



## Course Specification Document

<b>Title</b>	Sequences of Functions and Complements in Integral Calculus
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<b>Credits</b>	3.5 ECTS
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<b>Aims</b>	This course aims to provide the student with knowledge and skills related to functions defined by the sum of a series of functions or by integral.
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<b>Intended learning outcomes</b>
On successful completion of this course, the student will be able to: <ul style="list-style-type: none"><li>• Understand simple convergence and uniform convergence of sequences and series of functions.</li><li>• Use the continuity and derivation theorems related to functions defined by the sum of a series of functions.</li><li>• Study the convergence of improper integrals.</li><li>• Use the continuity and derivation theorems to study functions defined by integrals.</li><li>• Use computer programs to solve mathematical problems.</li></ul>

<b>Syllabus</b>
<ul style="list-style-type: none"><li>• <b>Sequences and series of functions:</b> Convergence of a sequence of functions, theorems of continuity and derivation, convergence of a series of functions, theorems of continuity and derivation.</li><li>• <b>Improper integrals and parametric integrals:</b> Convergence of an improper integral, study of parametric integral, theorems of continuity and derivation related to parametric integral.</li></ul>