1.3	Describe the activities involved in the system development lifecycle.	K2
1.4	Outline the role of advanced technologies in achieving business objectives.	K3, K4
2	Skills:	
2.1	Analyze the requirements of a project.	S1, S2
2.2	Design a solution to a given business problem.	S3, S4
3	Competence:	
3.1	Demonstrate effective communication, time management and organization skills while working with individuals, teams, and large groups.	C1, C4
3.2	Demonstrate awareness of ethics, values and standards involved in design and development of business solutions.	C2
3.3	Follow a set of self-motivated activities to gain knowledge and skills to accomplish an objective.	C3
3.4	Demonstrate leadership skills while working with individuals, teams, and large groups.	C1
3.5	Demonstrate innovation in proposing and developing business solutions.	C5

C. Course Content

No	List of Topics	Contact Hours
	Course outline	
1	Defining the problem	3
2	Development of the project plan using a Gantt chart	3

3	Project feasibility study	3
4	Information gathering	3
5	Requirements analysis and prioritization	3
6	Building and evaluating the solution prototypes	6
7	Solution design	6
8	Evaluation of the final design	3
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Recognize the economic, social, and environmental issues involved in design and development of business solutions or research.	Group work	Final report Oral assessment Presentations
1.2	Describe the organizational performance/ efficiency issues to be undertaken.	Group work	Final report Oral assessment Presentations
1.3	Describe the activities involved in the system development lifecycle.	Group work	Final report Oral assessment Presentations
1.4	Outline the role of advanced technologies in achieving business objectives.	Group work	Final report Oral assessment Presentations
2.0	Skills		
2.1	Analyze the requirements of a project.	Group work	Final report Presentations
2.2	Design a solution to a given business problem.	Group work	Final report Presentations
3.0	Competence		
3.1	Demonstrate effective communication, time management and organization skills while working with individuals, teams, and large groups.	Group work	Oral assessment Final report Presentations
3.2	Demonstrate awareness of ethics, values and standards involved in design and development of business solutions.	Group work	Oral assessment Final report Presentations
3.3	Follow a set of self-motivated activities to gain knowledge and skills to accomplish an objective.	Group work	Oral assessment Final report Presentations
3.4	Demonstrate leadership skills while working with individuals, teams, and large groups.	Group work	Oral assessment Final report Presentations

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.5	Demonstrate innovation in proposing and developing business solutions.	Group work	Oral assessment Final report Presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Project-I report		75%
2	Presentation and oral examination		25 %
3	Total		100%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Weekly office hours (4 hours)

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Systems Analysis and Design, Kendall, K.E., Kendall, J.E. 9 th Edition (2013), Prentice-Hall. Systems Analysis and Design, Alan Dennis, Barbara Haley Wixom, Roberta M. Roth, 7 th Edition (2018), Wiley.
Essential References Materials	Instructor handouts
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Smart Board Laptop
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report Review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Project - II
Course Code:	0607-404
Program:	Management Information Systems
Department:	Management Information Systems
College:	Business
Institution:	King Faisal University

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A. Course Identification

1. Credit hours: 3			
2. Course type			
a.	University ☐	College ☐	Department ☒ Others ☐
b.	Required ☒	Elective ☐	
3. Level/year at which this course is offered: Level 7 /4th year			
4. Pre-requisites for this course (if any): 0607-304 Project-I			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	130
2	Assignments	
3	Library	
4	Projects/Research Essays/Theses /CASE	45
5	Others (specify):	
	Total	175

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The purpose this course is to provide students with an opportunity to apply the knowledge they have acquired, their intellectual abilities and practical skills to solve real life business problems. The students are required to carry out a research or a systems development project. This part of the project will comprise the activities pertaining to completing the project initiated in Project-I.

2. Course Main Objective

The purpose of this course is to integrate the various components of knowledge, skills, and competencies acquired within the program and provide the students with an opportunity to practice their knowledge.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Recognize the economic, social, and environmental issues involved in design and development of business solutions or research.	K1
1.2	Describe the organizational performance/ efficiency issues to be undertaken.	K4
1.3	Describe the activities involved in the system development lifecycle.	K2
1.4	Outline the role of advanced technologies in achieving business objectives.	K3, K4
2	Skills	
2.1	Construct the required parts of a proposed solution.	S3
2.2	Verify and test a solution for its correctness.	S3, S4
3	Competence	
3.1	Demonstrate effective communication, time management and organization skills while working with individuals, teams, and large groups.	C1, C4
3.2	Demonstrate awareness of ethics, values and standards involved in design and development of business solutions.	C2
3.3	Follow a set of self-motivated activities to gain knowledge and skills to accomplish a set objective.	C3
3.4	Demonstrate leadership skills while working with individuals, teams, and large groups.	C1
3.5	Demonstrate innovation in proposing and developing business solutions.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Project supervision during the semester	45
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Recognize the economic, social, and environmental issues involved in design and development of business solutions or research.	Group work	Final report Oral assessment Presentations
1.2	Describe the organizational performance/ efficiency issues to be undertaken.	Group work	Final report Oral assessment Presentations
1.3	Describe the activities involved in the system development lifecycle.	Group work	Final report Oral assessment Presentations
1.4	Outline the role of advanced technologies in achieving business objectives.	Group work	Final report Oral assessment Presentations
2.0	Skills		
2.1	Construct the required parts of a proposed solution.	Group work	Final report Presentations
2.2	Verify and test a solution for its correctness.	Group work	Final report Presentations
3.0	Competence		
3.1	Demonstrate effective communication, time management and organization skills while working with individuals, teams, and large groups.	Group work	Oral assessment Final report Presentations
3.2	Demonstrate awareness of ethics, values and standards involved in design and development of business solutions.	Group work	Oral assessment Final report Presentations
3.3	Follow a set of self-motivated activities to gain knowledge and skills to accomplish a set objective.	Group work	Oral assessment Final report Presentations
3.4	Demonstrate leadership skills while working with individuals, teams, and large groups.	Group work	Oral assessment Final report Presentations

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.5	Demonstrate innovation in proposing and developing business solutions.	Group work	Oral assessment Final report Presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Project-II report		75%
2	Presentation and oral examination		25 %
3	Total		100%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Weekly office hours (4 hours)

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Systems Analysis and Design, Kendall, K.E., Kendall, J.E. 9 th Edition (2013), Prentice-Hall.		
	Systems Analysis and Design, Alan Dennis, Barbara Haley Wixom, Roberta M. Roth, 7 th Edition (2018), Wiley.		
Essential References Materials			
Electronic Materials			
Other Learning Materials			

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Smart Board

Item	Resources
	Laptop
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report Review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Advanced Business Programming
Course Code:	0607301
Program:	Management Information Systems
Department:	Management Information Systems
College:	Business
Institution:	King Faisal University

جامعة الملك فيصل
KING FAISAL UNIVERSITY
كلية إدارة الأعمال
School of Business
مكتب الشؤون الأكاديمية

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1. Learning Resources	6
2. Facilities Required.....	7
G. Course Quality Evaluation	7
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A. Course Identification

1. Credit hours: 3			
2. Course type			
a.	University ☐	College ☐	Department ☒ Others ☐
b.	Required ☒	Elective ☐	
3. Level/year at which this course is offered: Level 5 / 3 rd Year			
4. Pre-requisites for this course (if any): Fundamentals of Business Programming - 0607203			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	60
2	Quizzes	7
3	Midterms	33
4	Case Study / lab exercises/ tests	30
5	Final exam	30
	Total	160

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course provides students with the advanced concepts, skills, and knowledge required for developing business applications using Python. It has two main parts. The first part covers the use of classes and object-oriented programming concepts such as inheritance and polymorphism. The second part is dedicated to application of Python in the context of Data Analysis. This part covers the details involved in manipulating, processing, cleaning, and crunching data in Python.

2. Course Main Objective:

This course is complementary to Fundamentals of Business Programming, and it aims to teach advanced skills of programming business applications using Python.

Course objective:

At the end of the course the students will be able to:

- Use the classes, their relationships, and hierarchies.
- Use operator overloading.
- Make use of interfaces and polymorphism.
- Use the libraries that provide high-level data structures and manipulation tools to perform data analysis and manipulation in Python.

