Engineering Program

Specialization	**Smart Device Engineering**
Course Number	**20412132**
Course Title	**Smart Devices Programming Using JAVA Language**
Credit Hours	**3**
Theoretical Hours	**2**
Practical Hours	**1**

التخصص: هندسة أجهزة ذكية
رقم المادة الدراسية:
اسم المادة الدراسية: برمجة جافا باستخدام أندرويد
عدد الساعات النظرية:2
عدد الساعات العملية:1

الوصف العام:

مراجعة في برمجة لغة جافا وتطبيقاتها ، أنظمة التشغيل وإصدارات اندرويد ، تهيئة بيئة عمل أندرويد (Eclipse)، android SDK، JDK java، مكونات مشروع اندرويد وتفصيلاته ، المصادر ، ملف الوثيقة ومكوناته ، تصميم ملفات الواجهة ، ال(ViewGroup) ، العناصر (Views) والتعامل مع كل عنصر(TextView, EditText, RadioGroup, RadioButton,ChekBox,StatusBar,RatingBar, Button) ،الأحداث مع كل عنصر(Event listener)، القوائم (ListView) ، الوسائط المتعددة والأصوات،

يتوقع من الطالب:
القدرة على التعامل مع بيئة برمجة أندرويد و بناء تصور لتطبيقات عملية على الاجهزة الذكية

وصف المادة الدراسية:

- The intent of this course is to introduce the foundation of Android programming along with the latest Android SDKs and development tools. Students will use the Eclipse programming environment to develop Android projects in Java. Topics will include the implementation of user-initialed events, threads and background tasks, and working with the Graphical Layout Editor for building XML user interfaces.

أهداف المادة الدراسية:

After studying this course the student should:

1. Course material will be presented in a lecture format during the first part of the class meeting.
2. This course is also designed to maximize learning through the use of lab work as well as collaborative learning. Lecture material will consist of discussion, diagrams, and multimedia demonstrations.
3. Moodle will be used for submitting your assignments.

لوصف العام:

رقم الوحدة	اسم الوحدة	محتويات الوحدة	الزمن
1.	*Java* : Chapters 1 - 10	Foundations of Java / Data Structures	WEEK 1
2.	*Java* : Chapters 11 and 14	Classes, Data Abstraction, and Operator Overloading	WEEK 2
3.	*Java* : Chapters 14 and 16	Applets and Graphics	WEEK 3
4.	*Java* : Chapters 17 and 20	Motion, Thread Programming, Listener Events	WEEK 4
5.	*Android* : Chapters 1,2	Android Basics	WEEK 5
6.	*Android* : Chapter 3	Fall Recess October 8, 9 Layouts and the View Class in Android	WEEK 6
7.	*Android* : Chapter 3	TEST 1 October15 Apps with UI Components	WEEK 7
8.	*Android* : Chapter 3	Activity Lifecycle Apps with Multiple Layouts	WEEK 8
9.	*Android* : Chapter 4	Android Graphics	WEEK 9
10.	*Android* : Chapter 4	Touch Gestures	WEEK 10

11.	*Android* : Chapters 4,5	Surface Holders and Movement	WEEK 11
12.		Project Storyboards Thanksgiving Break Nov 21-23	WEEK 12
13.	*Android* : Chapters 6,7	The Virtual Pet Android App	WEEK 13
14.		Final Project Presentations	WEEK 14

طرق التقييم المستخدمة:

الامتحانات	نسبة الامتحان من العلامة الكلية	التاريخ
الأول	20%	التاريخ: / /
الثاني	20%	التاريخ: / /
أعمال الفصل	10%	التاريخ: / /
الأمتحانات النهائية	50%	التاريخ: / /

طرق التدريس:

- Lecture

الكتب و المراجع:

الكتاب المقرر:

Textbook I **(Required): Android for Programmers** by P. Deitel and M. Morgano
Publisher: Pearson Education, Inc (January 2012)
ISBN-13: 978-0-13-212136-1

المراجع:

Engineering Program

Specialization	**Maintenance and Programming Smart Device**
Course Number	**20412132***
Course Title	**Smart Devices Programming Using JAVA Language Lab**
Credit Hours	**1**
Theoretical Hours	**0**
Practical Hours	**2**

*** Internal Lab.**

وصف المادة الدراسية:

- The intent of this course is to introduce the foundation of Android programming along with the latest Android SDKs and development tools. Students will use the Eclipse programming environment to develop Android projects in Java. Topics will include the implementation of user-initialed events, threads and background tasks, and working with the Graphical Layout Editor for building XML user interfaces.

أهداف المادة الدراسية:

After studying this course the student should:

1. Course material will be presented in a lecture format during the first part of the class meeting.
2. This course is also designed to maximize learning through the use of lab work as well as collaborative learning. Lecture material will consist of discussion, diagrams, and multimedia demonstrations.
3. Moodle will be used for submitting your assignments.

الوصف العام:

Java Labs

Lab 1 Java Basics

1. Java Primitive Data Types and Casting
2. Anatomy of a Java Program
3. Input from the keyboard
4. Formatting numbers

Lab 2 Arrays and ArrayLists
Lab 3 Working with Files
Lab 4 Review of OOP Basics
Lab 5 OOP Composition
Lab 6 OOP Inheritance, **superclass** , **subclass** and overriding.

Java Applets Labs

Lab 7: The Basics of Java Applets and the Graphics Package
Lab 8: User Interface
Lab 9: Applet Mouse Listeners
Lab 10: Animation Thread Programming

Android Labs

Lab 11: The Android Emulator. Exploring the Contents of a Basic Android Project.
Lab 12: View Class and Building an Android Layout Resource File
Lab 13: Basic Android Interaction with Buttons
Lab 14: More with Android Buttons and UI Components
Lab 15: Exploring an Android Activity and its Lifecycle
Lab 16: Android Graphics
Lab 17: Android Motion Events
Lab 18: Basic Movement in Android
Lab 19: Artificially Intelligent Pet
Lab 20: Prey vs. Predator
Lab 21: Fibonacci Flower and
Lab 22: Loading Arrays stored in XML
Lab 23: Making Bitmaps Move
Lab 24: Location Services

طرق التقييم المستخدمة:

الامتحانات	نسبة الامتحان من العلامة الكلية	التاريخ
التقارير	30%	
الامتحان المتوسط	20%	
الأمتحانات النهائية	50%	

طرق التدريس:

- تجارب عملية في المختبر