

Course Name	Soft Matter Physics		
Semester, Year	First Semester, 2019	Number of Credits	2 credits
Course level	5000	Course Number	027027
Instructor(s) (Institution)	Shuji FUJII 大学院工学研究院		
Course Objectives	The aim of this course is to provide basic knowledge on rheological methods to study physical properties of soft matter systems.		
Course Goals	To understand basic concept and knowledge of the rheology of soft matter systems.		
Course Schedule	<p>1.Introduction of rheology Viscoelasticity, Phenomenological model, Various rheological measurements</p> <p>2.Physical properties of polymer Gaussian chain, Radius of gyration, Random coil, Rouse chain, Thermodynamics of polymer solution</p> <p>3.Polymer rheology Rubber elasticity, Tube model</p> <p>4.Brownian motion and Microrheology Basic concept of microrheology</p> <p>5.Rheology in other soft matter systems Biopolymer, Biomembranes</p>		
Homework	Homework will be assigned several times during the course.		
Grading System	40% proactive contribution to the course, 60% homeworks		
Textbooks / Reading List	<p>No textbooks are required.</p> <p>Introduction to polymer viscoelasticity John J Aklonis, William J MacNight Wiley 1983</p> <p>The Theory of Polymer Dynamics M. Doi, S. F. Edwards Oxford University Press 1988</p>		
Websites			
Website of Laboratory			
Additional Information			