توصيف المقرر الدراسي

اسم المقرر:	الثقافة الإسلامية 2 (الحضارة الإسلامية)
رمز المقرر:	11010111
البرنامج:	الدراسات الاسلامية
القسم العلمي:	الدراسات الاسلامية
الكلية:	الآداب والعلوم الإنسانية
المؤسسة:	جامعة الباحة

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3. السنة / المستوى الذي يقدم فيه المقرر السنة الأولى/الثاني

4. المتطلبات السابقة لهذا المقرر (إن وجدت)

لا يوجد

5. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

لا يوجد

6. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	المحاضرات التقليدية	20	%66
2	التعليم المدمج		
3	التعليم الإلكتروني	10	%33
4	التعليم عن بعد		
5	أخرى		

7. ساعات التعلم الفعلية للمقرر (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
ساعات الاتصال		
1	محاضرات	20
2	معمل أو إستوديو	10
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	
ساعات التعلم الأخرى*		
1	ساعات الاستذكار	
2	الواجبات	
3	المكتبة	
4	إعداد البحوث/ المشاريع	
5	أخرى (تذكر)	
	الإجمالي	

* هي مقدار الوقت المستثمر في النشاطات التي تسهم في تحقيق مخرجات التعلم للمقرر، ويشمل ذلك: جميع أنشطة التعلم، مثل: ساعات الاستذكار، إعداد المشاريع، والواجبات، والعروض، والوقت الذي يقضيه المتعلم في المكتبة

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

يشتمل المقرر على تسعة موضوعات وهي: مفهوم الحضارة وعوامل نشأتها وأحوال العرب قبل الإسلام وأصول الحضارة الإسلامية وخصائصها وأثرها ومظاهرها وأثر الحضارة الإسلامية على الشرق وأوروبا ووسائل انتشارها

2. الهدف الرئيس للمقرر

أن يتعرف الطالب على مفهوم الحضارة ومصادرها وأهميتها ووخصائصها وأسباب انتشارها في العالم.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعارف**	
1.1	أن يعرف الطالب المفاهيم المتعلقة بالحضارة الإسلامية	
1.2	أن يشرح الطالب أهم خصائص الحضارة الاسلامية.	
1.3	أن يبين الطالب أهم مظاهر الحضارة الاسلامية	
1...		
2	**المهارات**	
2.1	أن يبين الطالب وسائل انتقال الحضارة على خارطة العالم.	
2.2	أن يبين الطالب أهم العلوم في الحضارة الاسلامية	
2.3	أن يميز الطالب بين أحوال العرب قبل الإسلام وبعده	
2...		
3	**الكفاءات**	
3.1	أن يتحمل الطالب مسؤولية تعلمه الذاتي.	
3.2	أن يعمل الطالب في مجموعة بشكل فعال ويمارس القيادة عند الحاجة.	
3.3		
3...		

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	بيان مفهوم الحضارة الإسلامية	2
2	عوامل نشأة الحضارة	2
3	أحوال العرب والعالم قبل الإسلام	2
4	أصول الحضارة الإسلامية	2
5	خصائص الحضارة الإسلامية	2
6	تابع خصائص الحضارة الإسلامية	2
7	تابع خصائص الحضارة الإسلامية	2
8	أثر خصائص الحضارة على انتشار الإسلام	2
9	مظاهر الحضارة الإسلامية	2
10	تابع مظاهر الحضارة الإسلامية	2
11	تابع مظاهر الحضارة الإسلامية	2
12	أثر الحضارة الإسلامية على العالم	2
13	أثر الحضارة الإسلامية على الشرق	2
14	أثر الحضارة الإسلامية على الغرب	2

15	وسائل انتقال الحضارة الى اوروبا	2
	المجموع	30

د. التدريس والتقييم:

1. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.0	**المعارف**		
1.1	أن يعرف الطالب المفاهيم المتعلقة بالحضارة الإسلامية	المحاضرات الحوار والمناقشات تكليف الطلاب ببعض الواجبات.	الاختبار الدوري الأول والاختبار النهائي
1.2	أن يشرح الطالب أهم خصائص الحضارة الاسلامية.		الاختبار النصفي والنهائي
...	أن يبين الطالب أهم مظاهر الحضارة الاسلامية		
2.0	**المهارات**		
2.1	أن يبين الطالب وسائل انتقال الحضارة على خارطة العالم.	المحاضرات الحوار والمناقشات تكليف الطلاب ببعض الواجبات	الاختبار الدوري الأول والاختبار النهائي
2.2	أن يبين الطالب أهم العلوم في الحضارة الاسلامية		الاختبار النصفي والنهائي
...	أن يميز الطالب بين أحوال العرب قبل الإسلام وبعده		
3.0	**الكفاءات**		
3.1	أن يتحمل الطالب مسؤولية تعلمه الذاتي.	الملاحظة	
3.2	أن يعمل الطالب في مجموعة بشكل فعال ويمارس القيادة عند الحاجة.	الملاحظة	
...			

