

Special Mathematics Lecture (Groups and Their Representations)			
Registration Code	0053621	Credits	2.0
Course Category	Sciences Basic		
Term (Semester) / Day / Period	G-II (1st Year, Spring Semester) / Wed / 6 (18:15~19:45)		
Instructor	RICHARD Serge Charles		
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Target Schools (Programs)	Hu(J)·La(S)·Ec(S)·Sc(P·C·B)·En(P·C·Au)·Ag(B)		
<p>●Aim of the course Group theory plays an important role in many fields, as for example in quantum mechanics or in particle physics. During this one semester course, we shall introduce the main concepts of groups, their representations, and present some classical groups. Lie groups and Lie algebras will also be discussed.</p> <p>●Prerequisites A basic knowledge on calculus and linear algebra is expected, as provided for example in Calculus I & II and in Linear algebra I & II. For that reason, motivated 1st year students can attend this course but only after a discussion with the instructor.</p> <p>●Course contents</p> <ol style="list-style-type: none"> 1. Groups and subgroups 2. Unitary representations in Hilbert spaces 3. Classical groups as SU(n), O(n), Lorentz and Poincaré groups 4. Lie groups and Lie algebras 5. Casimir element <p>●Evaluation methods The final grade will be determined by the active participation during the lectures (will be explained during the first lecture).</p> <p>●Notice for students 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>			
Textbook	Material will be provided during the lectures		
Reference Book	Reference books will be provided during the lectures		