3. Course Learning Outcomes

CLOs		Aligned-PLOs
1	Knowledge:	
1.1	Explain the use of classes and related object-oriented concepts.	K2
1.2	Describe the fundamental concepts related to data analysis.	K2
1.3	Explain the basic constructs of contemporary packages, data structures, and manipulation tools involved in data analysis.	K2
2	Skills	
2.1	Design and implement hierarchies of concrete classes, abstract classes and interfaces.	S2
2.2	Implement applications that perform import and export of data using built-in libraries.	S2
2.3	Create plots as well as static and interactive visualizations.	S2
3	Competence	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop business applications.	C3
3.2	Use at least one tool for visualization of data.	C3, C5

C. Course Content

No	List of Topics	Contact Hours
1	Overview of the course	1.5
2	Fundamentals of object-oriented programming and class coding	3
3	Inheritance, operator overloading, and polymorphism	6
4	Data processing using arrays and vectorized computation	9
5	High-level data structures for data analysis	6
6	Fundamental mechanics of interacting with the data contained in a high-level data structure	7.5
7	Data wrangling	6
8	Plotting and visualization of data	6
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Explain the use of classes and related object-oriented concepts.	Lectures Note taking	Exams Quizzes
1.2	Describe the fundamental concepts related to data analysis.	Lectures Note taking	Exams Quizzes
1.3	Explain the basic constructs of contemporary packages, data structures, and manipulation tools involved in data analysis.	Lectures Note taking	Exams Quizzes
2.0	Skills		
2.1	Design and implement hierarchies of concrete and classes, abstract classes and interfaces.	Case-based learning Group work	Exams Lab exercises
2.2	Implement applications that perform import and export of data using built-in libraries.	Case-based learning Group work	Exams Lab exercises
2.3	Create plots as well as static and interactive visualizations.	Case-based learning Group work	Exams Lab exercises
3.0	Competence		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop business applications.	Case-based learning Group work	Group project Lab exercises
3.2	Use at least one tool for visualization of data.	Case-based learning Group work	Group project Lab exercises

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	5 th	5 %
2	Quiz 2	12 th	5 %
3	Midterm exam	9 th	20 %
4	Lab exercises	All weeks	25%
5	Group project	14 th	15 %
6	Final exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython, Wes McKinney, O'Reilly Media, 2nd edition (2017); ISBN: 978-1491957660. 2. Learning Python, Mark Lutz, O'Reilly Media, 5th Edition (2013), ISBN: 978-1449355739.
Essential References Materials	Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud, Paul J. Deitel, Harvey Deitel, 1 st Edition (2019), ISBN: 978-0135404676
Electronic Materials	w3schools.com (Python Tutorial)
Other Learning Materials	The Python Standard Library documentation (docs.python.org)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility, laboratory.
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Lab containing enough computers installed with required software to support the students.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report Review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Blockchain Applications
Course Code:	0607432
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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1. Learning Resources.....	6
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G. Course Quality Evaluation	7
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☐ Elective ☒
3. Level/year at which this course is offered: Level 6 / 3 rd year	
4. Pre-requisites for this course (if any):	
0607431 - Fundamentals of Blockchain	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course focuses on functional part and the role of Blockchain applications architecture. It covers the Blockchain functions such as data store, computational elements, communication mechanisms. It also deals with managing assets, exerting control, as well as the design process of a Blockchain application. Furthermore, the course describes MDE methods for business processes and registries of assets. The course also covers the non-functional aspects of Blockchain applications such as cost estimation, performance, dependability and security.

2. Course Main Objective

The aim of this course presents the technical aspects of Blockchain applications.

Course Objectives:

At the end of the course the students will be able to:

- Describe and discuss the architecture of Blockchain applications
- Describe the design process of Blockchain applications
- Evaluate model-driven engineering for Blockchain applications.
- Describe the blockchain patterns.
- Explain the impact of using blockchain applications on the cost, performance, and security of systems.
- Evaluate the impact of Blockchain technology on different fields such as agriculture, medical.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the fundamentals of Blockchain-based applications and their functionality.	K4
1.2	Explain the impact of Blockchain applications on cost, performance, and security of systems.	K4
2	Skills:	
2.1	Design applications using Blockchain patterns.	S3, S4
2.2	Analyze the various functions of Blockchain applications.	S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Architecting Blockchain-Based Applications	6
2	Design Process for Applications on Blockchain	3
3	Blockchain Patterns	6
4	Model-Driven Engineering for Blockchain Applications	4.5
5	Quality impact of using Blockchain: cost	4.5
6	Quality impact of using Blockchain: Performance	4.5
7	Quality impact of using Blockchain: Dependability and Security	4.5
8	Case Study: AgriDigital	4.5
9	Case Study: SecureVote	4.5
10	Case Study: originChain	3
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe the fundamentals of Blockchain-based applications and their functionality.	Lectures Peer teaching Note taking	Exams Quizzes Project/ Case study
1.2	Explain the impact of Blockchain applications on cost, performance, and security of systems.	Lectures Peer teaching Note taking	Exams Quizzes Project/ Case study
2.0	Skills		
2.1	Design applications using Blockchain patterns.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/case study
2.2	Analyze the various functions of Blockchain applications.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/ Case study
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Project/ Case study
3.2	Demonstrate effective oral and written communication skills.	Group work	Project/ Case study
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	Group work	Project/ Case study

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5)	3 rd , 11 th	10 %
2	*Deliverable-1 (Group Project Phase-1)	6 th	5 %
3	*Deliverable-2 (Group Project Phase-2)	10 th	5%
4	Midterm Exam	9 th	25 %
5	Group Project/case study	14 th	25 %
6	Final Exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Essential References Materials	Introduction to blockchain technology, Tiana Laurence, 2019
Electronic Materials	IBM Blockchain (https://www.ibm.com/sa-en/blockchain)
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Systems Analysis and Design (1)
Course Code:	0607302
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	
4. Pre-requisites for this course (if any):	
Enterprise Data Management - 0607204	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides the students with the essential methods to analyze and design information systems. It enables the students to perform information requirements analysis using various techniques. It also covers the requirements modeling and system design including the input, output, and database design.

2. Course Main Objective

The aim of this course is to present the system analysis and design concepts and techniques.

Course objectives:

At the end of the course the students will be:

- Equipped with the skills required to carry out requirements gathering and system analysis.
- Able to construct data collection instruments, effective interfaces and efficient data repositories.
- Able to design an information system in a specific domain.
- Able to effectively apply the Total Quality Management approach to systems development.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the fundamental concepts related to analysis and design of information systems.	K2
1.2	Explain the various system analysis and design methodologies.	K2
1.3	Describe the techniques for system input, output, and database design.	K2
2	Skills:	
2.1	Ability to use systems analysis techniques effectively.	S1
2.2	Ability to analyze and design a solution for a given scenario.	S2
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions for a given business problem.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Course outline	1.5
2	Introduction to systems analysis and design	4.5
3	Information requirements analysis	7
4	Systems analysis using data flow diagrams, data dictionaries, and process specification	12
5	Effective input and output design	9
6	Database design	1.0
7	Quality assurance and implementation	7
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1	Knowledge:		
1.1	Describe the fundamental concepts related to analysis and design of information systems.	Lectures Note taking Peer teaching	Exams Quizzes
1.2	Explain the various system analysis and design methodologies.	Lectures Note taking Peer teaching	Exams Quizzes
1.3	Describe the techniques for system input, output, and database design.	Lectures Note taking Peer teaching	Exams Quizzes
2	Skills:		
2.1	Ability to use systems analysis techniques effectively.	Case-based learning Group work	Assignments Case study
2.2	Ability to analyze and design a solution for a given scenario.	Case-based learning Group work	Assignment Case study
3	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group project
3.2	Demonstrate effective oral and written communication skills.	Group work	Group project
3.3	Demonstrate the ability to propose innovative solutions for a given business problem.	Group work	Group project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	5 th , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
4	Mid Term Exam	9 th	20 %
5	Group Project/ Case study	14 th	30%
6	Final exam	16 th	30%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Systems Analysis and Design Kendall, K.E. & Kendall, J.E. 10th Edition – 2018 Pearson Education Limited
Essential References Materials	1. Bennett, S., McRobb, S. & Farmer, R. (2010) Object-Oriented Systems Analysis and Design using UML, McGraw Hill. 2. Hoffer J A, et al, (2004, 4th Ed), "Mastering Systems Analysis & Design", Prentice Hall 3. Journal of Emerging Trends in Computing and Information Sciences (CIS)
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources	None

Item	Resources
(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, content and learning outcomes	Curriculum committee	Course review Course report
Effectiveness of teaching	Course faculty	Classroom observations and course evaluation survey
Achievement of course learning outcomes	Course faculty	moderation
Learning resources and facilities	Students faculty	course evaluation survey and course report
Assessment	Course faculty	Verification
Learning resources and facilities	Students faculty	course evaluation survey
Course quality management	Program Coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Fundamentals of Business Programming
Course Code:	0607203
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University

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كلية إدارة الأعمال
School of Business
مكتب الشؤون الأكاديمية

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2. Facilities Required.....	6
G. Course Quality Evaluation	6
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☒ Elective ☐	
3. Level/year at which this course is offered: 2 nd year/ Level 4	
4. Pre-requisites for this course (if any):	
Management Information Systems - 0607102	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	60
2	Quizzes	7
3	Midterms	33
4	Case Study / lab exercises/ tests	30
5	Final exam	30
	Total	160

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course provides students with the fundamental concepts, skills, and knowledge for developing applications using Python. It covers the basic concepts of programming

including types, operations, statements, functions, and generations. It also comprises the use of exception handling mechanism to improve program robustness.

2. Course Main Objective

The main purpose of this course is to teach basic programming skills using Python.