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	اختبار دوري أول	الأسبوع الخامس	%10
2	اختبار نصفي	الأسبوع التاسع	%20
3	الاختبار الدوري الثاني	الأسبوع الثاني عشر	%10
4	الواجبات والأبحاث (فردي وجماعي)	على مدار الفصل	%10
5	الاختبار النهائي	الأسبوع السادس عشر	%50
6			
7			
8			

أنشطة التقييم (اختبار تحريري، شفهي، عرض تقديمي، مشروع جماعي، ورقة عمل الخ)

هـ ـ أنشطة الإرشاد الأكاديمي والدعم الطلابي:

1-تحديد الساعات المكتبية في بداية الفصل .

2- تفعيل البريد الالكتروني في تواصل الطلاب بأستاذهم.

3-يتم مراجعة الطلبة لوحدة الإرشاد الاكاديمي التابعة للكلية فيما يخص خدمتهم من الناحية الأكاديمية.

4-يتاح لجميع الطلبة مراجعة وحدة الإرشاد الأكاديمي في مقرهم،وللوحدة برامج وأنشطة،وتضم بعضاً من أعضاء الهيئة التعليمية.

5-التواصل من خلال برنامج البلاك بورد،والبريد الإلكتروني لعضو هيئة التدريس،وغيرها من الوسائل

و ـ مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	الحضارة الإسلامية/الدكتور. أمين يونس والدكتور عبد الله الثقفي
المراجع المساندة	الإسلام .. أثره في الحضارة وفضله على الإنسانية – الشيخ أبو الحسن الندوي. من روائع حضارتنا – الدكتور مصطفى السباعي. الحضارة الإسلامية – عبد الرحمن الميداني. الحضارة الإسلامية وأثرها في الغرب – إسماعيل ياغي . تاريخ الحضارة الإسلامية والفكر الإسلامي – الدكتور أبو زيد شلبي. العلوم والفنون في الحضارة الإسلامية – الدكتور تاج السر أحمد حران. تاريخ النظم والحضارة الإسلامية – الدكتورة فتحية النبراوي
المصادر الإلكترونية	http://www.al-mostafa.com/index.htm http://www.alwaraq.net/index http://www.almeshkat.net/books/index.php
أخرى	

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	1- قاعات درس مناسبة . 2- مقاعد مريحة للطلاب . .
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	أجهزة عرض متنوعة
تجهيزات أخرى (تبعاً لطبيعة التخصص)	

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
• توزيع استبانة تقويم المقرر على الطلبة في نهاية كل الفصل الدراسي للحصول على تقويم المقرر. • •	الطلاب	الاستبانات
استخدام حلقات نقاش مع عدد محدود من الطلاب.	الطلاب والمدرسين	الملاحظة
تحليل درجات الطلبة في الاختبارات إحصائياً وتفسيرها.	المدرسين	الاستبانات
عدد مشاركات الطلبة أثناء الشرح يعد مؤشرا لفاعلية التدريس.	المدرسين	الملاحظة

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	

Course Specifications

Course Title:	Software Engineering
Course Code:	41011313
Program:	Computer Science
Department:	Computer Science and Engineering
College:	Computer Science and information technology
Institution:	Albaha 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: 5th level / 3rd year
4. Pre-requisites for this course (if any)**:** Advanced Programming (41021231)
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**	25	45%
2	**Blended**	-	-
3	**E-learning**	6	10%
4	**Correspondence**	-	-
5	**Other (Lab)**	25	45%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	25
2	**Laboratory/Studio**	25
3	**Tutorial**	-
4	**Others** (e-leaning)	10
	Total	60
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	10
3	**Library**	-
4	**Projects/Research Essays/Theses**	10
5	**Others**(specify)	-
	Total	50

*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

Lecture:

Software engineering is a discipline that concerns with the software development process, focusing on the common principles for creating and maintaining the quality of software products. The core of software engineering is the property of a lifecycle model which covers distinct phases of software development process, including requirement analysis, software design, implementation, testing and validation, evolution and maintenance.

Lab:

The Software Engineering Lab is aimed to provide students practical experience with different aspects of Software Engineering and UML. Different types of UML diagrams will be covered in the lab. The students will learn group work and practice some software engineering methodologies and use some supporting tools.

2. CourseMainObjective

The main purpose for this course is to teach students how to:

- Describe software engineering concepts, objectives and software types.
- Describe different software engineering processes
- Explain software requirements engineering and its methods
- Recognize different methods for modeling, designing, testing software
- Interact in groups collaboratively.
- Communicate concepts and techniques in oral presentations.

