Pharmaceutical Analysis Lab

Course Code: PHRM3320

Year offered: 2017-2018 (Fall Term)

Credit hours: 3

Laboratory Contact Hours: 78 hours

September 8 – December 5, 2017:
Tuesday, 12:30-15:30, Room 264 (Pre-lab) / Room 254 (Lab), Apotex Center
Friday, 12:30-15:30, Room 264 (Pre-lab) / Room 254 (Lab), Apotex Center

Staff:

Dr. X. Gu (Course Coordinator)  Dr. D. Cote
Room 317, Apotex Center  Room 225, Apotex Center
Tel: (204) 474-6903  Tel: (204) 474-6901
Email: Xiaochen.Gu@umanitoba.ca  Email: Dennis.Cote@umanitoba.ca

Prof. Shirley Treacy
Room 218, Apotex Center
Tel: (204) 895-3865
Email: Shirley.Treacy@umanitoba.ca

Mrs. P. Cordova (Laboratory Steward)
Tel: (204) 474-7250

Mr. S. Malhi (Laboratory Assistant)

Individual consultations are available during all lab sessions. Consultations with teaching staff outside class are also available by email or office appointment.

Learning goals for the course:

Upon successful completion of the laboratory, the students will understand the principles and relevance of pharmaceutical dosage forms and analytical instrumentation, be competent with various analytical skills, and apply their knowledge and skills to dosage preparation, dosage quality control, pharmaceutical and pharmacokinetic calculation.
Course objectives:

Upon completion of this hands-on laboratory course, for specific aspects of pharmacy practice the students should be able to:

1. Define common terminology of pharmaceutical analysis.

2. Employ terminology of pharmaceutical analysis by executing various analytical skills through lab exercises or instrumentation:
   - Sterile preparation;
   - Serial dilution;
   - Calibration;
   - Titration;
   - Spectrophotometer;
   - Chromatography.

3. Classify quality control criteria for various dosage forms by executing different lab exercises:
   - Sterility;
   - Drug content;
   - Tablet dissolution;
   - Stability protocol;
   - Drug diffusion.

4. Plan and execute a lab exercise using appropriate analytical skills and generate a comprehensive lab report on the findings.

Level and sequence of the course:

This laboratory course builds on the knowledge obtained from various earlier Pharmacy courses including Fundamentals of Pharmaceutics (PHRM1300), Pharmaceutics/Biopharmaceutics (PHRM2270), and Pharmacokinetics (PHRM2280). Knowledge and background of analytical chemistry, physical chemistry, and medicinal chemistry are essential. Integration and application of information from various courses to complete the laboratory exercises is required.

Teaching and learning methods:

The general aims of the laboratory exercises focus on the basic aspects of pharmaceutical dosage forms and pharmaceutical analytical skills. Each laboratory experiment is designed to provide students with hands-on experience in executing elementary analytical skills and quality control tests for various dosage forms. Students gain knowledge and competence by conducting bench experiments and taking tutorial sessions. Students’ participation in each laboratory is mandatory, and will be accounted into their final course grade.

All lab experiments will be conducted in student groups (mostly with 2 students per group), and each group is required to complete its own laboratory reports independently to reinforce essential knowledge learnt from the laboratory works. In order for the class
instructors to assess each individual student in a balanced manner, student groups are pre-assigned for each laboratory exercise so that working pairs will change continuously among the students (Lab Lists enclosed). Collaborative working, independent learning and critical thinking are therefore all essential components of this laboratory-based course.

Laboratory attendance for this course is mandatory for all students. Assigned laboratory exercises cannot be deferred to a later date. Absence due to medical reasons should be supported with a physician’s certificate. Absence due to compassionate reasons will be considered based on individual case. Make necessary arrangement with course instructors well in advance when one cannot attend a laboratory for justifiable reasons. No leave permission will be granted for recreational and extracurricular activities. Any laboratory absence without appropriate justification will be counted as “Fail” in the student’s overall grade.

**Course technology:**

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. Students can use all technology in classroom settings only for educational purposes approved by the instructors and/or the University of Manitoba Disability Services. Students should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline “gaming” during scheduled class time. Course materials are provided on UM Learn and can be accessed electronically at [https://universityofmanitoba.desire2learn.com/d2l/login](https://universityofmanitoba.desire2learn.com/d2l/login).

The coordinator and instructors of this course and the University of Manitoba hold copyright over the course materials, presentations and lectures that form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of the course coordinator. Course materials (both paper and digital) are for the participant’s private study and research.

