

The University of Western Ontario
Chemistry 9581R, Winter 2021
Course Title

Instructor:

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Enrollment:

No limit

Description:

Solid-state NMR (SSNMR) spectroscopy is a powerful technique for structure determination in solids and characterization of various materials ranging from crystalline solids to amorphous phases. It provides both structural and dynamic information complementary to that obtained from X-ray diffraction based methods. However, compared to solution-state NMR, performing NMR experiments in solids and interpretation of SSNMR spectra are more difficult.

In this course, the nuclear spin interactions that significantly affect the appearance of SSNMR spectra will be discussed. Several SSNMR experiments commonly used for materials characterization will also be introduced. The course aims at helping the students who are interested in using SSNMR as a tool for their research. The emphasis will be on how to use SSNMR to solve problems, rather than the rigorous theory behind.

Topics:

Basics of Solid-state NMR Spectroscopy

Resources:

Solid-State NMR: Basic Principles and Practice

By David C. Apperley, Paul Hodgkinson, and R. K Harris

Lectures / seminars:

Day/s: Friday starting October 29 2021

Time/s: 10:30am-12:30pm

Mode of instruction: In person

Evaluation

Presentation 50%

Essay 50%

Course attendance and missed/late assignments

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed.

Notes on Academic Honesty

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Health and Wellness

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre.

Numerous cultural events are offered throughout the year. For example, please check out the Faculty of Music web page <http://www.music.uwo.ca/>, and our own McIntosh Gallery <http://www.mcintoshgallery.ca/>. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca/>. Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant

administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html.