3. Course Learning Outcomes

CLOs		AlignedPLOs
1	**Knowledge:**	
1.1	Describe software engineering concepts, objectives and software types.	K1
1.2	Describe different software engineering processes	K2
2	**Skills :**	
2.1	Explain software requirements engineering and its methods	S1
2.2	Recognize different methods for modeling, designing, testing software	S2
3	**Competence:**	
3.1	Interact in groups collaboratively.	C1
3.2	Communicate concepts and techniques in oral presentations	C2

C. Course Content

No	List of Topics (Lecture)	Contact Hours
1	Software Engineering Concepts, Objectives and Software Types	2
2	Software Process and Software Development Life Cycle	2
3	Agile Software Development	4
4	Requirements Engineering	4
5	Methods for Modelling Software	4
6	Software Architecture	2
7	Software Design	6
8	Software Testing	4

9	Advance Topics in Software Engineering	2
Total		30

No	List of Topics (Lab)	Contact Hours
	Introduction and projectdefinition	2
	Software requirements specification (SRS)	4
	Introduction to UML and usecase diagram	4
	Class diagram and Object diagram	4
	Sequence diagram andCommunication (Collaboration) diagram	4
	Statediagram and Activity diagram	4
	Package diagram	4
	Software Testing: JUnit	4
Total		30

D. Teaching and Assessment

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

Code	Course Learning Outcomes	TeachingStrategies	AssessmentMethods
1.0	**Knowledge**		
1.1	Describe software engineering concepts, objectives and software types.	- Lectures - Assignments	- Homework - Midterm - Final exam
1.2	Describe different software engineering processes	- Lectures - Assignments	- Homework - Midterm - Final exam
2.0	**Skills**		
2.1	Explain software requirements engineering and its methods	- Lectures - Assignments - Lab exercises	- Homework - Course project presentation and report. - Midtermexam - Final exam
2.2	Recognize different methods for modeling, designing, testing software	- Lectures - Assignments	- Homework - Course project presentation and report. - Midterm exam - Final exam
3.0	**Competence**		
3.1	Interact in groups collaboratively.	- Small groups	- Reports - Class discussion
3.2	Communicate concepts and techniques in oral presentations	- Oral presentation	- Course project presentation.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	Every four Weeks	5%
2	Midterm	8	20%
3	Course project presentation and report	14	15%
4	Lab Exam	15	20%
5	Final Exam	16	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 :

The faculty offered 3hours per week for each group of students as office hour. In addition, the students are welcomed to send their enquires via the official email or the LMS (Rafid)

- Teaching Assistant or Tutor 3 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	- Ian Sommerville, Software Engineering, 10th edition, - UML Distilled: A Brief Guide to the Standard Object Modeling Language (3rd Edition) 3rd Edition.
Essential References Materials	- Computer Science Curriculum 2013 – http://cs2013.org - ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	- ACM (Association for Computer Machinery) web site - http://www.acm.org/ - IEEE Computer Society web site - http://www.computer.org/portal/web/guest/home - Access to the Saudi Digital Library (SDL). - Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	- R. Pressman, Software Engineering: A Practitioner's Approach, 7th edition, McGraw-Hill. 2009. ISBN-10: 0073375977. - Frederick P. Brooks, The Mythical Man-Month: Essays on Software Engineering, Anniversary Edition. Addison-Wesley Professional. ISBN-10: 0201835959.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration	A classroom or lecture hall with whiteboard for 25 students.

Item	Resources
rooms/labs, etc.)	
Technology Resources (AV, data show, Smart Board, software, etc.)	• A laptop or access to a desktop computer with access to major engineering tools • High speed Internet connection • Power outlets for student's laptop plug-in
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• Have access to the latest version of the most popular applications and systems development tools

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Student • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching • difficulties and action plan, …)
Effectiveness of assessment	• Student • Faculty • Peer Reviewers • Examination Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	**Computer science & Engineering department council**
Reference No.	Second meeting 2020-2021 academic year
Date	1-september-2020

Course Specifications

Course Title:	Operating Systems
Course Code:	41011314
Program:	Computer Science
Department:	Computer Science and Engineering
College:	Computer Science and Information Technology
Institution:	Albaha 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
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 5th Level/ 3rd Year
4. Pre-requisites for this course (if any)**:** Introduction to Information Technology and Communications (41011153)
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	50%
2	**Blended**		
3	**E-learning**		
4	**Correspondence**		
5	**Other (Lab)**	30	50%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	-
4	**Others** (specify)	-
	Total	60
Other Learning Hours*		
1	**Study**	60
2	**Assignments**	20
3	**Library**	-
4	**Projects/Research Essays/Theses**	10
5	**Others** (specify)	-
	Total	90

* 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

Lecture:
This is a first course in operating system theory and design. After successfully completing this course, students understand the core concepts of operating systems, such as processes and threads, scheduling, synchronization, memory management, file systems, input and output

device management and security.

Lab:
The lab of this course implements concepts learned in operating system course using Linux (Ubantu) operating system. The labs of this course provide opportunity to students to hands-on experience y on Linux operating systems by learning, its installation, shell commands and scripting.

