

授業科目名 <英訳>	Introduction to Algorithms and Info. Introduction to Algorithms and Informatics		担当者所属・ 職名・氏名	情報学研究科 特定准教授 LE GALL, Francois							
配当 学年	1回生以上	単位数	2	開講年度・ 開講期	2017・ 前期	曜時限	水2	授業 形態	講義	使用 言語	英語
授業種別	専攻基礎科目										
【授業の概要・目的】											
This course is an introductory graduate course on algorithms and informatics for non-specialists. It will cover the fundamentals of algorithm design and analysis, the analysis of graphs and flow problems, data structures as well as an introduction to important concepts such as randomization, heuristics and approximation.											
【到達目標】											
At the end of the course, students should understand the basic concepts of algorithms and informatics studied during the semester.											
【授業計画と内容】											
1. Introduction: the role of algorithms in computing (1 week) 2. Data structures, search and sort algorithms (3 weeks) 3. Basic techniques for algorithm design (4 weeks) a. Divide-and-Conquer b. Greedy algorithms c. Dynamic programming 4. Graphs algorithms (3 weeks) 5. Randomized algorithms (2 weeks) 6. Solving hard problems: heuristics and approximation (2 weeks)											
【履修要件】											
特になし											
【成績評価の方法・観点及び達成度】											
Evaluation on submitted reports.											
【教科書】											
使用しない											
【参考書等】											
(参考書) T. H. Cormen, C. E. Leiserson, R. L. Rivest and C. Stein 『Introduction to Algorithms, 3rd edition』 (The MIT Press)											
【授業外学習(予習・復習)等】											
The instructor expects students to spend enough time after each class for review. Additionally, mandatory reading material and assignments will be given during the course.											
(その他(オフィスアワー等))											
オフィスアワーの詳細については、KULASISで確認してください。											