Course Objectives:

At the end of the course the students will be able to:

- Describe basics of Python programming, i.e. the terminology, structure, and syntax of the language.
- Work with Python data types such as string, float, integer, list, set, and tuple.
- Demonstrate the skills to implement solutions to basic programming problems.
- Use conditional statements, loops and functions to write complex programs.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the effective use of constructs such as object types, conditional statements, loops and functions to develop programs.	K2
1.2	Explain the error and exception handling mechanisms.	K2
2	Skills:	
2.1	Apply knowledge of program building blocks to design solutions to a given scenario.	S2
2.2	Develop programs that are robust and fault tolerant.	S2
3	Competence:	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solution for a given scenario.	C3
3.2	Work with an integrated development environment to analyze, develop and make use of existing opensource code.	C3, C5

C. Course Content

No	List of Topics	Contact Hours
1	Overview of the course	1.5
2	The coding environment set up, writing and running the first program	3
3	Numeric types	3
4	Strings	3
5	Lists and dictionaries	3
6	Tuples and files	3
7	Simple statements	3
8	Conditional statements	3
9	Loops	4.5
10	Iterations and comprehensions	3
11	Writing basic functions	3
12	Function scope and arguments	6

13	Exception handling	9
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe the effective use of constructs such as object types, conditional statements, loops and functions to develop programs.	Lectures Note taking	Exams Quizzes
1.2	Explain the error and exception handling mechanisms.	Lectures Note taking	Exams Quizzes
2.0	Skills		
2.1	Apply knowledge of program building blocks to design solutions to a given scenario.	Lectures Case-based learning Peer teaching	Exams Lab exercises Code collection file
2.2	Develop programs that are robust and fault tolerant.	Lectures Case-based learning Peer teaching	Exams Lab exercises Code collection file
3.0	Competence		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solution for a given scenario.	Case-based learning Peer teaching	Lab exercises Code collection file
3.2	Work with an integrated development environment to analyze, develop and make use of existing opensource code.	Case-based learning Peer teaching	Lab exercises

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	5 th	5 %
2	Quiz 2	12 th	5 %
3	Midterm exam	9 th	25 %
4	Lab exercises	All weeks	25%
5	Code collection file (individual)	14 th	10 %
6	Final exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Learning Python, Mark Lutz, O'Reilly Media, 5th Edition (2013), ISBN: 978-1449355739.
Essential References Materials	Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud, Paul J. Deitel, Harvey Deitel, 1 st Edition (2019), ISBN: 978-0135404676
Electronic Materials	w3schools.com (Python Tutorial)
Other Learning Materials	The Python Standard Library documentation (docs.python.org)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms, laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Lab containing enough computers installed with required software to support the students.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Computer Skills
Course Code:	0607101
Program:	MIS
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered: Level 1 / 1 st year	
4. Pre-requisites for this course (if any): None	
5. Co-requisites for this course (if any): None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	
2	Laboratory/Studio	45
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	45
2	Lab tests	15
3	Quizzes	15
4	Project	30
	Total	105

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides students with basic as well as advanced skills to operate personal computers and make use of different applications needed by all the college programs, thereby enhancing the student technical skills. The course introduces the students to the main concepts and terminologies of information technology and equips them with the knowledge to administer operating systems. The course also provides the students with the practical skills to utilize the Microsoft Office productivity package for different purposes, and to use cloud computing. The course enables students to use the different tools available over the internet such as email, teamwork, cloud storage and the design and publishing of electronic surveys. The course contents are delivered using a hands/on approach, in order to achieve the course learning outcomes.

2. Course Main Objective

This course aims at achieving the following Course Learning Outcomes:

- Understand all the basic concepts of information technology and its related terminologies.
- Possess the advanced skills to use Microsoft Office productivity packages.
- Ability to search through the Internet effectively.
- Ability to use Cloud Computing Tools, e/mail services, Teamwork and Information Exchange tools.
- Ability to use electronic worksheets along with data analysis tools, particularly for course research projects.
- Ability to use e-learning systems effectively.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Explain the basic concepts of information technology and its related terminologies.	K2
1.2	Describe e-learning systems, their functions and their benefits.	K2
2	Skills:	
2.1	Ability to effectively use Microsoft Office productivity packages.	S1
2.2	Ability to use Cloud Computing Tools, e/mail services, Teamwork and Information Exchange tools.	S1
2.3	Ability to work with electronic worksheets and data analysis functions.	S1
2.4	Ability to search over the Internet effectively.	S1
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1

C. Course Content

No	List of Topics	Contact Hours
1	Course Outline	1.5
2	Introduction to information Technology	3
3	Operating Systems	4.5
4	Word Processing	6
5	Data Sheets	9
6	Presentations	3
7	Web Browsers	3
8	Electronic Mails	3
9	e-Learning Systems	3
10	Cloud Storage	2
11	Electronic Forms	3
12	Teamwork	2
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Explain the basic concepts of information technology and its related terminologies.	Peer teaching Note taking Lab tutorials	Quizzes
1.2	Describe e-learning systems, their functions and their benefits.	Peer teaching Note taking Lab tutorials	Quizzes
2.0	Skills:		
2.1	Ability to effectively use Microsoft Office productivity packages.	Peer teaching Lab tutorials Group work	Lab exercises Group project
2.2	Ability to use Cloud Computing Tools, e/mail services, Teamwork and Information Exchange tools.	Peer teaching Lab tutorials Group work	Lab exercises Group project
2.3	Ability to work with electronic worksheets and data analysis functions.	Peer teaching Lab tutorials Group work	Lab exercises Group project
2.4	Ability to search over the Internet effectively.	Peer teaching Lab tutorials Group work	Lab exercises Group project
3.0	Competence:		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes	3 rd - 5 th	20%
†	Lab exercises	During semester	60%
‡	Group project	End of semester	20 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Computer Skills" Prepared by Computer Skills Unit and IT College King AbdulAziz University, Khawarzim Scientific.
Essential References Materials	Computer Skills 2018 Textbook, developed by MKCL Arabia experts for King Faisal University.
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources	

Item	Resources
(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Introduction to Data Analytics
Course Code:	0607421
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University

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F. Learning Resources and Facilities.....	6
1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☐ Elective ☒
3. Level/year at which this course is offered: 3 rd year/ Level 5	
4. Pre-requisites for this course (if any):	
Enterprise Data Management- 0607204	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments	4
3	Quizzes	6
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	30
6	Final exam	30
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course enables the student to gain an understanding of the complete data analytics lifecycle, from problem definition to solution deployment. Various industry-specific examples and case studies are discussed. Particularly, the student learns how data analytics, data visualization, and data science methodologies can be used to drive better business decisions. This course also prepares the students for IBM Course Certification.

2. Course Main Objective

The main purpose of this course is to present the fundamental concepts and principles of Data Analytics.

Course Objectives:

At the end of the course the students will be able to:

- Discuss various concepts and principles of Data Analytics
- Deal with different types of data
- Describe the importance of data visualization for decision making
- Propose solutions for business problems using the main concepts of Data Analytics
- Incorporate various Data Analytics elements

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the Data Analytics life cycle.	K3
1.2	Describe how data analytics, data visualization, and data science methodologies can be used to drive better business decisions.	K3
2	Skills:	
2.1	Choose appropriate techniques to deal with different types of data.	S1
2.2	Identify appropriate visualization tools for decision making.	S1
3	Competence:	
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	C5
3.2	Demonstrate the ability to incorporate various Data Analytics elements.	C2
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1

C. Course Content

No	List of Topics	Contact Hours
	Course outline	1.5
1	Data Analytics Overview	9
2	Dealing with Different Types of Data	9
3	Data Visualization for Decision-making	9
4	Data Science, Data Analytics, and Machine Learning	9
5	Data Science Methodology	7.5
Total		45

. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Describe the Data Analytics life cycle.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
1.2	Describe how data analytics, data visualization, and data science methodologies can be used to drive better business decisions.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
2.0	Skills:		
2.1	Choose appropriate techniques to deal with different types of data.	Case-based learning Group work	Exams Assignments Group Project
2.2	Identify appropriate visualization tools for decision making.	Case-based learning Group work	Exams Assignments Group Project
3.0	Competence:		
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	Group work	Exams Group Project
3.2	Demonstrate the ability to incorporate various Data Analytics elements.	Group work	Exams Group Project
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group Project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	3 rd , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
5	Mid Term Exam	9 th	20 %
6	Group Project	14 th	20%
7	Final exam	16 th	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Essentials of Business Analytics, Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, 2017, Cengage Publishing, ISBN:978-1285187273
Essential References Materials	Data Science for Business, Foster Provost and Tom Fawcett, 2nd Edition, O'Reilly Media ISBN: O'Reilly Media
Electronic Materials	Links to the electronic material provided by the instructor.
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software,	Data show Laptop

Item	Resources
etc.)	Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Data Analytics Applications
Course Code:	0607422
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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H. Specification Approval Data	خطأ! الإشارة المرجعية غير معرفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☐ Elective ☒
3. Level/year at which this course is offered: 3 rd year/ Level 6	
4. Pre-requisites for this course (if any):	
Introduction to Data Analytics- 0607421	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments	4
3	Quizzes	6
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	30
6	Final exam	30
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course introduces the concepts of data understanding, preparation and modeling. Students acquire the knowledge and skills to build a Data Analytics application using appropriate tools such as Google Analytics or Power BI.

2. Course Main Objective

The main purpose of this course is to introduce the students to using data analytics tools to improve decision making.