**Assessment process:**

Students’ performance in the laboratory will be assessed based on the following components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Preparation/Conduct <em>(Table 1)</em></td>
<td>2.5 %</td>
</tr>
<tr>
<td>Laboratory Participation/Work Ethic <em>(Table 2)</em></td>
<td>2.5 %</td>
</tr>
<tr>
<td>Laboratory Reports <em>(Table 3)</em></td>
<td>10 %</td>
</tr>
<tr>
<td>2 Quizzes <em>(Oct. 20 and Nov. 3, 2017)</em></td>
<td>20 %</td>
</tr>
<tr>
<td>Final Hands-on Lab Examination <em>(Nov. 24/28/Dec. 1, 2017)</em></td>
<td>25 %</td>
</tr>
<tr>
<td>Final Written Examination <em>(Dec. 11-21, 2017, 2 hrs.)</em></td>
<td>40 %</td>
</tr>
</tbody>
</table>

The final mark (out of 100) will be translated to a course letter grade according to the following range,
A+  >90 %  
A    80-89 %  
B+  75-79 %  
B    70-74 %  
C+  65-69 %  
C    60-64 %  
D    50-59 %  
F    <50 %

Assessment criteria and grading:

Laboratory Participation and Preparation: See Table 1 and Table 2 for assessment rubrics.

Laboratory Reports: See Table 3 for assessment rubrics. Laboratory reports are due before 24:00 the same day when the experiments are conducted (unless previously advised otherwise), by email submission only. Late submission of each laboratory report will automatically result in a 50% deduction of marks for that laboratory. The weight of each lab report will increase over the progression of the course, ranging between 5%-30% (Table 3). Laboratory report templates in Microsoft Word will be provided to the students for the completion of the reports.

Quizzes/Final Written Examination: They are designed to evaluate a student’s ability to answer questions (both theoretical and practical) by using knowledge learnt from the laboratory exercises.

Final Hands-on Lab Examination: It is designed to evaluate a student’s lab skills and problem-solving ability by planning a small-scale project, executing various bench experiments and writing up a report. Knowledge and hands-on experience from all laboratory exercises as well as background information from other Pharmacy courses are needed to produce accurate experimental results and a comprehensive lab report.

Assessment policies:

The assessment and academic policies of the College of Pharmacy listed in the University Calendar will be respected. Particularly important are the regulations concerning attendance at class, eligibility for medals, scholarships, awards and prizes, and deferment of examinations due to illness.

Voluntary withdrawal:

Course feedback and assessment will be provided before the voluntary withdrawal (VW) date. For the 2017-2018 academic year in Years 1, 2 and 3 of the Pharmacy program, the VW date for fall courses is November 17, 2017 and for winter courses and span courses (courses that continue for both terms) the VW date is March 16, 2018. PLEASE NOTE: HOWEVER, THAT STUDENTS CONTEMPLATING VOLUNTARILY WITHDRAWING FROM A COURSE SHOULD SPEAK TO THE DEAN’S OFFICE BEFORE DOING SO. THERE ARE SIGNIFICANT CONSEQUENCES OF WITHDRAWING FROM A COURSE DURING THE PROFESSIONAL PROGRAM.
**Student Accessibility Services (SAS):**

If you are a student with a disability, please contact SAS for academic accommodation supports and services. Students who have, or think they may have, a disability (e.g., mental illness, learning, medical, hearing, injury-related, visual, etc.) are invited to contact SAS to arrange a confidential consultation. The coordinator of this course is willing to meet with students to discuss accommodations recommended by SAS.

Student Accessibility Services ([http://umanitoba.ca/student/saa/accessibility/](http://umanitoba.ca/student/saa/accessibility/))
520 University Centre, Fort Garry Campus
Tel: (204) 474-7423; Email: Student_accessibility@umanitoba.ca

**Student support:**

Please refer to the attached [Schedule “A”](#) for a list of student supports provided by the University of Manitoba.

**Recommended texts and references:**

Laboratory notes and other essential handouts will be distributed prior to each laboratory. Laboratory report templates in Microsoft Word will also be available to the students for the completion of the reports.

Additional Textbooks:

*Pharmaceutical Analysis*

*Handbook of Pharmaceutical Analysis*
Lhannesian L, Streeter AJ (Editors), Marcel Dekker, Inc., New York, 2002

**Notes:**

All course-related materials and announcements will be posted in the University of Manitoba UM Learn Portal under Course PHRM-3320 (Fall 2017). Students are encouraged to check for updates on a regular basis, as well as to send feedback and opinions regarding laboratory exercises and teaching evaluations to the Instructors.

