McMaster University | Materials Science & Engineering

MATLS 701 (MASc) | 702 (PhD) – Graduate Seminar
2020 Fall Term (Online) | 2021 Winter Term

Administrative Details

Instructor: Dr. J. Kish
Offices JHE 343B
E-mail: kishjr@mcmaster.ca
Office Hours: By email request.

2020 Fall Term: Thursday from 2:00 PM to 4:30 PM
2021 Winter Term: To Be Determined

Online Seminar Delivery:

Graduate seminars will be given synchronously during the weekly scheduled time slot using the MS Teams platform. A dedicated Team (MATLS 701/702 Seminar) will be created for the course and all graduate students are expected to ensure that they are included in the Team as members, regardless of whether or not a student is registered to give a seminar in this academic year. Each student should receive an automatically generated message (email) informing them that they have been added to the Team as a member. Please send me an email if this is not the case (kishjr@mcmaster.ca).

Two Components:

Each weekly class will consist of two seminars: one given by a graduate student from the Department of Materials Science and Engineering and another by a senior PhD student or PDF from an external University as part of the newly created North American Materials Colloquium Series (NAMCS). Please visit the www.namcs.org website for more details. For the 2020 Fall Term, on Thursdays, the MATLS 701/702 will run from 2:00 PM to 3:00 PM and will be followed by the NAMCS seminar from 3:00 PM to 4:15 PM. The MATLS 701/702 seminar will consist of a 30 minute talk followed by a 15 minute question period. A 15 minute break will then precede commencement of the synchronous NACMS seminar at 3:00 PM. The NAMCS seminar will use the ZOOM platform. Specific login details will be provided once they become available. All graduate students will be sent a weekly email in advance of the seminar that will include an abstract, speaker biography, and photo for both the MATLS 701/702 speaker and the NAMCS speaker. Details regarding the 2021 Winter Term will be provided once they become available.

The protocol to ask questions during the synchronous online MATLS 701/702 seminars is to either (i) use the "raised hand function" that will indicate you have a question to ask or (ii) type a message using the "chat" function that indicates you have a question to ask. I will then ask you to unmute yourself to ask your question during the question period. Details on the protocols to ask questions during the NAMCS will be provided once they become available.

Course and Learning Objectives

By the end of this course, students should be able to:

1. Write/present a coherent, logical narrative tailored to their audience
2. Able to defend a position using logical, objective arguments in face of robust opposition without creating conflict
3. Explain materials science and engineering fundamentals to a lay audience
4. Critique the literature in one's chosen area of inquiry
5. Discuss how material properties are governed by the structure and processing route
6. Actively engage with the wider scientific audience and/or technical community/ professional society

Materials & Fees

There are no primary resources or fees required for this course.

Course Overview and Assessment

Overview:

Each graduate student is required to prepare and present a major seminar (20 minutes in duration), based upon extensive research work and/or literature surveys, on any topic of current research interest in Materials Science and Engineering. Each graduate student is also required to defend the contents of the seminar during a 10 minute question period that immediately follows the seminar.

MATLS 701 Requirements (MASc Students):

- Present one (1) seminar. This is typically given in Year 2 (Terms 4-6) of program.
- Enroll in Mosaic (an email reminder for registration will be sent by the Graduate Administrative Assistant).

MATLS 702 Requirements (PhD Students):

- Present two (2) seminars. The first is typically given in Year 2 (Terms 4-6) and the second is typically given in Year 4 (Terms 10-12) of the program.
- Declare intent to present for first seminar (do not enroll in Mosiac) to the Graduate Administrative Assistant (an email reminder for registration will be sent by the Graduate Administrative Assistant).

- Enroll in Mosaic (an email reminder for registration will be sent by the Graduate Administrative Assistant).

NOTE: There is a permission placed on the course when enrolling in Mosaic simply to prevent graduate students from registering for this course more than they need to.

Assessment:

A pass/fail grade will be assigned based on the assessment feedback provided by the faculty members and graduate students in attendance. Assessment will be based on the rubric shown in Figure 1. Consistent with the School of Graduate Studies policy, a pass requires a grade above a B− (21 or greater out of 30 total points). A follow up meeting involving the Instructor and the presenting student will be scheduled shortly after the schedule where the assessment and associated feedback will be presented. In case a failing grade is assigned, the student will be given a second opportunity to present a seminar at a mutually agreed upon later date. The pass/fail grade assigned after that second seminar will be final.

Indicators	Below Expectations (0-7 Points)	Meets Expectations (7-9 Points)	Exceeds Expectations (9-10 Points)
Attribute: Content			
Introduction/Objectives **Methodology/Results** **Analysis/Interpretation** **Summary/Conclusions**	-Poorly defined research objectives and methodology -Results presented without analysis or interpretation -Weak summary/conclusions	-Well-defined research objectives and methodology -Results presented and analyzed with some interpretation -"Low hanging fruit" conclusions	-Well-defined/justified research objectives and methodology -Comprehensive analysis of results with fitting interpretation -Far-reaching/probing conclusions
Attribute: Communication Skills/Style			
Organization **Mechanics** **Delivery**	-Main ideas not evident -Poor quality images -Inconsistent/irrelevant content -Excessive use of jargon -Incomprehensible pace and volume with no passion	-Main ideas presented, but not all clearly communicated -Slides contain minor readability and comprehension issues -Reasonable pace and volume with some passion	-Main ideas presented in logical order with smooth transitions -Slides free of technical errors, complete and comprehensible -Excellent pace and volume with well-placed passion
Attribute: Investigation/Understanding			
Breadth and Depth **Correctness** **Interaction**	- No context of research placed within current knowledge state -Errors in data analysis and superficial interpretation -Poor listen skills and clearly uncomfortable answering questions	-Research placed within current knowledge state -Error-free data analysis with straightforward interpretation -Good listening skills yet some difficulty in answering questions	-Research placed within critically-evaluated knowledge base -Evidence of self-reflection in error-free analysis/ interpretation -Excellent listening skills and no difficulty answering questions (with authority and accuracy)

Figure 1: MATLS 701/702 graduate seminar assessment rubric.

Additional Statements

Academic Integrity:

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. It is your responsibility to understand what constitutes academic dishonesty. Academic dishonesty is to knowingly act or fail to act in a way that results, or could result, in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the *Academic Integrity Policy*, located at https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

Authenticity/Plagiarism Detection:

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

Courses with an On-Line Element:

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Online Proctoring:

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/ software during tests or exams. This software may be required to be installed before the test/exam begins.

Conduct Expectations:

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, whether in person or online.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students with Disabilities:

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas.mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

Requests for Relief for Missed Academic Term Work:

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work".

Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO):

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the *RISO* policy. Students should submit their request to their Faculty Office *normally within 10 working days* of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright and Recording:

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, including lectures by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

Extreme Circumstances:

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.