Course Objectives:

At the end of the course the students will be able to:

- Discuss various models of Business Analytics.
- Use various types of Data Analytics tools.
- Incorporate various Data Analytics tools such as Google Analytics into a website.
- Describe the usefulness of Data Analytics applications in different business sectors.
- Describe the latest trends in Data Analytics.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Define the Data Analytics framework.	K3
1.2	Describe Data Analytics applications in different business sectors.	K3
2	Skills:	
2.1	Model business problems using Data Analytics techniques.	S1
2.2	Use Data Analytics tools to improve decision making.	S4
3	Competence:	
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	C5
3.2	Demonstrate the ability to use the latest trends in Data Analytics applications.	C5
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1

C. Course Content

No	List of Topics	Contact Hours
1	Course outline	1.5
2	Overview of the Data Analytics Framework	6
3	Introduction to Google Analytics (Part 1)	6
4	Introduction to Google Analytics (Part 2)	6
5	Customizing, configuring and using conversions with Google Analytics (part 3)	6
6	Introduction to Power BI	6
7	Data Analytics Applications in Different Sectors	6

8	Using Data Analytics in the entertainment industry, education and healthcare	3
9	Data Analytics latest trends	4.5
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Define the Data Analytics framework.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
1.2	Describe Data Analytics applications in different business sectors.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
2.0	Skills:		
2.1	Model business problems using Data Analytics techniques.	Case-based learning Group work	Exams Assignments Group Project
2.2	Use Data Analytics tools to improve decision making.	Case-based learning Group work	Exams Assignments Group Project
3.0	Competence:		
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	Group work	Exams Group Project
3.2	Demonstrate the ability to use the latest trends in Data Analytics applications.	Group work	Exams Group Project
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group Project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	3 rd , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
5	Mid Term Exam	9 th	20 %
6	Group Project	14 th	20%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
7	Final exam	16 th	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	- Google analytics breakthrough: from zero to business impact Alhlou, Feras, John Wiley & Sons, Inc, 2016, ISBN: 9781119231691 - Learn Power BI : A Beginner's Guide to Developing Interactive Business Intelligence Solutions Using Microsoft Power BI. Deckler, Greg, Packt Publishing, Limited, 2019 ISBN: 9781838646653
Essential References Materials	Google Analytics Academy Web site https://analytics.google.com/analytics/academy/course/6
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Selected Topics in Information System
Course Code:	06070401
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☒ Elective ☐	
3. Level/year at which this course is offered:	Level 7 / 2 nd year
4. Pre-requisites for this course (if any): 0607301 – Advanced Business Programming	
5. Co-requisites for this course (if any): None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	35
2	Assignments	15
3	Quizzes	0
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	45
6	Final exam	35
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description:

The course provides the students with an insight into emerging technologies and recent issues from diverse areas related to management information system. The course may cover topics such as distributed and mobile computing, big data and information modeling, cloud computing, and cyber security.

2. Course Objectives:

The main objective of the course is to present the recent problems, developments, contemporary practices and solutions in the field of information systems.

At the end of the course the students will be able to:

- Recognize recent approaches and methods in the field of information system development.
- Identify the issues in the practice and application of information systems in various domains.
- Conduct independent research in contemporary topics in information system development and applications.
- Write a review article on current and recent of information system topics.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Explain the importance of the emerging technologies.	K4
1.2	Describe the recent problems in the field and various approaches to deal with them.	K4
2	Skills:	
2.1	Ability to adopt emerging technology approaches in different application domains.	S1
2.2	Ability to evaluate the effectiveness of emerging technologies for various business scenarios.	S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on emerging technologies.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Topics are to be determined by the course instructor with the approval of department council.	45
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Explain the importance of the emerging technologies.	TBD	TBD
1.2	Describe the recent problems in the field and various approaches to deal with them.	TBD	TBD
2.0	Skills:		
2.1	Ability to adopt emerging technology approaches in different application domains.	TBD	TBD
2.2	Ability to evaluate the effectiveness of emerging technologies for various business scenarios.	TBD	TBD
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	TBD	TBD
3.2	Demonstrate effective oral and written communication skills.	TBD	TBD
3.3	Demonstrate the ability to propose innovative solutions based on emerging technologies.	TBD	TBD

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	TBD	TBD	TBD

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	No required book. The specific content related to the selected topics is to be determined by the course instructor.
Essential References Materials	Google Scholar, ACM Digital Library, IEEE Computer Society, Web of Science, DBLP, Inspec, CompendexInternational Journal of Intelligent Information and Database Systems (IJIDS).
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Information Systems Security
Course Code:	0607403
Program:	Management Information Systems
Department:	Management Information Systems
College:	Business Administration
Institution:	King Faisal University



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1. Learning Resources	6
2. Facilities Required.....	7
G. Course Quality Evaluation	7
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 3			
2. Course type			
a.	University ☐	College ☐	Department ☒
b.	Required ☒	Elective ☐	Others ☐
3. Level at which this course is offered: 5			
4. Pre-requisites for this course (if any): 0607201 - Management Information Systems			
5. Co-requisites for this course (if any):			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Tutorial	10
3	in class activities	10
4	Midterms	15
5	Final	20
4	Others (specify)	
	Total	97
Other Learning Hours*		
1	Independent Study	45
2	exercises	15
4	Project	30
5	Others (specify):	
	Total	190

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The objective of this course is to prepare students to be able to identify, assess, respond to, and mitigate threats to fulfill the security needs of a modern enterprise. To this end, we address a wide spectrum of topics including security planning, security architecture, human factors involved in security, policies, technical solutions, risk management, and physical security. In addition, students will have hands-on experience in how to work independently and in teams to deliver effective security solutions.

2. Course Main Objectives:

At the end of the course students will be able to:

- Explain fundamental concepts of networks and information system security.
- Describe information security policies, strategies and architecture.
- Identify the threats posed to different components of an information system.
- Analyze, select, develop, implement, and maintain the various forms of security technology for safeguarding different components of an information system.
- Identify and describe the categories and operating models of networking security architectures and intrusion detection systems.
- Apply the basic principles of cryptography.
- Plan, execute, and maintain useful information security projects.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe key information systems security concepts, terminologies, and technologies.	K2
1.2	Distinguish between various types of threats and their impact on organizations.	K1
2	Skills	
2.1	Develop and review key elements of an information systems security management program.	S1
2.2	Select, develop, implement, and maintain effective security solutions and controls.	S1
3	Competence	
3.1	Demonstrate the ability to work productively in a security program.	C1
3.2	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.3	Demonstrate effective oral and written communication skills.	C4

C. Course Content

No	List of Topics	Contact Hours
1	Network terminologies and concepts	3
2	Introduction to Information Security	3
3	The Need for Security	6
4	Planning for Security	3
5	Risk Management	6
6	Security Technology: Access Controls, Firewalls, and VPNs	6
7	Security Technology: Intrusion Detection and Prevention Systems, and Other Security Tools	6
8	Cryptography	6
9	Physical Security	3
10	Security and Personnel	3
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe key information systems security concepts, terminologies, and technologies.	Lectures, in-class discussion and tutorials	Exams Assignments
1.2	Distinguish between various types of threats and their impact on organizations.	Lectures, in-class discussion and tutorials	Exams Assignments
2.0	Skills		
2.1	Develop and review key elements of an information systems security management program.	Lectures, tutorials, handouts	Exams Assignments Project
2.2	Select, develop, implement, and maintain effective security solutions and controls.	Lectures, tutorials	Exams Assignments Project
3.0	Competence		
3.1	Demonstrate the ability to work productively in a security program.	Group project	Group project
3.2	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group project	Group project
3.3	Demonstrate effective oral and written communication skills.	Group project	Group project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz * 2	3 rd , 9 th	10%
2	Report -1: (Assignment 1)	4 th	5 %
3	Mid Term Exam	7 th	20 %
4	Report -2: (Assignment 2)	10 th	5 %
5	Project	13 th	20 %
6	Final Exam	End of semester	40 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Students in need of academic accommodations may consult the faculty during office hours and are required to give reasonable notice prior to requesting an accommodation.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Principles of Information Security, 6th Edition By Michael E. Whitman and Herbert J. Mattord (2018).
Essential References Materials	ISO/IEC 27001 Standard for Information Security Management Robert E. Crossler, Allen C. Johnston, Paul Benjamin Lowry, Qing Hud, Merrill Warkentina, and Richard Baskerville, Future Directions for Behavioral Information Security Research, Computers & Security, Volume 32, February 2013, Pages 90-101.
Electronic Materials	
Other Learning Materials	Self-selected online tutorials related to exercises and project

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, smart board, and blackboard

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report and presentation
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report and presentation

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Blockchain System Development
Course Code:	0607433
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☐ Elective ☒
3. Level/year at which this course is offered: Level 7 / 4 th year	
4. Pre-requisites for this course (if any):	
Blockchain Applications- 0607432	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	15
3	Tutorial	
4	Others (specify)	
	Total	60
Other Learning Hours*		
1	Study	130
2	Assignments	
3	Quizzes	
4	Midterms	
5	Projects	45
6	Presentation	10
	Total	185

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the design and implementation aspects of a Blockchain application. The students will be able to create and execute the Blockchain endpoints for different functions using state-of-the-art frameworks. The course also covers how to build a simple user interface to interact with a Blockchain system.

2. Course Main Objective

The aim of this course is to present the implementation aspects of Blockchain technology.

Course Objectives:

At the end of the course the students will be able to:

- Store transactions into blocks
- Add digital fingerprints to the blocks
- Chain the blocks
- Implement a proof-of-work algorithm
- Create interfaces
- Establish consensus and decentralization
- Build and run a Blockchain application

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Explain the different implementation aspects of decentralized Blockchain applications.	K2
1.2	Describe how a transaction is stored in blocks and how to add digital fingerprints to the blocks.	K4
2	Skills:	
2.1	Design and develop a Blockchain application.	S4
2.2	Link different applications with a Blockchain systems.	S4
3	Competence:	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solutions.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Propose innovative solutions to improve the security level and performance of the traditional enterprise systems.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Storing transactions into blocks	3
2	Adding digital fingerprints to the blocks	6
3	Chaining the blocks	6
4	Implementing a proof-of-work algorithm	4.5
5	Adding blocks to the chain	4.5
6	Creating interfaces	4.5
7	Establishing consensus and decentralization	4.5
8	Build and running the Blockchain application	12
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Explain the different implementation aspects of decentralized Blockchain applications.	Lectures Peer teaching Note taking	Presentation and oral examination
1.2	Describe how a transaction is stored in blocks and how to add digital fingerprints to the blocks.	Lectures Peer teaching Note taking	Presentation and oral examination
2.0	Skills		
2.1	Design and develop a Blockchain application.	Group work	Final report Presentations
2.2	Link different applications with a Blockchain systems.	Group work	Final report Presentations
3.0	Competence:		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solutions.	Group work	Final report Presentations
3.2	Demonstrate effective oral and written communication skills.	Group work	Final report Presentations
3.3	Propose innovative solutions to improve the security level and performance of the traditional enterprise systems.	Group work	Final report Presentations

2. Assessment Tasks for Students

	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Analysis, Design and Implementation	End of semester	75 %
2	Presentation and oral examination	End of semester	25 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Instructor handouts
Essential References Materials	Introduction to blockchain technology, Tiana Laurence, 2019 Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Electronic Materials	https://developer.ibm.com/technologies/blockchain/tutorials/develop-a-blockchain-application-from-scratch-in-python/ https://developer.ibm.com/technologies/blockchain/articles/from-vision-to-reality-creating-a-successful-blockchain-application
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms, laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Fundamentals of Blockchain
Course Code:	0607431
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒	Others ☐
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered: Level 5 / 3 rd year	
4. Pre-requisites for this course (if any):	
0607204-Fundamentals of Business Programming	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course discusses the basic concepts of Blockchain technology. It covers topics such as data encryption, distributed ledgers, cryptocurrency, hash function, proof of work, proof of stake, and Blockchain network. It also covers Blockchain applications including smart contracts, challenges in fiat currency, community fractures, scams and feuds.

