



Syllabus

- 1. Course name:** Android programming in control applications
- 2. Course code:** APCA331363
- 3. Credits:** 3 credits (3:0:6) (3 lecture periods, 0 lab period, 6 self-study periods per week)
- 4. Instructors**
 - Chief lecturer: MEng. Nguyen Van Hiep
 - Co-lecturers: MEng. Nguyen Thanh Binh

5. Course Requirements:

Prerequisite course(s): Microprocessor

Previous course(s):

6. Course Description

The course equips students with fundamental knowledge of the Android operating system and control applications. In detail, Android development tools and essential components of a control application are introduced. The user interface, the operator on an Android application are described. Moreover, the course introduces methods for event handling, completing, and packaging in an application. Modern technologies such as SMS, Bluetooth, Wifi, NFC, voice recognition, accelerometer are also introduced in this course ... Fundamental knowledge on microcontrollers and electronic devices are integrated to develop a comprehensive application.

7. Learning Outcomes (CLOs)

CLOs	Descriptions <i>On successful completion of this course students will be able to:</i>	ELO(s) /PI(s)	Compe- tency
CLO1	Integrate knowledge in the field of Android programming to control a device	ELO1/PI1.3	M
CLO2	Ability to design a user interface on an Android application	ELO2/PI2.2,	R
CLO3	Ability to control a device via communication standards in an Android application.	ELO4/PI4.2	R
CLO4	Analyze an user requirement into a system specification.	ELO7/PI7.2	R

8. Content outline

- *Introduction to Android operating system.*
- *Introduction to the basic components of an Android project.*
- *Introduction to Android programming.*
- *Introduction to event-handling methods.*
- *Introduction to intent.*
- *Introduction to communication protocols such as SMS-WiFi- Bluetooth.*
- *Introduction to RFID Communication.*

9. Teaching Methods

- *Presentation Method*
- *Conversation Method*
- *Team Work*

10. Assessment(s)

- Grading scale: **10**
- Assessment plan:

No.	Content	CLOs	Competency	Assessment methods	Assessment tools	Weighting %
Formative assessment						50
1.	Using layouts in an Android application.	CLO1	M	Observation form	Rubric	20
2.	Using TextView, Button, ImageView, RadioButton, ListView in an Android application.	CLO2	R	Observation form	Rubric	15
3	Using intents and activity links in an Android application.	CLO2	R	Observation form	Rubric	15
Summative assessment						50
4.	Planning to deploy an application that uses communication standards on Android Operating System.	CLO3	R	Observation form	Rubric	20
5	Implement an Android engine that can control a device via a user interface.	CLO4	R	Observation form	Rubric	30

11. Learning Materials:

- Textbook(s):
Ths Nguyễn Văn Hiệp, *Lập trình Android cơ bản*, NXB ĐHQG 2014.
- References:
Ths Nguyễn Văn Hiệp, *Lập trình Android trong ứng dụng điều khiển*, NXB ĐHQG 2016

12. General Information:

Academic Integrity

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Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advanced notice. Students need to regularly update the information of their registered class.

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13. Approval Date: <dd/mm/yyyy>

14. Endorsement:

Dean	Head of Department	Chief Lecturer
Assoc. Prof. Dr. Nguyen Minh Tam	Assoc. Prof. Dr. Nguyen Thanh Hai	<i><Full Name></i>

15. Revision History:

1st Revision: <dd/mm/yyyy>	Lecturer: Head of Department: Assoc. Prof. Dr. Nguyen Thanh Hai
2nd Revision: <dd/mm/yyyy>	Lecturer: Head of Department: