

<b>Module title</b> Android Programming with Kotlin				
<b>Module code</b> tba	<b>Level</b> Bachelor (B.Sc.)	<b>Hours per week</b> 4	<b>ECTS credits</b> 5	<b>Duration</b> 2 weeks block course + virtual lectures
<b>Module instructor</b> Eamonn De Leastar, Waterford Institute of Technology		<b>Lecture type</b> Lectures + Guided Lab Sessions	<b>Prerequisite(s)</b> Intermediate Programming Ability	<b>Grading</b> Single Programming Assignment
<b>Objectives</b>				
<p>This course will introduce the principles, practices and tools for the development modern Android applications using the Kotlin programming language</p> <p>On completion of the course the students will be able to:</p> <ul style="list-style-type: none"> <li>- <i>Knowledge &amp; Understanding:</i> Understand the structure and patterns required to implement a robust Android application.</li> <li>- <i>Skills &amp; Abilities:</i> Apply these principles in the context of the practices and idioms of the Kotlin programming language.</li> <li>- <i>Judgement &amp; Approach.</i> Evaluate the Android frameworks, identifying the purpose and role of the major components and employ them in appropriate contexts.</li> </ul> <p>The course will consist of a series of lectures interspersed with guided laboratories. The laboratories will apply the principles introduced in the lectures via the construction of a small number of interesting Android applications. These applications will further develop aspects of the material covered in the lectures.</p> <p>Students will be asked to develop and Android application in Kotlin, with a spectrum of interesting features, utilising a subset of modern Android components. This will constitute the single assignment for the module.</p>				
<b>Content</b>				
<ul style="list-style-type: none"> <li>• Kotlin Programming</li> <li>• Android Application Architecture</li> <li>• Activities, Layouts &amp; Events</li> <li>• Navigation, Lifecycles &amp; ViewModels</li> <li>• LiveData, Room &amp; Firebase</li> <li>• Testing &amp; deployment.</li> </ul>				
<b>Textbook/teaching material (for reference purposes)</b>				
<ul style="list-style-type: none"> <li>• Kotlin in Action, Jemerov &amp; Isakova, Manning, 2017</li> <li>• Kotlin for Android Developers, Leiva, Leanpub, 2018</li> <li>• Android Programming, the Big Nerd Ranch Guide, 3<sup>rd</sup> Edition, Big Nerd Ranch Guides, 2018</li> </ul>				

Note: this is not the official course descriptor according to the "Studien- und Prüfungsordnung" (SPO)