2. Course Main Objective

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

- Describe the concept of operating system and its structure
- Describe process management, including processes, threads, synchronization, scheduling and deadlocks
- Describe memory management, including main memory and virtual memory
- Define storage management, including mass-storage, file system and I/O system
- Define protection and security
- Operate across different operating systems environment
- Demonstrate hands-on expertise on Linux operating system
- Practice on covered topics by solving given assignments periodically
- Communicate concepts and techniques in participation and presentations

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Describe the concept of operating system and its structure	K1
1.2	Describe process management, including processes, threads, synchronization, scheduling and deadlocks	K2
1.3	Describe memory management, including main memory and virtual memory	K3
2	**Skills :**	
2.1	Define storage management, including mass-storage, file system and I/O system	S1
2.2	Define protection and security	S2
2.3	Operate across different operating systems environment	S3
2.4	Demonstrate hands-on expertise on Linux operating system	S4
3	**Competence:**	
3.1	Practice on covered topics by solving given assignments periodically	C1
3.2	Communicate concepts and techniques in participation and presentations	C2

C. Course Content

No	List of Topics	Contact Hours
1	History of operating systems	2
2	Introduction, an overview of operating systems	2
3	Operating systems concepts and structure	2
4	Processes	2
5	Threads	2
6	CPU Scheduling	2
..7.	Synchronization (Semaphores)	2
8	Synchronization (Deadlocks)	2
9	Memory management	2
10	Main memory	2
11	File systems	2

12	Mass-storage systems	2
13	I/O Systems	2
14	Multi-Processor systems	2
15	Security and protection	2
Total		30

No	List of Topics (Lab)	Contact Hours
1	Linux/Ubantu Installation and Introduction to Linux	4
2	Basic Linux shell commands	2
3	More Linux shell commands and examples	2
4	Basic scrip building	4
5	Using structured commands in shell scripting	2
6	More structured commands in shell scripting	2
..7.	Advanced shell scripting, creating functions	2
8	TCSH: Process system calls	4
9	TCSH: I/O system calls	2
10	TCSH: Process scheduling	4
11	TCSH: Memory Management	2
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	Describe the concept of operating system and its structure	• Lectures	• Assignments • Periodic Quizzes • Midterm and final exam
1.2	Describe process management, including processes, threads, synchronization, scheduling and deadlocks	• Lectures	• Assignments • Periodic Quizzes • Midterm and final exam
1.3	Describe memory management, including main memory and virtual memory	• Lectures	• Assignments • Periodic Quizzes • Midterm and final exam
2.0	**Skills**		
2.1	Define storage management, including mass-storage, file system and I/O system	• Lectures	• Assignments • Periodic Quizzes • Midterm and final exam
2.2	Define protection and security	• Lectures	• Assignments • Periodic Quizzes • Midterm and final exam
2.3	Operate across different operating systems environment	• Lectures • Labs	• Periodic Quizzes • Midterm and Final exams
2.4	Demonstrate hands-on expertise on Linux operating system	• Lectures • Labs	• Assignments • Lab Exam
3.0	**Competence**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.1	Practice on covered topics by solving given assignments periodically	• Group Assignments • Group Lab Exercises	• Assignments • Midterm and Final lab exams
3.2	Communicate concepts and techniques in participation and presentations	• Oral Presentations	• Oral presentations and participation

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework Assignments	Week 4, 8, 12	5%
2	Midterm	Week 7	15%
3	Quiz	Week 11	15%
4	Oral presentations and participation	Week 14	5%
5	Lab Exam	Week 15	20%
6	Final Exam	Week 16	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 :

The faculty offered 3 hours per week for each group of students as office hour. In addition, students are welcomed to send enquires via official email or the LMS (Rafid).

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	1. Operating Systems Concepts (10th edition), by Abraham Silberschatz et al., Wiley, 2018.
Essential References Materials	1. Operating Systems: Internals and Design Principles (7th edition), by William Stallings, 2011. 2. Operating Systems in depth, by Thomas W. Doeppner, Wiley, 2010.
Electronic Materials	1. Access to the Saudi Digital Library (SDL). https://sdl.edu.sa/SDLPortal/en/Publishers.aspx 2. Using the learning management system of the university (Rafid) https://rafid.bu.edu.sa/webapps/login/ 3. ACM Digital Library https://dl.acm.org/
Other Learning Materials	1. Ubuntu Linux (Required) 2. Windows 10 (Optional) 3. MAC OS (Optional)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Standard classroom, size depends upon number of students registered. • Lab computers having Ubantu installed.

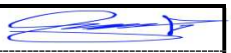
Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	• AV (Female section) • Data show, smart board/white board (Male section)
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Student • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching • difficulties and action plan, …)
Effectiveness of assessment	• Student • Faculty • Peer Reviewers • Examination Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

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	**Computer science & Engineering department council** 
Reference No.	Second meeting 2020-2021 academic year
Date	1-september-2020

Course Specifications

Course Title:	**Intelligent Systems**
Course Code:	**41011324**
Program:	**Computer Science**
Department:	**Computer Science and Engineering**
College:	**Computer Science and Information Technology**
Institution:	**Albaha University**

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A. Course Identification

1. Credit hours: 3hours
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)**:** • Advanced Programming: 41021231
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	50%
2	**Blended**	-	-
3	**E-learning**	-	-
4	**Correspondence**	-	-
5	**Other**	30	50%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	20
2	**Assignments**	20
3	**Library**	
4	**Projects/Research Essays/Theses**	20
5	**Others**(specify)	
	Total	60

