

Special Mathematics Lecture (Introduction to probability)			
Undergraduate / Graduate	Undergraduate	Registration Code	0053621
Course Category	Science Basic	Credits	2.0
Term (Semester) / Day / Period	G-II (1st year, Spring Semester) / Wed. / 6 (18:15~19:45)		
Instructor	RICHARD Serge		
Contact e-mail of the Instructor	richard@math.nagoya-u.ac.jp		
Target Schools (Programs)	Hu(J)·La(S)·Ec(S)·Sc(P·C·B)·En(C·Au)·Ag(B)		
<p>●Goals of the Course Probability is playing an essential role in many research fields, and in particular for describing complex systems. Our goal is to provide the necessary background information for understanding the use and the power of probability. The presentation will be accessible to all students, independently of their major.</p> <p>●Objectives of the Course Study the basic abstract theory of probability, and discuss some applications according to the interest and to the motivation of the students.</p> <p>●Course Content 1) Events and probabilities 2) Discrete valued random variables 3) Multivariate discrete distributions 4) Probability generating function 5) Distribution function and density function 6) Multivariate distributions and independence 7) Moments and moment generating functions 8) The main limit theorems 9) Branching processes 10) Random walk (1D) 11) Random process in continuous time</p> <p>●Course Prerequisites and Related Courses Basic knowledge on calculus and linear algebra, as provided in Calculus I & II and in Linear algebra I & II. Motivated 1st year students can also attend without these prerequisites but after a discussion with the instructor.</p> <p>●Course Evaluation Method and Criteria The final grade will be based on the active participation during the lectures and on some written reports. Students will be encouraged to work on applications related to their major during the semester.</p> <p>●Study Load(Self-directed Learning Outside Course Hours) Students are expected to read their notes, and to be familiar with the content of the previous lectures before each new lecture.</p> <p>●How to Respond to Questions By email. Look also at the related website: http://www.math.nagoya-u.ac.jp/~richard/SMLspring2021.html</p>			
Textbook	Free textbooks will be provided during the lectures		
Reference Book	Free reference books will be provided during the lectures		