2. Course Main Objective

The aim of this course is to present the fundamentals of Blockchain technology.

Course Objectives:

At the end of the course the students will be able to:

- Explain the fundamental concepts of Blockchain technology
- Describe and explain the key components of Blockchain technology
- Explain the structure of a Blockchain network
- Explain the concepts of cryptocurrency and Hyperledger
- Explain the concepts of centralized and decentralized application identity
- Explain the impact of Blockchain technology on world economy
- Describe how Blockchain can impact the daily life

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe and discuss the basic concepts of Blockchain technology, Blockchain components, cryptocurrency and Hyperledger.	K2
1.2	Explain the concept of decentralized applications and how they are related to Blockchain technology.	K4
2	Skills:	
2.1	Apply the acquired knowledge to propose solutions for the adoption of Blockchain technology.	S2
2.2	Design applications architecture based on Blockchain technology.	S3, S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Blockchain Technology	3
2	Key Concepts of Blockchain Technology	4.5
3	Blockchain Network Structure	4.5
4	Blockchain Networks and Technologies	4.5
5	Second Generation Blockchain Applications	7.5
6	Blockchain Application Expansion	6
7	World Economy and Blockchain	4.5
8	Frontiers in Blockchain	6
9	Blockchain and The Inhibitors	4.5
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe and discuss the basic concepts of Blockchain technology, Blockchain components, cryptocurrency and Hyperledger.	Lectures Peer teaching Note taking	Exams Quizzes Project/Case study
1.2	Explain the concept of decentralized applications and how they are related to Blockchain technology.	Lectures Peer teaching Note taking	Exams Quizzes Project/Case study
2.0	Skills		
2.1	Apply the acquired knowledge to propose solutions for the adoption of Blockchain technology.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/Case study
2.2	Design applications architecture based on Blockchain technology.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/Case study
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Project/Case study
3.2	Demonstrate effective oral and written communication skills.	Group work	Project/Case study

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	Group work	Project/Case study

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2%5)	3 rd , 11 th	10 %
2	*Deliverable-1 (Group Project Phase-1)	6 th	5 %
3	*Deliverable-2 (Group Project Phase-2)	10 th	5%
4	Midterm Exam	9 th	25 %
5	Group Project/case study	14 th	15 %
6	Final Exam	16 th	40 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours
College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Introduction to Blockchain technology, Tiana Laurence, 2019
Essential References Materials	1. Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Electronic Materials	IBM Blockchain (https://www.ibm.com/sa-en/blockchain)
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Business Programming
0607301	
Program:	Information Systems
Management Information Systems	
College:	
King Faisal University	



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A. Course Identification

1. Credit hours: 3			
2. Course type			
a.	University ☐	College ☐	Department ☒ Others ☐
b.	Required ☒	Elective ☐	
3. Level/year at which this course is offered: Level 5 / 3 rd Year			
4. Pre-requisites for this course (if any): Fundamentals of Business Programming - 0607203			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	60
2	Quizzes	7
3	Midterms	33
4	Case Study / lab exercises/ tests	30
5	Final exam	30
	Total	160

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course provides students with the advanced concepts, skills, and knowledge required for developing business applications using Python. It has two main parts. The first part covers the use of classes and object-oriented programming concepts such as inheritance and polymorphism. The second part is dedicated to application of Python in the context of Data Analysis. This part covers the details involved in manipulating, processing, cleaning, and crunching data in Python.

2. Course Main Objective:

This course is complementary to Fundamentals of Business Programming, and it aims to teach advanced skills of programming business applications using Python.

Course objective:

At the end of the course the students will be able to:

- Use the classes, their relationships, and hierarchies.
- Use operator overloading.
- Make use of interfaces and polymorphism.
- Use the libraries that provide high-level data structures and manipulation tools to perform data analysis and manipulation in Python.

3. Course Learning Outcomes

CLOs		Aligned-PLOs
1	Knowledge:	
1.1	Explain the use of classes and related object-oriented concepts.	K2
1.2	Describe the fundamental concepts related to data analysis.	K2
1.3	Explain the basic constructs of contemporary packages, data structures, and manipulation tools involved in data analysis.	K2
2	Skills	
2.1	Design and implement hierarchies of concrete classes, abstract classes and interfaces.	S2
2.2	Implement applications that perform import and export of data using built-in libraries.	S2
2.3	Create plots as well as static and interactive visualizations.	S2
3	Competence	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop business applications.	C3
3.2	Use at least one tool for visualization of data.	C3, C5

C. Course Content

No	List of Topics	Contact Hours
1	Overview of the course	1.5
2	Fundamentals of object-oriented programming and class coding	3
3	Inheritance, operator overloading, and polymorphism	6
4	Data processing using arrays and vectorized computation	9
5	High-level data structures for data analysis	6
6	Fundamental mechanics of interacting with the data contained in a high-level data structure	7.5
7	Data wrangling	6
8	Plotting and visualization of data	6
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Explain the use of classes and related object-oriented concepts.	Lectures Note taking	Exams Quizzes
1.2	Describe the fundamental concepts related to data analysis.	Lectures Note taking	Exams Quizzes
1.3	Explain the basic constructs of contemporary packages, data structures, and manipulation tools involved in data analysis.	Lectures Note taking	Exams Quizzes
2.0	Skills		
2.1	Design and implement hierarchies of concrete and classes, abstract classes and interfaces.	Case-based learning Group work	Exams Lab exercises
2.2	Implement applications that perform import and export of data using built-in libraries.	Case-based learning Group work	Exams Lab exercises
2.3	Create plots as well as static and interactive visualizations.	Case-based learning Group work	Exams Lab exercises
3.0	Competence		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop business applications.	Case-based learning Group work	Group project Lab exercises
3.2	Use at least one tool for visualization of data.	Case-based learning Group work	Group project Lab exercises

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	5 th	5 %
2	Quiz 2	12 th	5 %
3	Midterm exam	9 th	20 %
4	Lab exercises	All weeks	25%
5	Group project	14 th	15 %
6	Final exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython, Wes McKinney, O'Reilly Media, 2nd edition (2017): ISBN: 978-1491957660. 2. Learning Python, Mark Lutz, O'Reilly Media, 5th Edition (2013), ISBN: 978-1449355739.
Essential References Materials	Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud, Paul J. Deitel, Harvey Deitel, 1 st Edition (2019), ISBN: 978-0135404676
Electronic Materials	w3schools.com (Python Tutorial)
Other Learning Materials	The Python Standard Library documentation (docs.python.org)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility, laboratory.
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Lab containing enough computers installed with required software to support the students.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report Review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Fundamentals of Business Programming
Course Code:	0607203
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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G. Course Quality Evaluation	6
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☒ Elective ☐	
3. Level/year at which this course is offered: 2 nd year/ Level 4	
4. Pre-requisites for this course (if any):	
Management Information Systems - 0607102	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	60
2	Quizzes	7
3	Midterms	33
4	Case Study / lab exercises/ tests	30
5	Final exam	30
	Total	160

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course provides students with the fundamental concepts, skills, and knowledge for developing applications using Python. It covers the basic concepts of programming

including types, operations, statements, functions, and generations. It also comprises the use of exception handling mechanism to improve program robustness.

2. Course Main Objective

The main purpose of this course is to teach basic programming skills using Python.

