جامعة الملك عبدالله للعلوم والتقنية
King Abdullah University of Science and Technology

Course Syllabus: Materials Chemistry I - ChemS 210

Division	Physical Science and Engineering Division
Course Number	ChemS 210
Course Title	Materials Chemistry I
Academic Semester	Fall
Academic Year	2018/2019
Semester Start Date	08/26/2018
Semester End Date	12/11/2018
Class Schedule (Days & Time)	10:30 AM - 12:00 PM | Mon Thu

Instructor(s)

Name	Email	Phone	Office Location	Office Hours
Yu Han	yu.han@kaust.edu.sa	+966128082407	4221, 4, Al-Jazri (bldg. 4)	**Office hours:** Wednesday 1:30 ¾ 4:30 pm (Building 4, Level 4, room 4221) and also by appointment (preferably *via* e-mail)

Teaching Assistant(s)

Name	Email

Course Information

Comprehensive Course Description	This course will cover the following topics: molecular symmetry; basic crystallography; porous materials; nano-structured materials and some material characterization techniques including electron diffraction and gas physical adsorption.
Course Description from Program Guide	Presents students with a descriptive overview of Materials Chemistry with particular emphasis on the correlation between materials structure and their properties. This course will cover the following topics: molecular symmetry; basic crystallography; band theory; porous materials; nano-structured materials and some material characterization techniques including powder X-ray diffraction and physical adsorption.
Goals and Objectives	Presents students with a descriptive overview of Materials Chemistry with particular emphasis on the correlation between materials structure and their properties.
Required Knowledge	Undergraduate-level General Chemistry
Reference Texts	Recommended Books (for reference only): -"***Solid State Chemistry - An Introduction***", Lesley E. Smart and Elaine A. Moore, Third Edition, *CRC Press*, 2005. -**"Inorganic Chemistry",** Gary L. Miessler and DonaldA. Tarr, Third Edition, Pearson Prentice Hall, 2004
Method of evaluation	**40.00**% - Final exam **30.00**% - Midterm exam **30.00**% - Oral presentation

Nature of the assignments	In addition to the two exams, each student will be assigned a topic relevant to the course taken. They will be expected to give a 25 minute presentation using up to 20 slides.
Course Policies	**Attendance Policy:** Attendance to class is expected. If any class session is missed, it is the responsibility of the student to find out if any assignments or schedule changes were made during the missed class.
Additional Information	

Tentative Course Schedule

(Time, topic/emphasis & resources)

Week	Lectures	Topic
1	Mon 08/27/2018	Molecular symmetry
1	Thu 08/30/2018	Molecular symmetry
2	Mon 09/03/2018	Molecular symmetry
2	Thu 09/06/2018	Molecular symmetry
3	Mon 09/10/2018	Molecular symmetry
3	Thu 09/13/2018	Crystallographic symmetry
4	Mon 09/17/2018	Crystallographic symmetry
4	Thu 09/20/2018	Crystallographic symmetry
5	Mon 09/24/2018	Crystallographic symmetry
5	Thu 09/27/2018	Crystallographic symmetry
6	Mon 10/01/2018	Electron diffraction
6	Thu 10/04/2018	Electron diffraction
7	Mon 10/08/2018	Mid-term exam
7	Thu 10/11/2018	Electron diffraction
8	Mon 10/15/2018	Electron diffraction
8	Thu 10/18/2018	Electron diffraction
9	Mon 10/22/2018	Porous materials and gas adsorption
9	Thu 10/25/2018	Porous materials and gas adsorption
10	Mon 10/29/2018	Porous materials and gas adsorption
10	Thu 11/01/2018	Porous materials and gas adsorption
11	Mon 11/05/2018	Porous materials and gas adsorption
11	Thu 11/08/2018	Porous materials and gas adsorption
12	Mon 11/12/2018	Porous materials and gas adsorption
12	Thu 11/15/2018	Student presentation
13	Mon 11/19/2018	Student presentation
13	Thu 11/22/2018	Student presentation
14	Mon 11/26/2018	Student presentation
14	Thu 11/29/2018	Tutorial
15	Mon 12/03/2018	Tutorial
15	Thu 12/06/2018	Final exam
16	Mon 12/10/2018	

Note

The instructor reserves the right to make changes to this syllabus as necessary.