

## Special Mathematics Lecture (Introduction to functional analysis)

<b>Registration Code</b>	0063611	<b>Credits</b>	2.0
<b>Course Category</b>	Sciences Basic		
<b>Term (Semester) / Day / Period</b>	G-I (1st year, Fall Semester) / Wed. / 6 (18:30~20:00)		
<b>Instructor</b>	RICHARD Serge Charles		
<b>Contact</b>	Office: Room 237, Science Building A E-mail: richard@math.nagoya-u.ac.jp		
<b>Target Schools (Programs)</b>	Hu(J)·La(S)·Ec(S)·Sc(P·C·B)·En(P·C·Au)·Ag(B)		
<p><b>●Objective of the Course</b> Functional analysis is a useful tool for many physical theories, and has been partially developed concomitantly with quantum mechanics. The aim of this course is to provide the necessary background for a good understanding of the mathematics behind any course of quantum mechanics. During this one semester course, the notions of distributions, of Lebesgue integral, and the foundation of spectral theory will be introduced. Depending on the interest of the audience, different tools of spectral theory will be further developed.</p> <p><b>●Course Prerequisites</b> Basic knowledge on calculus and linear algebra, as provided in Calculus I &amp; II and in Linear algebra I &amp; II. Motivated 1<sup>st</sup> year students can also attend without these prerequisites but after a discussion with the instructor.</p> <p><b>●Course Contents</b> (preliminary version) Distribution theory Lebesgue integrals Hilbert spaces and bounded operators Unbounded operators</p> <p><b>●Evaluation Methods</b> The final grade will be based on the active participation during the lectures and on some written reports.</p> <p><b>●Notice for Students</b> This course is an optional subject which does not count towards the number of credits required for graduation in any program at Nagoya University.</p> <p><b>●Additional information</b> See <a href="http://www.math.nagoya-u.ac.jp/~richard/SMLfall2019.html">http://www.math.nagoya-u.ac.jp/~richard/SMLfall2019.html</a></p>			
<b>Textbook</b>	Material will be provided during the lectures		
<b>Reference Book</b>	Reference books will be provided during the lectures		