*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

Information systems are going through a sort of renaissance right now. System designers are finding novel ways to embed intelligent system techniques into mainstream applications. This is especially true for handheld/mobile devices. Consequently, new intelligent systems platforms and business demands are being introduced fairly regularly. This course will be augmented with on-line resources to take advantage of the newest developments in the field.IEEE and ACM regularly update the Computer Science curriculum recommendations. These recommendations will be consulted on a regular basis in order to take advantage of the best practices in the field of intelligent systems

Lecture:

This course introduces students to the field of Artificial Intelligence (AI) with emphasis on its use to solve real world problems for which solutions are difficult to express using the traditional algorithmic approach. It explores the essential theory behind methodologies for developing systems that demonstrate intelligent behavior including dealing with uncertainty, learning from experience and following problem solving strategies found in nature. This course is intended to bring to the students the informationnecessary to understand the design, operation and capabilities of intelligent systems. Studentswill be introduced to the fundamental concepts of machine learning with neural and fuzzycomponents.Topics to be covered include intelligent agents, heuristic search techniques,problem-solving as a search activity, knowledge representation, probabilistic reasoning, machine learning, neural networks, genetic algorithms, self-organizing systems, swarm computing, and biologically inspired computing.

Lab:

The role of the lab is to educate students the concepts and techniques of modern Intelligent Systems such as Machine Learning, and Intelligent Agents. The Lab introduces practical implementation in Artificial Intelligence and Multiagent Systems in the intersections of multiagent learning, decision making under uncertainty, and game theory. The lab introduces methods on content extraction from multimedia information through the application of natural language processing, text analysis, signal, image and video analysis. Machine learning research in the lab spans various aspects, such as clustering and classification. Our emphasis is placed on reinforcement learning, whereby an autonomous agent learns how to act rationally in an unknown environment through trial and error. Inaddition, our lab focuses on the computational intelligence; the techniques and methods used to tackle problems not well solved by traditional approaches to computing such as fuzzy logic, neural networks, evolutionary computing and knowledge-based systems.

2. Course MainObjective

This course provides a broad overview of intelligent systems.The objective of this course is toprovide students an opportunity to study some selected aspects of computational intelligencemethods. Students willbe introduced to Evolutionary Computation (EC), and Natural Language Processing (NLP).Students enrolled in this class and having successfully completed this course, willbe able to:

- Outline the intelligent systems fundamental principles.
- State knowledge representation techniques.
- Recognize neural networks, genetic algorithms, fuzzy logic, swarm computing, biologically inspired computing, expert systems, and machine learning techniques, among others.
- Explain when and how to apply intelligent systems techniques.
- Evaluate and test intelligent systems techniques.
- Compare with current trends and applications relates to the course.
- Interact in groups collaboratively.
- Communicate concepts and techniques in oral presentations.

3. Course Learning Outcomes

CLOs		AlignedPLOs
1	**Knowledge:**	
1.1	Outline the intelligent systemsfundamental principles	K1
1.2	State knowledge representationtechniques	K2
1.3	Recognize neural networks, geneticalgorithms, fuzzy logic, swarm computing, biologicallyinspiredcomputing, expert systems, and machinelearning techniques, among others	K1
2	**Skills :**	
2.1	Explain when and how to applyintelligent systems techniques	S1
2.2	Evaluate and test intelligent systemstechniques	S2
2.3	Compare with current trends andapplications relates to the course	S3
3	**Competence:**	
3.1	Interact in groups collaboratively	C1

C. Course and Lab Content

No	List of Topics—Course	Contact Hours
1	Introduction to Intelligent Systems	2
2	Introduction to Knowledge Representation and Reasoning	4
3	Search and computational complexity in Intelligent Systems	4
4	Natural language understanding	2
5	Introduction to Machine Learning	2
6	Neural Networks	4
7	Genetic Algorithms	2
8	Probabilistic Reasoning and Bayesian Belief Networks	2
9	Fuzzy logic Reasoning	4
10	Intelligent Agents	4
Total		30

No	List of Topics—Lab	Contact Hours
1	Introduction to Artificial Intelligence and building an intelligent agent.	2
2	Solving problems using logic programming (Validating primes – Parsinga family tree)	4
3	Heuristic Search Techniques (Constructing a string using greedy search, solving a problem with constraints,building an 8-puzzle solver)	6
4	Genetic Algorithms (Solving the symbol regression problem – Buildingan intelligent robot controller)	4
5	Building Games with Artificial Intelligence (Building a bot to play Tic-Tac-Toe)	4
6	Probabilistic Reasoning for Sequential Data (Generating data usingHidden Markov Models)	2
7	Artificial Neural Networks (Constructing a single layer neural network - Constructing a multilayer neural network)	4

8	Reinforcement Learning (Building a learning agent)	2
9	Deep Learning with Convolutional Neural Networks (Building aperceptron-based linear regressor)	4
Total		32