Course Objectives:

At the end of the course the students will be able to:

- Describe basics of Python programming, i.e. the terminology, structure, and syntax of the language.
- Work with Python data types such as string, float, integer, list, set, and tuple.
- Demonstrate the skills to implement solutions to basic programming problems.
- Use conditional statements, loops and functions to write complex programs.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the effective use of constructs such as object types, conditional statements, loops and functions to develop programs.	K2
1.2	Explain the error and exception handling mechanisms.	K2
2	Skills:	
2.1	Apply knowledge of program building blocks to design solutions to a given scenario.	S2
2.2	Develop programs that are robust and fault tolerant.	S2
3	Competence:	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solution for a given scenario.	C3
3.2	Work with an integrated development environment to analyze, develop and make use of existing opensource code.	C3, C5

C. Course Content

No	List of Topics	Contact Hours
1	Overview of the course	1.5
2	The coding environment set up, writing and running the first program	3
3	Numeric types	3
4	Strings	3
5	Lists and dictionaries	3
6	Tuples and files	3
7	Simple statements	3
8	Conditional statements	3
9	Loops	4.5
10	Iterations and comprehensions	3
11	Writing basic functions	3
12	Function scope and arguments	6

13	Exception handling	9
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe the effective use of constructs such as object types, conditional statements, loops and functions to develop programs.	Lectures Note taking	Exams Quizzes
1.2	Explain the error and exception handling mechanisms.	Lectures Note taking	Exams Quizzes
2.0	Skills		
2.1	Apply knowledge of program building blocks to design solutions to a given scenario.	Lectures Case-based learning Peer teaching	Exams Lab exercises Code collection file
2.2	Develop programs that are robust and fault tolerant.	Lectures Case-based learning Peer teaching	Exams Lab exercises Code collection file
3.0	Competence		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solution for a given scenario.	Case-based learning Peer teaching	Lab exercises Code collection file
3.2	Work with an integrated development environment to analyze, develop and make use of existing opensource code.	Case-based learning Peer teaching	Lab exercises

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	5 th	5 %
2	Quiz 2	12 th	5 %
3	Midterm exam	9 th	25 %
4	Lab exercises	All weeks	25%
5	Code collection file (individual)	14 th	10 %
6	Final exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Learning Python, Mark Lutz, O'Reilly Media, 5th Edition (2013), ISBN: 978-1449355739.
Essential References Materials	Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud, Paul J. Deitel, Harvey Deitel, 1 st Edition (2019), ISBN: 978-0135404676
Electronic Materials	w3schools.com (Python Tutorial)
Other Learning Materials	The Python Standard Library documentation (docs.python.org)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms, laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Lab containing enough computers installed with required software to support the students.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Blockchain Applications
Course Code:	0607432
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered:	Level 6 / 3 rd year
4. Pre-requisites for this course (if any):	
0607431 - Fundamentals of Blockchain	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course focuses on functional part and the role of Blockchain applications architecture. It covers the Blockchain functions such as data store, computational elements, communication mechanisms. It also deals with managing assets, exerting control, as well as the design process of a Blockchain application. Furthermore, the course describes MDE methods for business processes and registries of assets. The course also covers the non-functional aspects of Blockchain applications such as cost estimation, performance, dependability and security.

2. Course Main Objective

The aim of this course presents the technical aspects of Blockchain applications.

Course Objectives:

At the end of the course the students will be able to:

- Describe and discuss the architecture of Blockchain applications
- Describe the design process of Blockchain applications
- Evaluate model-driven engineering for Blockchain applications.
- Describe the blockchain patterns.
- Explain the impact of using blockchain applications on the cost, performance, and security of systems.
- Evaluate the impact of Blockchain technology on different fields such as agriculture, medical.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the fundamentals of Blockchain-based applications and their functionality.	K4
1.2	Explain the impact of Blockchain applications on cost, performance, and security of systems.	K4
2	Skills:	
2.1	Design applications using Blockchain patterns.	S3, S4
2.2	Analyze the various functions of Blockchain applications.	S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Architecting Blockchain-Based Applications	6
2	Design Process for Applications on Blockchain	3
3	Blockchain Patterns	6
4	Model-Driven Engineering for Blockchain Applications	4.5
5	Quality impact of using Blockchain: cost	4.5
6	Quality impact of using Blockchain: Performance	4.5
7	Quality impact of using Blockchain: Dependability and Security	4.5
8	Case Study: AgriDigital	4.5
9	Case Study: SecureVote	4.5
10	Case Study: originChain	3
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe the fundamentals of Blockchain-based applications and their functionality.	Lectures Peer teaching Note taking	Exams Quizzes Project/ Case study
1.2	Explain the impact of Blockchain applications on cost, performance, and security of systems.	Lectures Peer teaching Note taking	Exams Quizzes Project/ Case study
2.0	Skills		
2.1	Design applications using Blockchain patterns.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/case study
2.2	Analyze the various functions of Blockchain applications.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/ Case study
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Project/ Case study
3.2	Demonstrate effective oral and written communication skills.	Group work	Project/ Case study
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	Group work	Project/ Case study

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5)	3 rd , 11 th	10 %
2	*Deliverable-1 (Group Project Phase-1)	6 th	5 %
3	*Deliverable-2 (Group Project Phase-2)	10 th	5%
4	Midterm Exam	9 th	25 %
5	Group Project/case study	14 th	25 %
6	Final Exam	16 th	30 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Essential References Materials	Introduction to blockchain technology, Tiana Laurence, 2019
Electronic Materials	IBM Blockchain (https://www.ibm.com/sa-en/blockchain)
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Introduction to Data Analytics
Course Code:	0607421
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered: 3 rd year/ Level 5	
4. Pre-requisites for this course (if any):	
Enterprise Data Management- 0607204	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments	4
3	Quizzes	6
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	30
6	Final exam	30
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course enables the student to gain an understanding of the complete data analytics lifecycle, from problem definition to solution deployment. Various industry-specific examples and case studies are discussed. Particularly, the student learns how data analytics, data visualization, and data science methodologies can be used to drive better business decisions. This course also prepares the students for IBM Course Certification.

2. Course Main Objective

The main purpose of this course is to present the fundamental concepts and principles of Data Analytics.

Course Objectives:

At the end of the course the students will be able to:

- Discuss various concepts and principles of Data Analytics
- Deal with different types of data
- Describe the importance of data visualization for decision making
- Propose solutions for business problems using the main concepts of Data Analytics
- Incorporate various Data Analytics elements

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the Data Analytics life cycle.	K3
1.2	Describe how data analytics, data visualization, and data science methodologies can be used to drive better business decisions.	K3
2	Skills:	
2.1	Choose appropriate techniques to deal with different types of data.	S1
2.2	Identify appropriate visualization tools for decision making.	S1
3	Competence:	
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	C5
3.2	Demonstrate the ability to incorporate various Data Analytics elements.	C2
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1

C. Course Content

No	List of Topics	Contact Hours
	Course outline	1.5
1	Data Analytics Overview	9
2	Dealing with Different Types of Data	9
3	Data Visualization for Decision-making	9
4	Data Science, Data Analytics, and Machine Learning	9
5	Data Science Methodology	7.5
Total		45

. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Describe the Data Analytics life cycle.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
1.2	Describe how data analytics, data visualization, and data science methodologies can be used to drive better business decisions.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
2.0	Skills:		
2.1	Choose appropriate techniques to deal with different types of data.	Case-based learning Group work	Exams Assignments Group Project
2.2	Identify appropriate visualization tools for decision making.	Case-based learning Group work	Exams Assignments Group Project
3.0	Competence:		
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	Group work	Exams Group Project
3.2	Demonstrate the ability to incorporate various Data Analytics elements.	Group work	Exams Group Project
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group Project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	3 rd , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
5	Mid Term Exam	9 th	20 %
6	Group Project	14 th	20%
7	Final exam	16 th	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Essentials of Business Analytics, Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, 2017, Cengage Publishing, ISBN:978-1285187273
Essential References Materials	Data Science for Business, Foster Provost and Tom Fawcett, 2nd Edition, O'Reilly Media ISBN: O'Reilly Media
Electronic Materials	Links to the electronic material provided by the instructor.
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software,	Data show Laptop

Item	Resources
etc.)	Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020

Course Specifications

Course Title:	Fundamentals of Blockchain
Course Code:	0607431
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University

جامعة الملك فيصل
KING FAISAL UNIVERSITY
كلية إدارة الأعمال
School of Business
مكتب الشؤون الأكاديمية

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2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered:	Level 5 / 3 rd year
4. Pre-requisites for this course (if any):	
0607204-Fundamentals of Business Programming	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course discusses the basic concepts of Blockchain technology. It covers topics such as data encryption, distributed ledgers, cryptocurrency, hash function, proof of work, proof of stake, and Blockchain network. It also covers Blockchain applications including smart contracts, challenges in fiat currency, community fractures, scams and feuds.

2. Course Main Objective

The aim of this course is to present the fundamentals of Blockchain technology.

Course Objectives:

At the end of the course the students will be able to:

- Explain the fundamental concepts of Blockchain technology
- Describe and explain the key components of Blockchain technology
- Explain the structure of a Blockchain network
- Explain the concepts of cryptocurrency and Hyperledger
- Explain the concepts of centralized and decentralized application identity
- Explain the impact of Blockchain technology on world economy
- Describe how Blockchain can impact the daily life

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe and discuss the basic concepts of Blockchain technology, Blockchain components, cryptocurrency and Hyperledger.	K2
1.2	Explain the concept of decentralized applications and how they are related to Blockchain technology.	K4
2	Skills:	
2.1	Apply the acquired knowledge to propose solutions for the adoption of Blockchain technology.	S2
2.2	Design applications architecture based on Blockchain technology.	S3, S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Blockchain Technology	3
2	Key Concepts of Blockchain Technology	4.5
3	Blockchain Network Structure	4.5
4	Blockchain Networks and Technologies	4.5
5	Second Generation Blockchain Applications	7.5
6	Blockchain Application Expansion	6
7	World Economy and Blockchain	4.5
8	Frontiers in Blockchain	6
9	Blockchain and The Inhibitors	4.5
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe and discuss the basic concepts of Blockchain technology, Blockchain components, cryptocurrency and Hyperledger.	Lectures Peer teaching Note taking	Exams Quizzes Project/Case study
1.2	Explain the concept of decentralized applications and how they are related to Blockchain technology.	Lectures Peer teaching Note taking	Exams Quizzes Project/Case study
2.0	Skills		
2.1	Apply the acquired knowledge to propose solutions for the adoption of Blockchain technology.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/Case study
2.2	Design applications architecture based on Blockchain technology.	Lectures Peer teaching Note taking Case-based learning Group work	Exams Quizzes Project/Case study
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Project/Case study
3.2	Demonstrate effective oral and written communication skills.	Group work	Project/Case study

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.3	Demonstrate the ability to propose innovative solutions based on Blockchain technology.	Group work	Project/Case study

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2%5)	3 rd , 11 th	10 %
2	*Deliverable-1 (Group Project Phase-1)	6 th	5 %
3	*Deliverable-2 (Group Project Phase-2)	10 th	5%
4	Midterm Exam	9 th	25 %
5	Group Project/case study	14 th	15 %
6	Final Exam	16 th	40 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Introduction to Blockchain technology, Tiana Laurence, 2019
Essential References Materials	1. Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Electronic Materials	IBM Blockchain (https://www.ibm.com/sa-en/blockchain)
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Selected Topics in Information System
Course Code:	06070401
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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1.Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	6
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☒ Elective ☐	
3. Level/year at which this course is offered:	Level 7 / 2 nd year
4. Pre-requisites for this course (if any): 0607301 – Advanced Business Programming	
5. Co-requisites for this course (if any): None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	35
2	Assignments	15
3	Quizzes	0
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	45
6	Final exam	35
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description:

The course provides the students with an insight into emerging technologies and recent issues from diverse areas related to management information system. The course may cover topics such as distributed and mobile computing, big data and information modeling, cloud computing, and cyber security.

