

<b>Science of Materials</b>			
<b>Registration Code</b>	0062231	<b>Credits</b>	2.0
<b>Course Category</b>	Sciences Liberal		
<b>Term (Semester) / Day / Period</b>	G-III (2nd year, Fall Semester) / Tue. / 2 (10:30~12:00)		
<b>Instructor</b>	GELLOZ Bernard Jacques		
<b>Target Schools (Programs)</b>	Hu(J)·La(S)·Ec(S)·Sc(P·C·B)·En(C·Au)·Ag(B)		
<p><b>●Goals and Objectives of the Course</b>            To learn about the fundamental and technological aspects of various materials, including metals, semiconductors, polymers, composites, dielectrics, and magnets. The course begins with an introduction of the atomic and crystal structures of materials. The tools used to describe crystal structures will be presented. These topics constitute the first fundamental step towards the understanding of materials properties. The relationships that exist between the structural elements of materials (microscopic properties) and their properties and performance (macroscopic properties) will be emphasized throughout the lectures. The materials mechanical, electrical, thermal and magnetic properties will be discussed both fundamentally and technologically.</p> <p><b>●Course Prerequisites</b>            None</p> <p><b>●Course Contents/Plan</b>            Atomic Structure and Interatomic Bonding            Crystal Structures            Mechanical Properties            Electrical Properties            Thermal Properties            Magnetic Properties            Optical Properties</p> <p><b>●Course Evaluation Methods</b>            A student will be regarded as ABSENT if he is absent without valid reason from any scheduled tests. A student who wishes to be considered as ABSENT must contact the instructor until the end of the final examination. Several small tests will be implemented during the semester. Final presentations or reports (depending on University policy related to Covid-19 pandemic) will be evaluated at the end of the semester.            Tests: 75%; Presentations: 25%</p> <p><b>●Notice for Students</b>            Related courses: Fundamentals of Physics I, II, III &amp; IV, Fundamentals of Chemistry I            Key Words: Material, metal, crystal, structure, mechanical, thermal, electrical, optical, magnetic.</p>			
<b>Textbook</b>	William D. Callister, David G. Rethwisch: Fundamentals of Materials Science and Engineering: An Integrated Approach 4 <sup>th</sup> Ed. (John Wiley & Sons, 2012). Price: \$86.95		
<b>Reference Book</b>	William D. Callister, David G. Rethwisch: Materials Science and Engineering: An Introduction (John Wiley & Sons)		
<b>Reference website</b>			
<b>Message</b>			