

## CHEM 741: Nanomaterials (3 credits, Fall 2018)

- Time & Location:** Tuesday/Thursday 3:30 pm-4:45 pm, Room CHM 125; *Attendance is required.*
- Instructor:** Dr. Jian Chen, CHM 631, 414-229-6464, jianchen@uwm.edu (email is best)
- Office Hours:** By appointment (Put CHEM 741 in the subject line of all emails and suggest 2-3 dates and times)
- Course Description:** CHEM 741 is a basic introduction to Nanomaterials and Nanotechnology. You will learn the synthesis, properties, manipulation, assembly, and applications of various types of nanomaterials. You will also learn how to develop creative research ideas.
- Prerequisite:** Prerequisite is waived by the instructor. This interdisciplinary course is open to graduate students from all science and engineering programs.
- Text:** PowerPoint lecture notes will be distributed before each lecture. Literature papers may be assigned for further reading.
- Tentative Schedule:**

September 4, 6:	Introduction: Nanomaterials and Nanotechnology
September 11, 13:	Tools for Characterizations of Nanomaterials
September 18, 20:	Nanoparticles
September 25, 27:	Nanorods and Nanowires
October 2, 4, 9:	"Dry" Nanotechnology
October 11, 16:	"Wet" Nanotechnology
October 18:	Carbon Nanotechnology: Fullerenes and Diamondoids
October 23, 25, 30, November 1:	Carbon Nanotechnology: Carbon Nanotubes
November 6, 8:	Carbon Nanotechnology: Graphene
November 13, 15:	Applications: Clean Energy
November 20:	Applications: Nanomedicine
November 21-25:	Thanksgiving Recess (no class)
November 27, 29:	Applications: Bio-Inspired Materials
December 4:	Applications: Nanodevices and Nanomachines
December 6, 11, 13:	Student Presentations

### Grading:

You are required to give an oral PowerPoint presentation (~ 40 min) on an instructor-approved topic of your choice. The presentation includes following sections: 1) Introduction; 2) Current state-of-the-art technology; 3) Identification of problems and needs; 4) Proposed solutions. If plagiarism is found, the student will receive a grade of F. In addition, **frequent absence from the class without prior approval by the instructor will have a significantly negative impact on your grade.**

### Important Dates:

Failure to meet these due dates will have a negative impact on your grade.

- Oct 2** Oral presentation topic approved by the instructor
- Oct 16** Outline of oral presentation due
- Nov 20** Electronic copy of draft oral presentation due
- Dec 6-13** Electronic copy of final oral presentation due 4h before your presentation