2. Course Objectives:

The main objective of the course is to present the recent problems, developments, contemporary practices and solutions in the field of information systems.

At the end of the course the students will be able to:

- Recognize recent approaches and methods in the field of information system development.
- Identify the issues in the practice and application of information systems in various domains.
- Conduct independent research in contemporary topics in information system development and applications.
- Write a review article on current and recent of information system topics.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Explain the importance of the emerging technologies.	K4
1.2	Describe the recent problems in the field and various approaches to deal with them.	K4
2	Skills:	
2.1	Ability to adopt emerging technology approaches in different application domains.	S1
2.2	Ability to evaluate the effectiveness of emerging technologies for various business scenarios.	S4
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions based on emerging technologies.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Topics are to be determined by the course instructor with the approval of department council.	45
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Explain the importance of the emerging technologies.	TBD	TBD
1.2	Describe the recent problems in the field and various approaches to deal with them.	TBD	TBD
2.0	Skills:		
2.1	Ability to adopt emerging technology approaches in different application domains.	TBD	TBD
2.2	Ability to evaluate the effectiveness of emerging technologies for various business scenarios.	TBD	TBD
3.0	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	TBD	TBD
3.2	Demonstrate effective oral and written communication skills.	TBD	TBD
3.3	Demonstrate the ability to propose innovative solutions based on emerging technologies.	TBD	TBD

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	TBD	TBD	TBD

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	No required book. The specific content related to the selected topics is to be determined by the course instructor.
Essential References Materials	Google Scholar, ACM Digital Library, IEEE Computer Society, Web of Science, DBLP, Inspec, CompendexInternational Journal of Intelligent Information and Database Systems (IJIIDS).
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Information Systems Security
Course Code:	0607403
Program:	Management Information Systems
Department:	Management Information Systems
College:	Business Administration
Institution:	King Faisal University



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1. Learning Resources.....	6
2. Facilities Required.....	7
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H. Specification Approval Data.....	7

A. Course Identification

1. Credit hours: 3			
2. Course type			
a.	University ☐	College ☐	Department ☒
b.	Required ☒	Elective ☐	Others ☐
3. Level at which this course is offered: 5			
4. Pre-requisites for this course (if any): 0607201 - Management Information Systems			
5. Co-requisites for this course (if any):			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Tutorial	10
3	in class activities	10
4	Midterms	15
5	Final	20
4	Others (specify)	
	Total	97
Other Learning Hours*		
1	Independent Study	45
2	exercises	15
4	Project	30
5	Others (specify):	
	Total	190

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The objective of this course is to prepare students to be able to identify, assess, respond to, and mitigate threats to fulfill the security needs of a modern enterprise. To this end, we address a wide spectrum of topics including security planning, security architecture, human factors involved in security, policies, technical solutions, risk management, and physical security. In addition, students will have hands-on experience in how to work independently and in teams to deliver effective security solutions.

2. Course Main Objectives:

At the end of the course students will be able to:

- Explain fundamental concepts of networks and information system security.
- Describe information security policies, strategies and architecture.
- Identify the threats posed to different components of an information system.
- Analyze, select, develop, implement, and maintain the various forms of security technology for safeguarding different components of an information system.
- Identify and describe the categories and operating models of networking security architectures and intrusion detection systems.
- Apply the basic principles of cryptography.
- Plan, execute, and maintain useful information security projects.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe key information systems security concepts, terminologies, and technologies.	K2
1.2	Distinguish between various types of threats and their impact on organizations.	K1
2	Skills	
2.1	Develop and review key elements of an information systems security management program.	S1
2.2	Select, develop, implement, and maintain effective security solutions and controls.	S1
3	Competence	
3.1	Demonstrate the ability to work productively in a security program.	C1
3.2	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.3	Demonstrate effective oral and written communication skills.	C4

C. Course Content

No	List of Topics	Contact Hours
1	Network terminologies and concepts	3
2	Introduction to Information Security	3
3	The Need for Security	6
4	Planning for Security	3
5	Risk Management	6
6	Security Technology: Access Controls, Firewalls, and VPNs	6
7	Security Technology: Intrusion Detection and Prevention Systems, and Other Security Tools	6
8	Cryptography	6
9	Physical Security	3
10	Security and Personnel	3
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe key information systems security concepts, terminologies, and technologies.	Lectures, in-class discussion and tutorials	Exams Assignments
1.2	Distinguish between various types of threats and their impact on organizations.	Lectures, in-class discussion and tutorials	Exams Assignments
2.0	Skills		
2.1	Develop and review key elements of an information systems security management program.	Lectures, tutorials, handouts	Exams Assignments Project
2.2	Select, develop, implement, and maintain effective security solutions and controls.	Lectures, tutorials	Exams Assignments Project
3.0	Competence		
3.1	Demonstrate the ability to work productively in a security program.	Group project	Group project
3.2	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group project	Group project
3.3	Demonstrate effective oral and written communication skills.	Group project	Group project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz * 2	3 rd , 9 th	10%
2	Report -1: (Assignment 1)	4 th	5 %
3	Mid Term Exam	7 th	20 %
4	Report -2: (Assignment 2)	10 th	5 %
5	Project	13 th	20 %
6	Final Exam	End of semester	40 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Students in need of academic accommodations may consult the faculty during office hours and are required to give reasonable notice prior to requesting an accommodation.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Principles of Information Security, 6th Edition By Michael E. Whitman and Herbert J. Mattord (2018).
Essential References Materials	ISO/IEC 27001 Standard for Information Security Management Robert E. Crossler, Allen C. Johnston, Paul Benjamin Lowry, Qing Hud, Merrill Warkentina, and Richard Baskerville, Future Directions for Behavioral Information Security Research, Computers & Security, Volume 32, February 2013, Pages 90-101.
Electronic Materials	
Other Learning Materials	Self-selected online tutorials related to exercises and project

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with multimedia facility
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, smart board, and blackboard

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Objectives, Content and Learning Outcomes	Curriculum Committee	Course Review Course Report
Effectiveness of teaching	Faculty Students	Classroom Observation (QMS Annex O and P) Course Evaluation Survey (QMS Annex B)
Achievement of course learning outcomes	Course Faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning Resources and Facilities	Students Faculty	Course Evaluation Survey Course Report and presentation
Student Academic Counseling and Support	Students	Course Evaluation Survey
Course Quality Management	Program Coordinator	Course Report and presentation

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020

Course Specifications

Course Title:	Blockchain System Development
Course Code:	0607433
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University

جامعة الملك فيصل
KING FAISAL UNIVERSITY
كلية إدارة الأعمال
School of Business
مكتب الشؤون الأكاديمية

جامعة الملك فيصل
KING FAISAL UNIVERSITY
كلية إدارة الأعمال

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H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered:	Level 7 / 4 th year
4. Pre-requisites for this course (if any):	
Blockchain Applications- 0607432	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	15
3	Tutorial	
4	Others (specify)	
	Total	60
Other Learning Hours*		
1	Study	130
2	Assignments	
3	Quizzes	
4	Midterms	
5	Projects	45
6	Presentation	10
	Total	185

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the design and implementation aspects of a Blockchain application. The students will be able to create and execute the Blockchain endpoints for different functions using state-of-the-art frameworks. The course also covers how to build a simple user interface to interact with a Blockchain system.

2. Course Main Objective

The aim of this course is to present the implementation aspects of Blockchain technology.