D. Teaching and Assessment

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

Code	Course Learning Outcomes	TeachingStrategies	AssessmentMethods
1.0	**Knowledge**		
1.1	Outline the intelligent systemsfundamental principles	• Lectures • Assignments	• Homework • Midterm exam • Final exam
1.2	State knowledge representationtechniques	• Lectures • Assignments	• Homework • Midterm exam • Final exam
1.3	Recognize neural networks, geneticalgorithms, fuzzy logic, swarmcomputing, biologicallyinspiredcomputing, expert systems, and machinelearning techniques, among others	• Lectures • Assignments	• Homework • Midterm exam • Final exam
2.0	**Skills :**		
2.1	Explain when and how to applyintelligent systems techniques	• Lectures • Assignments • Case study • Lab Exercises	• Homework • Midterm exam • Final exam
2.2	Evaluate and test intelligent systemstechniques	• Lectures • Assignments • Case study • Lab Exercises	• Quizzes • Midterm exams • Lab Exam • Final Exam
2.3	Compare with current trends andapplications relates to the course	• Lectures • Assignments • Case study • Lab Exercises	• Homework • Lab Exam
3.0	**Competence:**		
3.1	Interact in groups collaboratively	Small Group and Oral Presentations	• Report, presentation and class discussion

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Weekly homework exercises and/or programming assignment	Weekly	10%
2	Quizzes	Periodically	5%
3	Midterm	7	20%
4	Project	12	5%
5	Lab Exam	14	20%
6	FinalExam	15	40%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
7	**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 :

- Faculty – 3 hours per week, and 24/7 through email.
- Teaching Assistant or Tutor – 6 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Schalkoff, R. J. (2011). *Intelligent systems: principles, paradigms, and pragmatics*. Jones & Bartlett Publishers.
Essential References Materials	Joshi, P. (2017). *Artificial intelligence with python*. Packt Publishing Ltd.
Electronic Materials	• Access to the Saudi digital library SDL. • Using the learning management system of the university—Rafid System: https://lms.bu.edu.sa.
Other Learning Materials	Python

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) • A classroom or lecture hall with whiteboard for 25 students. • Laboratory with 25 computers.
Technology Resources (AV, data show, Smart Board, software, etc.)	Technology resources (AV, data show, Smart Board, software, etc.) • White board + data show + software • All students shall have - A laptop or access to a desktop computer with access to an intelligent - systems development tool - High speed Internet connection - Power outlets for student's laptop plug-in
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	The laboratory will have access to the latest version of the most popular intelligent systems development tools.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Student • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching • difficulties and action plan, …)
Effectiveness of assessment	• Student • Faculty • Peer Reviewers • Examination Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	**Computer science & Engineering department council**
Reference No.	Second meeting 2020-2021 academic year
Date	1-september-2020

Course Specifications

Course Title:	**Advanced WEB Development**
Course Code:	**41021373**
Program:	**Computer Science**
Department:	**Computer Science and Engineering**
College:	**Computer Science and information technology**
Institution:	**Albaha University**

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A. Course Identification

1. Credit hours:3hours
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 5th level3rdyear-
4. Pre-requisites for this course (if any)**:WEB Page Development(41011327)**
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	50%
2	**Blended**	-	-
3	**E-learning**	-	-
4	**Correspondence**	-	-
5	**Other**	30	50%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	-
4	**Others** (specify)	-
	Total	60
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	10
3	**Library**	-
4	**Projects/Research Essays/Theses**	6
5	**Others**(specify)	-
	Total	46

*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 describesa solid introduction to the latest trends and best programming practices with PHP5(x) and the skills needed for practical programming applications, and learn how to put these skills to use in real world scenarios,also give a solid introduction to using MySQL database with PHP programming language to build database driven websites. Learn the SQL language and master database design principles. How to create

three-tiered data applications such as websites that require user login/authentication, websites with automated web content, interactive websites, simple shopping carts, and a whole lot more.

LAB

The lab is planned to give students practical experiments on WEB Page Development. Students will also learn how to:

- Build Dynamic web site.
- WEB Server Configuration.
- My SQL.
- Sever Side Program such as PHP

PHP Function used to connect with web site and MySQL

2. Course Main Objective

The main purpose for this course is to teach students how to:

- Describe the PHP language and web server configurations.
- Demonstrate PHP data types and operators.
- Implementation of Functions and control structures of PHP Language.
- Implementation MySQL database
- Interact MySQL database with PHP
- Interact in groups collaboratively.

Communicate concepts and techniques in oral presentations.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Describe the PHP language and web server configurations.	**K1**
1.2	Demonstrate PHP data types and operators.	**K2**
1.3	Implementation Functions and control structures of PHP Language.	**K2**
2	**Skills:**	
2.1	Implementation MySQL database	**S1**
2.2	Demonstrate Content Management Systems (CMSs)	**S2**
2.3	Interact MySQL database with PHP	**S3**
3	**Competence:**	
3.1	Interact in groups collaboratively	**C1**
3.2	Communicate concepts and techniques in oral presentations	**C2**

C. Course Content

No	List of Topics (Lectures)	Contact Hours
1	PHP and the Modern Web	**2**
2	Dynamic Web Site Design Principles	**2**
3	Server-Side Programming (PHP)	**2**
4	Implementation basic PHP scripts.	**2**
5	Persistent Connection and Nonpersistent Connection	**2**
6	Connection Oriented and Connectionless	**2**
7	Introduction DBMS and MySQL	**4**
8	PHP Code and Operation.	**4**
9	Connect WEB with MySQL.	**4**
10	PHP Method and Function.	**4**
11	Advanced Topics of Creating Dynamic WEB Site	**2**

