

Course description

General information		
Course leader	Jean Claude YALAP	
Course title	React Native	
Study programme	Title of Expert in Information Technology	
Course status	Graduate Program	
Year	2	
Number of credits and mode of teaching delivery	ECTS student workload coefficient	4
	Number of hours (L+E+S)	(8+8+72) 88

1. COURSE DESCRIPTION

1.1. Course objectives

The module 'React Native' teaches how to develop an application with the open-source mobile application framework React Native for building native apps using React.

1.2. Conditions for enrolment in the course

- Have a basic knowledge of React (state, props, redux, ...)
- Notions of client-server relation.

1.3. Expected learning outcomes of the course

LO1: Design the architecture for a project in React Native.

LO2: Implement navigation in React Native.

LO3: Apply a style in React Native.

LO4: Implement animation and interaction in React Native.

LO5: Test React Native application.

LO6: Deploy a React Native application for iOS and Android.

1.4. Course content

The lectures are structured on two days.

Lecture 1:

- Brief history of Javascript and reminder of the new functionalities available.
- A reminder on React
- Definition of React Native and the reasons of using it.
- Basic elements of React Native (View/Text/Stylesheet/Image)
- Layout with React Native
- Interaction in React Native

- Starting a project in React Native with expo.

Lecture 2:

- Navigation in React Native (React navigation)
- Tab and stack navigation
- Drawer navigation
- Expo vs native (create a project without expo and its purpose)
- Expo native capabilities (custom fonts, svg drawing, svg image)
- React Native UI Libraries
- Animation in React Native (React Native animation API, lottie).
- Deploy your app in development and in production with expo.

The students work on a project for two months. They create a React Native application, which works on Android and ios. It must:

- Use a native phone functionality.
- Have a user management system.
- Be accessible online in Android and ios.
- Communicate with a backend (either created by the students, or some other solution as for example, Firebase).

1.5. Teaching delivery modes:

- | | |
|--|---|
| <input checked="" type="checkbox"/> lectures
<input type="checkbox"/> seminars
and
<input type="checkbox"/> workshops
<input type="checkbox"/> exercises
<input type="checkbox"/> remote
learning
<input type="checkbox"/> field work | <input checked="" type="checkbox"/> independent
work
<input type="checkbox"/> multimedia
and network
<input type="checkbox"/> laboratory
<input checked="" type="checkbox"/> mentoring
<input type="checkbox"/> other

- |
|--|---|

1.6. Comments

For the lectures, the course material is taught interactively, giving the students time to ask questions and the teacher time to discuss related topics.

As for the project, the project source is pushed on Github or Gitlab. The final application is deployed in expo.

A platform is used by students and teaching assistant to share questions and comments.

1.7. Student obligations

STUDENT ATTENDANCE

Class attendance is mandatory in the percentage prescribed by the Studies and examination regulations.

PASSING EXAM

Each groups of students must submit their results to the teachers and give an oral presentation based on their results. The results are reviewed by the academic staff during an oral examination. A justification of the project work can be explained by the students.

1.8. Monitoring¹ student work

Class attendance		Activity during class		Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Project	100 %	Continuous assessment of knowledge		Student report		Practical work	
Portfolio							

1.9. Assessment and evaluation of student work during classes and the final exam

The subject of the project is free. However, the project must contain these instructions:

- Have a user management system (login, register, ...), with at least a profile picture in your user info.
- Use one native phone functionality (phone, camera, gps, ...).
- Use gestures without external libraries (scrollView, listing, ...).
- Code in React Native 0.x.0 at least, or with expo sdk x (x is the latest version of expo).
- Use the new React (no 'extends component' ((only Functional or PureComponent), 'UNSAFE_componentWillMount()')...)
- Use the new Javascript (no ".bind(this)", ...).
- Use the linter eslint-airbnb.
- Have a command lint "npm run lint" which tests the linter.
- App in React Native
- Use a global state management system (Redux, apollo, new Context API + hooks...)
- Work on Android or ios.
- Your project must be functional.
- Your project must be accessible online via Fabric/expo or on the store directly.
- Your git repositories must have a Readme describing how to deploy and to build your project.

In addition to these instructions, the code and the project's architecture will be reviewed, and the design and the responsive capability of your app will be scored.

CONCRETE REVIEW OF EVALUATION METHODS

¹ IMPORTANT NOTES: Next to each method of monitoring student work it is necessary to insert an adequate share of each activity in ECTS credits, so the total number of ECTS credits corresponds to the credit value of the course. You can use empty fields for additional activities.

The maximum number of points that a student can earn in a course is 100. Grades are calculated according to the following criteria table within which the distribution of passing grades in terms of the number of points is applied.

Points	Grade
0,00 - 50,00	(E) unsatisfactory
50,01 - 58,00	(D) sufficient
58,01 - 75,00	(C) good
75,01 - 92,00	(B) very good
92,01 - 100,00	(A) excellent

The method of accumulating points is determined in this course in accordance with the elements of scoring as follows:

Criterion	Maximum points
Project	100
TOTAL	100

1.10. Required reading (at the moment of submitting the joint study programme report)

1.11. Additional reading (at the moment of submitting the joint study programme report)

1.12. Number of copies of required reading in relation to the number of students who currently attend a course

<i>Title</i>	<i>Number of copies</i>	<i>Number of students</i>

1.13. Methods of quality monitoring that ensure the acquisition of knowledge, skills and competencies.

The content of each modules is continuously revised to teach the students on the most up-to-date notions and concepts of IT. Indeed, the range of skills and knowledge in this sector is constantly getting broader, with a larger perspective of working in many different fields.

To ensure the quality of the teaching, a Steering Committee supervises the Quality Management System. The evolution of the teaching content is revised and validated by the Development Council. The teachers as well as the administration staff are evaluated by the students themselves. Finally, the teaching content is analysed and determined by evaluating the skills during the internships, by the partner companies.