Course Objectives:

At the end of the course the students will be able to:

- Store transactions into blocks
- Add digital fingerprints to the blocks
- Chain the blocks
- Implement a proof-of-work algorithm
- Create interfaces
- Establish consensus and decentralization
- Build and run a Blockchain application

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Explain the different implementation aspects of decentralized Blockchain applications.	K2
1.2	Describe how a transaction is stored in blocks and how to add digital fingerprints to the blocks.	K4
2	Skills:	
2.1	Design and develop a Blockchain application.	S4
2.2	Link different applications with a Blockchain systems.	S4
3	Competence:	
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solutions.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Propose innovative solutions to improve the security level and performance of the traditional enterprise systems.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Storing transactions into blocks	3
2	Adding digital fingerprints to the blocks	6
3	Chaining the blocks	6
4	Implementing a proof-of-work algorithm	4.5
5	Adding blocks to the chain	4.5
6	Creating interfaces	4.5
7	Establishing consensus and decentralization	4.5
8	Build and running the Blockchain application	12
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Explain the different implementation aspects of decentralized Blockchain applications.	Lectures Peer teaching Note taking	Presentation and oral examination
1.2	Describe how a transaction is stored in blocks and how to add digital fingerprints to the blocks.	Lectures Peer teaching Note taking	Presentation and oral examination
2.0	Skills		
2.1	Design and develop a Blockchain application.	Group work	Final report Presentations
2.2	Link different applications with a Blockchain systems.	Group work	Final report Presentations
3.0	Competence:		
3.1	Demonstrate the ability to work under guidance as well as independently to design and develop solutions.	Group work	Final report Presentations
3.2	Demonstrate effective oral and written communication skills.	Group work	Final report Presentations
3.3	Propose innovative solutions to improve the security level and performance of the traditional enterprise systems.	Group work	Final report Presentations

2. Assessment Tasks for Students

	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Analysis, Design and Implementation	End of semester	75 %
2	Presentation and oral examination	End of semester	25 %

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Instructor handouts
Essential References Materials	Introduction to blockchain technology, Tiana Laurence, 2019 Architecture for Blockchain Applications Xiwei Xu, ngo Weber, Mark Staples 2018 ISBN 978-3-030-03034-6
Electronic Materials	https://developer.ibm.com/technologies/blockchain/tutorials/develop-a-blockchain-application-from-scratch-in-python/ https://developer.ibm.com/technologies/blockchain/articles/from-vision-to-reality-creating-a-successful-blockchain-application
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms, laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Data Analytics Applications
Course Code:	0607422
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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H. Specification Approval Data	خطأ! الإشارة المرجعية غير معروفة.

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☐ Elective ☒	
3. Level/year at which this course is offered: 3 rd year/ Level 6	
4. Pre-requisites for this course (if any):	
Introduction to Data Analytics- 0607421	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments	4
3	Quizzes	6
4	Midterms	33
5	Projects/Research Essays/Theses/Case Study	30
6	Final exam	30
	Total	163

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course introduces the concepts of data understanding, preparation and modeling. Students acquire the knowledge and skills to build a Data Analytics application using appropriate tools such as Google Analytics or Power BI.

2. Course Main Objective

The main purpose of this course is to introduce the students to using data analytics tools to improve decision making.

Course Objectives:

At the end of the course the students will be able to:

- Discuss various models of Business Analytics.
- Use various types of Data Analytics tools.
- Incorporate various Data Analytics tools such as Google Analytics into a website.
- Describe the usefulness of Data Analytics applications in different business sectors.
- Describe the latest trends in Data Analytics.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Define the Data Analytics framework.	K3
1.2	Describe Data Analytics applications in different business sectors.	K3
2	Skills:	
2.1	Model business problems using Data Analytics techniques.	S1
2.2	Use Data Analytics tools to improve decision making.	S4
3	Competence:	
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	C5
3.2	Demonstrate the ability to use the latest trends in Data Analytics applications.	C5
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1

C. Course Content

No	List of Topics	Contact Hours
1	Course outline	1.5
2	Overview of the Data Analytics Framework	6
3	Introduction to Google Analytics (Part 1)	6
4	Introduction to Google Analytics (Part 2)	6
5	Customizing, configuring and using conversions with Google Analytics (part 3)	6
6	Introduction to Power BI	6
7	Data Analytics Applications in Different Sectors	6

8	Using Data Analytics in the entertainment industry, education and healthcare	3
9	Data Analytics latest trends	4.5
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Define the Data Analytics framework.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
1.2	Describe Data Analytics applications in different business sectors.	Lectures Peer teaching Note taking	Exams Quizzes Assignments
2.0	Skills:		
2.1	Model business problems using Data Analytics techniques.	Case-based learning Group work	Exams Assignments Group Project
2.2	Use Data Analytics tools to improve decision making.	Case-based learning Group work	Exams Assignments Group Project
3.0	Competence:		
3.1	Demonstrate the ability to propose innovative solutions based on Data Analytics concepts.	Group work	Exams Group Project
3.2	Demonstrate the ability to use the latest trends in Data Analytics applications.	Group work	Exams Group Project
3.3	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group Project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	3 rd , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
5	Mid Term Exam	9 th	20 %
6	Group Project	14 th	20%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
7	Final exam	16 th	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	- Google analytics breakthrough: from zero to business impact Alhlou, Feras, John Wiley & Sons, Inc, 2016, ISBN: 9781119231691 - Learn Power BI : A Beginner's Guide to Developing Interactive Business Intelligence Solutions Using Microsoft Power BI. Deckler, Greg, Packt Publishing, Limited, 2019 ISBN: 9781838646653
Essential References Materials	Google Analytics Academy Web site https://analytics.google.com/analytics/academy/course/6
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, contents and learning outcomes	Circular committee	Course review Course reports
Effectiveness of the teaching	Faculty Students	Classroom observation (QMS Annex O and P) Course evaluation survey (QMS annex O and P)
Achievement of course learning outcomes	Course faculty	Moderation (QMS Annex G and Annex H)
Assessment	Course faculty	Verification
Learning recourse and facilities	Students Faculty	Course evaluation survey Course report
Student academic counseling and support	Students	Course evaluation survey
Course quality management	Program coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020



Course Specifications

Course Title:	Systems Analysis and Design (1)
Course Code:	0607302
Program:	Management Information Systems
Department:	Management Information Systems
College:	School of Business
Institution:	King Faisal University



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F. Learning Resources and Facilities	6
1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	7
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 3 Hours	
2. Course type	
a. University ☐ College ☐ Department ☒ Others ☐	
b. Required ☒ Elective ☐	
3. Level/year at which this course is offered:	
4. Pre-requisites for this course (if any):	
Enterprise Data Management - 0607204	
5. Co-requisites for this course (if any):	
None	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45
Other Learning Hours*		
1	Study	60
2	Assignments (Deliverables)	10
3	Quizzes	12
4	Midterm	30
5	Projects	25
6	Final exam	40
	Total	177

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides the students with the essential methods to analyze and design information systems. It enables the students to perform information requirements analysis using various techniques. It also covers the requirements modeling and system design including the input, output, and database design.

2. Course Main Objective

The aim of this course is to present the system analysis and design concepts and techniques.

Course objectives:

At the end of the course the students will be:

- Equipped with the skills required to carry out requirements gathering and system analysis.
- Able to construct data collection instruments, effective interfaces and efficient data repositories.
- Able to design an information system in a specific domain.
- Able to effectively apply the Total Quality Management approach to systems development.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Describe the fundamental concepts related to analysis and design of information systems.	K2
1.2	Explain the various system analysis and design methodologies.	K2
1.3	Describe the techniques for system input, output, and database design.	K2
2	Skills:	
2.1	Ability to use systems analysis techniques effectively.	S1
2.2	Ability to analyze and design a solution for a given scenario.	S2
3	Competence:	
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	C1
3.2	Demonstrate effective oral and written communication skills.	C4
3.3	Demonstrate the ability to propose innovative solutions for a given business problem.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Course outline	1.5
2	Introduction to systems analysis and design	4.5
3	Information requirements analysis	7
4	Systems analysis using data flow diagrams, data dictionaries, and process specification	12
5	Effective input and output design	9
6	Database design	1.0
7	Quality assurance and implementation	7
Total		40

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1	Knowledge:		
1.1	Describe the fundamental concepts related to analysis and design of information systems.	Lectures Note taking Peer teaching	Exams Quizzes
1.2	Explain the various system analysis and design methodologies.	Lectures Note taking Peer teaching	Exams Quizzes
1.3	Describe the techniques for system input, output, and database design.	Lectures Note taking Peer teaching	Exams Quizzes
2	Skills:		
2.1	Ability to use systems analysis techniques effectively.	Case-based learning Group work	Assignments Case study
2.2	Ability to analyze and design a solution for a given scenario.	Case-based learning Group work	Assignment Case study
3	Competence:		
3.1	Demonstrate effective time management, leadership and organization skills while working with individuals, teams, and large groups.	Group work	Group project
3.2	Demonstrate effective oral and written communication skills.	Group work	Group project
3.3	Demonstrate the ability to propose innovative solutions for a given business problem.	Group work	Group project

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes (2*5%)	5 th , 10 th	10%
2	Report-1 (Homework assignment 1)	4 th	5 %
3	Report-1 (Homework assignment 2)	8 th	5 %
4	Mid Term Exam	9 th	20 %
5	Group Project/ Case study	14 th	30%
6	Final exam	16 th	30%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

4 weekly office hours

College academic advising

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Systems Analysis and Design Kendall, K.E. & Kendall, J.E. 10th Edition – 2018 Pearson Education Limited
Essential References Materials	1. Bennett, S., McRobb, S. & Farmer, R. (2010) Object-Oriented Systems Analysis and Design using UML, McGraw Hill. 2. Hoffer J A, et al, (2004, 4th Ed), "Mastering Systems Analysis & Design", Prentice Hall 3. Journal of Emerging Trends in Computing and Information Sciences (CIS)
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show Laptop Internet access
Other Resources	None

Item	Resources
(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, content and learning outcomes	Curriculum committee	Course review Course report
Effectiveness of teaching	Course faculty	Classroom observations and course evaluation survey
Achievement of course learning outcomes	Course faculty	moderation
Learning resources and facilities	Students faculty	course evaluation survey and course report
Assessment	Course faculty	Verification
Learning resources and facilities	Students faculty	course evaluation survey
Course quality management	Program Coordinator	Course report review

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL
Reference No.	20
Date	9-4-2020