

MATERIALS 760 Electronic Materials

Term: Spring 2020, May 4 – June 19

Instructor: Prof. Gu Xu, JHE 357a, xugu@mcmaster.ca, x 27341

Course Schedule: Tuesdays, Thursday, 9:30am-12:00pm, 7 weeks, 35 hours. Via MS Teams

Prerequisite: undergraduate degree in Chemistry, Physics, or Materials Science & Engineering

Course Objectives:

This course will introduce students to the various concepts and applications of electronic materials, in particular, the theory, design and fabrication of semiconductor, electro-optic, magnetic and electrochemical devices.

Course Material:

In-house Lecture notes and Internet resources.

Course Content/Format:

Lectures, quizzes and presentations on:

- 1) Physics and chemistry of electronic materials
- 2) Semiconductors and devices
- 3) Optical materials and devices
- 4) Magnetic materials and devices
- 5) Electrochemical devices

Evaluation:

- 1) In-class quizzes (30%)
- 2) Student Presentations (70%): Students will be required to deliver a presentation based on a topic to be chosen, to be followed by a class-wide Q&A session.