Outcomes Based Learning Matrix

Course: ENGT 272 Engineering Materials Department: ENGT

Course Outcomes	Outcome Activities	Assessment Tools
Students will be able to:		
Identify and classify different modern materials used in engineering. (WC, QL, IL, CCT, Int L)	Lectures, videos and microscopic analysis techniques will be used.	Lab Reports, Assignments, exams
Identify and characterize the fundamental crystal cell units, its planes and directions. (WC, QL, IL, CCT, Int L)	Lectures, research and microscopic evaluation of samples.	Assignments, exams, Lab
Determine the effect of atomic motion through diffusion and its application to specific industrial uses. (WC, QL, IL, CCT, Int L)	Lectures and research	Research reports, assignments, exams
Analyze phase diagrams to predict phases present and their chemical compositions. (WC, QL, IL, CCT, Int L)	Lectures and class participation	Assignments, exams
Identify the effect of deformation, solute atoms and phase transformation in hardening materials during heat treatments. (WC, QL, IL, CCT, Int L)	Lectures and lab experiments comparing hardened materials with non-hardened materials.	Labs, assignments, exams
Evaluate the application of different engineering materials to obtain a basic understanding of material selection. (WC, QL, IL, CCT, Int L)	Lectures and research	Labs, assignments, exams

Distinguish among different corrosion mechanisms and prevention techniques. (WC, QL, IL, CCT, Int L)	Lectures, research and class participation	Assignments, exams
Determine materials electrical properties based on energy band models. (WC, QL, IL, CCT, Int L)	Lectures.	Assignments, exams