Information Technology Program	
Specialization	**Smart Device Engineering**
Course Number	**20412253**
Course Title	**Smart Device Application Development**
Credit Hours	**3**
Theoretical Hours	**3**
Practical Hours	**0**

رقم المادة الدراسية:
اسم المادة الدراسية: تطوير تطبيقات الأجهزة الذكية
عدد الساعات النظرية:3
عدد الساعات العملية:1

الوصف العام:

تطبيقات الأجهزة الذكية ومكوناتها ، بيئة التطوير و سوق أندرويد للتطبيقات ، بنية ومكونات التطبيقات ، الفعالية ، دورة حياة الفعالية ،
التعامل مع عناصر الواجهة برمجيا ، ربك الفعاليات باستخدام الهدف - Intent و Intent-filter- ، استدامة البيانات في التطبيقات ، الخدمات ، الإشعارات ، التعامل مع مستقبلات النشر ، ربط التطبيقات مع قواعد البيانات من خلال مزودات المحتوى، نشر التطبيقات وعمل نسخة apk.

يتوقع من الطالب:
القدرة على بناء وبرمجة تطبيق كامل متكامل يعمل على نظام أندرويد .

وصف المادة الدراسية:

❖ This course focuses on handheld systems and the design of user-facing applications, and will be taught first. The first Vanderbilt University course, Pattern-Oriented Software Architectures: Programming Smart devices Services for Android Handheld Systems will focus on systems programming topics, such as middleware services and background processing,

أهداف المادة الدراسية:

OUTCOMES: Below are some of the outcomes of this course:

- Understand broad area smart devices Programming
- Understand current smart device.
- Ability to create programs on current smart device (s)
- As related to smart device --optional web topics (this can change or be omitted) Web Technologies and Trends
- Use of Hardware features on smart device
- Use of Data storage on smart device
- Web services and possible integration into smart device programs.

الوصف العام:

رقم الوحدة	اسم الوحدة	محتويات الوحدة	الزمن
1.	The Android Platform	The Android Platform , The Android Development Environment	**2 weeks**
2.	Application Fundamentals	Application Fundamentals , The Activity Class	**2 weeks**
3.	The Intent Class	The Intent Class , Permissions, The Fragment Class	**3 weeks**
4.	User Interface Classes -	User Interface Classes - Part I, User Interface Classes - Part II	**3 weeks**
5.	User Notifications	The Broadcast Receiver Class, Threads, Async Task & Handlers, Alarms, Networking	**2 weeks**
6.	Graphics & Animation	Graphics & Animation I, Graphics & Animation II, Multi-touch & Gestures, Multi-Media	**2 weeks**
7.	Sensors	Sensors , Location & Maps	**1 week**
8.	Data Management	Data Management , The Content Provider Class, The Service Class	**1 week**

طرق التقييم المستخدمة:

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

طرق التدريس:

❖ Lecture

الكتب و المراجع:
الكتاب المقرر:
المراجع:

Wei Meng Lee, Wrox, **Beginning Android 4 Development**, Press, 2013

Information Technology Program	
Specialization	**Maintenance and Programming Smart Device**
Course Number	**20412253***
Course Title	**Smart device Application Development lab**
Credit Hours	**1**
Theoretical Hours	**0**
Practical Hours	**2**

* Internal Lab.

وصف المادة الدراسية:

❖ Handheld systems, such as smart phones and tablets are now the most common way for people to access and interact with computing services. The demand for application development skills is therefore growing at a breathtaking pace. These skills, however, are multi- faceted, requiring students to master computer science and engineering principles, to learn the details of specific smart devices application platforms, and to design artistic and engaging user interfaces that respond to how, where and why handheld applications are used.

أهداف المادة الدراسية:

OUTCOMES: Below are some of the outcomes of this course:

- Understand broad area smart devices Programming
- Understand current smart device.
- Ability to create programs on current smart device (s)
- As related to smart device --optional web topics (this can change or be omitted) Web Technologies and Trends
- Use of Hardware features on smart device
- Use of Data storage on smart device
- Web services and possible integration into smart device programs.

الوصف العام:

رقم التجربة	اسم التجربة	محتويات التجربة	الزمن
1.	Lab #1	-Setup: Students identify required software & install it on their personal computers. Students perform several tasks to familiarize themselves with the Android Platform and Development Environment.	**2 weeks**
2.	Lab #2	-The Activity Lifecycle & Reconfiguration: Students build applications that trace the lifecycle callback methods issued by the Android platform and that demonstrate Android's behavior when the device configuration changes (e.g., when the device moves from portrait to landscape mode and back).	**2 weeks**
3.	Lab #3a	- Intents & Permissions: Students build applications that require starting multiple Activities via both standard and custom Intents.	**1 week**
4.	Lab #3b	- Permissions: Students build applications that require standard and custom permissions.	**1 week**
5.	Lab #3c	- Multi-pane and single-pane User Interfaces: Students build an application that uses a single code base, but creates different user interfaces depending on a device's screen size.	**1 week**
6.	Lab #4	-ToDo Manager: Students build a ToDo list manager using the user interface elements discussed in lecture. The application allows users to create new ToDo Items and to display them in a List-View.	**2 weeks**
7.	Lab #5	-Tweet app: Students build an app that downloads and displays Tweet data. The app uses an Async-Task for downloading data over the network. The app will also user Broadcast Receivers and User Notifications to apprise the user of the apps behavior and state.	**2 weeks**
8.	Lab #6	- Bubble Popper: Students write an application to display and animate bubbles (graphics that look like bubbles) on the device's screen. When users touch the screen where a bubble is displayed, the bubble pops. The app will also accept gesture input, allowing the user to change the direction and speed of the	**2 weeks**

		bubble, using a fling gesture.	
9.	Lab #7	- Place Badge Collector: Students build an application that uses location information to collect Badges for the places they visit.	**2 weeks**
10.	Lab #8	- Place Badge Collector Content Provider: Students build a Content Provider to store the Place Badges they collect with the app from application that uses location information to collect Badges for the places they visit.	**1 week**

طرق التقييم المستخدمة:

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

طرق التدريس:
❖ تجارب عملية في المختبر
الكتب و المراجع:
الكتاب المقرر:

- **Beginning Android 4 Development**

المراجع:

- **Professional Android 4 Development**