Total		15
No	**List of Topics (LAB)**	**Contact Hours**
1	Introduction to PHP	**2**
2	Creating (Declaring) PHP Variables	**2**
3	PHP Operators	**2**
4	PHP Conditional Statements	**2**
5	PHP Loops	**2**
6	PHP User Defined Functions	**2**
7	PHP WEB Forms	**2**
8	Introduction DBMS and MySQL	**2**
9	Connect WEB with MySQL.	**2**
10	Insert Data into MySQL Using MySQL and PDO	**2**
11	Select Data from a MySQL Database	**4**
12	Limit Data Selections from a MySQL Database	**4**
13	Advanced Topics of Creating Dynamic WEB Site	**2**
Total		**15**

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 PHP language and web server configurations.	• Lectures • Assignments	• Homework • Midterm exams • Final Exam
1.2	Demonstrate PHP data types and operators.	• Lectures • Assignments	• Homework • Midterm exams • Lab Exam • Final Exam
1.3	Implementation Functions and control structures of PHP Language.	• Lectures • Assignments	• Homework • Midterm exams • Lab Exam • Final Exam
2.0	**Skills**		
2.1	Implementation MySQL database	• Lectures • Assignments • Case study • Lab Exercises	• Quizzes • Midterm exams • Lab Exam • Final Exam
2.2	Demonstrate Content Management Systems (CMSs)	• Lectures • Assignments • Case study • Lab Exercises	• Quizzes • Midterm exams • Final Exam •
2.3	Interact MySQL database with PHP	• Lectures • Assignments • Case study	• Quizzes • Midterm exams • Lab Exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		• Lab Exercises	• Final Exam
3.0	**Competence**		
3.1	Interact in groups collaboratively	• Small groups	• Reports • Class discussions
3.2	Communicate concepts and techniques in oral presentations	• Oral Presentations	• Oral presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	**Weekly homework exercises/ programming assignments/Lab work**	**Every Two Weeks**	**15%**
2	**Quizzes**	**5-10**	**10%**
3	**Mid Term 1**	**8**	**15%**
4	**LAB Exam(Project)**	**15**	**20%**
5	**Final Exam**	**16**	**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:

- Faculty - 3 hours per week
- Teaching Assistant or Tutor - 3 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Learning PHP, MySQL, JavaScript, and CSS (5th edition)
Essential References Materials	- Computer Science Curriculum 2013 – http://cs2013.org - ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	• ACM (Association for Computer Machinery) web site - http://www.acm.org/ • IEEE Computer Society web site - http://www.computer.org/portal/web/guest/home • Access to the Saudi Digital Library (SDL). Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	Apache Server, DBMS (MySQL) HTML. Java Scrip, PHP

2. Facilities Required

Item	Resources

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• A classroom or lecture hall with whiteboard for 25 students. • A laboratory with 25 computers.
Technology Resources (AV, data show, Smart Board, software, etc.)	• All students shall have: o A computer with Server Software, other common programming languages installed such as Dreamweaver 8.0 or Komodo IDE 11 o High speed Internet connection. o Power outlets for student's laptop plug-in.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• The laboratory should have computers with Apache Server programming.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Student • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching • difficulties and action plan, …)
Effectiveness of assessment	• Student • Faculty • Peer Reviewers • Examination Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	**Computer science & Engineering department council**
Reference No.	Second meeting 2020-2021 academic year
Date	1-september-2020

Course Specifications

Course Title:	**Object Oriented Programming**
Course Code:	**41021379**
Program:	**Computer Science**
Department:	**Computer Science and Engineering**
College:	**Computer Science and information technology**
Institution:	**Albaha University**

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A. Course Identification 3

6. Mode of Instruction (mark all that apply) 3

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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: 5nd LEVEL (3nd YEAR)
4. Pre-requisites for this course (if any)**: Advanced Programming (41021231)**
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**	21	70%
2	**Blended**		
3	**E-learning**	3	10%
4	**Correspondence**		
5	**Other**	6	20%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	20
2	**Assignments**	20
3	**Library**	
4	**Projects/Research Essays/Theses**	10
5	**Others**(specify)	
	Total	**30**

*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

Lecture:

The purpose of this course is to provide students with fundamental knowledge of object oriented programming (OOP). It emphasizes good software engineering principles and developing programming skills. It focuses on object-oriented concepts, analysis and software development.

Students will learn the concepts and rules used in object-oriented programming to provide the important benefits as the concept of a data class, inheritance, polymorphism etc.

LAB

The lab is planned to give students fundamental knowledge of object oriented programming (OOP).

- Classes, and Objects Data fields, methods, constructors, polymorphism, inheritance, dependency, interfaces
- Graphical User Interfaces (GUI) GUI Programming JavaFX basics
- Data Structures Java collections (Lists, Maps, etc.)
- User Interface Design Patterns Model-View-Controller (MVC)

2. Course MainObjective

The main purpose for this course is to:

- Describe object-oriented programming principles for applications
- Design object oriented solutions for small systems involving multiple objects with implementation, test and debug solutions in JAVA
- Analyze and design larger programs by structuring them into multiple classes, with a variety of relationships between those classes, such as association, composition, and inheritance
- Evaluate and criticize a term project of a medium-size
- Practice on covered topics by solving given assignments periodically.
- Interact in groups collaboratively.
- Communicate concepts and techniques in oral presentations.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Describe object-oriented programming concepts and principles.	K1
1.2	Design object oriented solutions and recognize the difference between Forward engineering and Reverse engineering	K2
1.3	Recognize and analyze larger oop programming fundamentals like Java collections, Graphical User Interfaces and Design Patterns.	K3
2	**Skills :**	
2.1	Write programs using class, inheritance, polymorphism concepts in UML context for Forward engineering andwrite models for Reverse	S1

CLOs		Aligned PLOs
	engineering	
2.2	Develop and solve problems using the main advanced OOP Data Structures Java collections, Graphical User Interfaces, Design Patterns,	S3
2.3		
2...		
3	**Competence:**	
3.1	Interact in groups collaboratively.	C1
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	**Introduction to Object Oriented: Class, object, method,..**	**6**
2	**UML TO java & JAVA to UML (Forward engineering and Reverse engineering)**	**6**
3	**Inheritance and polymorphism**	**4**
4	**Abstract Classes and Interfaces**	**2**
5	**Collection Classes: List, Set, Map**	**4**
6	**GUI Programming, Event Handling and Inner Classes**	**4**
7	**Design Patterns**	**4**
Total		30

No	List of Topics (labs)	Contact Hours
1	**Introduction to Object Oriented: Class, object, method,..**	**4**
2	Classes and Objects Data fields, methods, constructors, UML class diagrams Fundamental concepts of object oriented (classes, methods, instantiation, communication by message, encapsulation, inheritance, overriding, dynamic dispatch, polymorphism, etc.)	**6**
3	**Inheritance and polymorphism**	**4**
4	Data Structures Java collections (Lists, Maps, etc.)	**2**
5	Basics of Graphical User Interface (GUI) design using object oriented programming using JavaFX basics	**6**
6	Advanced User Interfaces JavaFX controls and layouts	**3**
7	User Interface Design Patterns Model-View-Controller (MVC)	**5**
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	Describe object-oriented programming principles for applications.	Lectures Assignment	Homework Midterm exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Final Exam
1.2	Design object oriented solutions involving multiple objects with implementation, test and debug solutions in JAVA	Lectures Assignments	Homework Midterm exams Final Exam
2.0	**Skills**		
2.1	Understanding of OOP programming concepts	Lectures Assignments	Homework Midterm exams Final Exam Lab exam
2.2	Understanding of main advanced OOP programming concepts	Lectures Assignments	Homework Midterm exams
…			
3.0	**Competence**		
3.1	Interact in groups collaboratively.	Small Groups	Reports Class discussions
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	Every two weeks	5%
2	Lab work	Week 10	10%
3	Midterm exam	Within the 8th Week	15%
4	Project	Week 14	20%
5	Quiz	Week 13	10%
6	Final Exam	Week 16	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 :

The faculty offered 3hours per week for each group of students as office hour. In addition, the students are welcomed to send their enquiresvia the official email or the LMS (Rafid)

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	1. *Introduction to Java Programming, Brief Version: McGraw-Hill Author: Abraham Silberschatz, Y. Daniel Liang, Pearson, 2017, 11th ed.* 2. *Object-Oriented Programming with Java: An Introduction 1st Edition: David Barnes, ISBN-13: 978-0130869005* 3. *An Introduction to Object-Oriented Programming with Java 5th Edition: C. Thomas Wu, ISBN-13: 978-0073523309* 4. *Object-Oriented Programming using JAVA: Simon Kendal, http://zums.ac.ir/files/research/site/ebooks/it-programming/object-oriented-programming-using-java.pdf*
Essential References Materials	Computer Science Curriculum 2013 – http://cs2013.org ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	ACM (Association for Computer Machinery) web site - http://www.acm.org/ • ACM SIGMOD (Special Interest Group on Management of Data) - http://www.sigmod.org/ • IEEE Computer Society web site - http://www.computer.org/portal/web/guest/home • Open access course material online
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• A classroom or lecture hall with whiteboard. • A laboratory with computers that have installed Windows, • A digital image projection system with connection and switches to desktop computer, laptop computer
Technology Resources (AV, data show, Smart Board, software, etc.)	• All students shall have ▪ A computer with Windows ▪ Eclipse/ NetBeans ▪ SceneBuilder/javaFX ▪

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A laboratory with multiple computers, with a variety of operating systems: • Windows

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	• Student • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching • difficulties and action plan, …)
Effectiveness of assessment	• Student • Faculty • Peer Reviewers • Examination Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	**Computer science & Engineering department council**
Reference No.	Second meeting 2020-2021 academic year
Date	1-september-2020