University of Manitoba student email is the preferred address for all email communications. Each submission of the lab reports should be copied to the other student who is not sending the email. A request for the delivery/read receipt of the email from the Instructors is also encouraged.
Lab Schedules:

Week 1, September 8, 2017: Orientation / Introduction (No bench work)

Week 2, September 12/15, 2017: Incompatibilities / Isoproterenol Content

Week 3, September 19/22, 2017: Sterile Products I / Granulation (Acetaminophen)

Week 4, September 26/29, 2017: Sterile Products II / Tablet Tests I (Acetaminophen)

Week 5/6, October 3/10, 2017: Sterile Products III / Tablet Tests II (Acetaminophen)

(Fall Break, October 5-6, 2017, No lab on October 6)

Week 6, October 13/17, 2017: Epinephrine Stability Studies / Epinephrine Stability Tests

Week 7, October 20, 2017: Quiz I – Sterile Products, (No bench work)

Week 8, October 24/27, 2017: Aspirin Limit Tests / Aspirin Effervescent Tablets

Week 9, October 31/November 3, 2017: Nicotine Diffusion / Nicotine Gum

Quiz II, November 3, 2017)

Week 10/11, November 7/10/14, 2017: HPLC/SPE Theory and Application

(Written Assignment, due by November 17, 2017, no bench work)

Week 11/12, November 17/21, 2017: Calcium Measurements

Week 12/13, November 24/28/December 1, 2017: Barbiturates Unknowns

(Final Hands-on Lab Examination, Lab Report due by December 5, 2017)

Week 14, December 5, 2017: Lab Clean-up / Final Written Exam Preparation
Table 1. Experimental Preparation/Conduct

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grading Range</strong></td>
<td>&lt;64</td>
<td>65-74</td>
<td>75-89</td>
<td>&gt;90</td>
</tr>
<tr>
<td>Lab Planning (pre-lab, background information, etc.)</td>
<td>Demonstrate a basic understanding of lab contents and what is to be done.</td>
<td>Prepare lab exercises adequately, but not consistently.</td>
<td>Prepare lab exercises adequately, supplied with basic information sometimes.</td>
<td>Consistently well prepared for lab contents, supplied with background information before each class.</td>
</tr>
<tr>
<td>Lab Exercises (lab operation, selection and use of lab equipment, interaction with instructors, etc.)</td>
<td>Carry out lab exercises with some errors, adequately know how to select and use lab equipment appropriately and correctly, need some directions and guidance.</td>
<td>Carry out lab exercises with limited errors, know how to select and use lab equipment appropriately and correctly, need limited directions and guidance.</td>
<td>Carry out each lab exercises with no errors, select and use lab equipment appropriately and correctly, demonstrate independent work skills.</td>
<td>Carry out each lab exercises consistently and accurately with no errors, always work independently and reliably.</td>
</tr>
<tr>
<td>Quality of Lab Exercises (lab operation, use of lab time, lab accuracy, etc.)</td>
<td>Erratic in lab performance, use more time than required.</td>
<td>Adequate performance in the lab, proper use of lab time.</td>
<td>Consistent performance in the lab, use lab time properly and achieve accurate results.</td>
<td>Consistent and well-planned performance in the lab, consistent results with high accuracy and quality.</td>
</tr>
<tr>
<td>Lab Safety (lab conduct, lab coats, safety glasses, etc.)</td>
<td>Understand and follow basic safety rules in the lab.</td>
<td>Understand and follow basic safety rules consistently in the lab.</td>
<td>Understand and observe basic safety rules consistently in the lab, pay attention to lab safety issues adequately.</td>
<td>Understand and observe basic safety rules consistently in the lab, pay attention to lab safety issues consistently.</td>
</tr>
</tbody>
</table>
Table 2. Laboratory Participation/Work Ethic

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grading Range</td>
<td>&lt;64</td>
<td>65-74</td>
<td>75-89</td>
<td>&gt;90</td>
</tr>
<tr>
<td>Learning Attitude</td>
<td>Adequate completion of lab exercises, limited interaction with others.</td>
<td>Satisfactory completion of lab exercises, interact with others where appropriate and necessary.</td>
<td>Complete lab exercises with efficiency, take some initiative in learning and problem-solving.</td>
<td>Consistently complete lab exercises with efficiency, take initiatives in learning and problem-solving.</td>
</tr>
<tr>
<td>Team Work</td>
<td>Cooperate hesitantly with partners, limited communication and interaction with others.</td>
<td>Cooperate willingly with partners, not always work effectively with others.</td>
<td>Work smoothly with partners, contribute equally to lab exercises and reports.</td>
<td>Work efficiently and synergistically with partners, take initiatives to contribute to lab exercises and reports.</td>
</tr>
<tr>
<td>Professionalism</td>
<td>Rarely demonstrate professionalism, require directions and guidance.</td>
<td>Demonstrate professionalism adequately, occasionally require directions and guidance.</td>
<td>Consistently demonstrate professionalism, require no directions and guidance.</td>
<td>Consistently demonstrate exemplary professionalism in the lab.</td>
</tr>
</tbody>
</table>
### Table 3. Laboratory Reports

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1 (Grading Range: &lt;64)</th>
<th>Level 2 (Grading Range: 65-74)</th>
<th>Level 3 (Grading Range: 75-89)</th>
<th>Level 4 (Grading Range: &gt;90)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Introduction to the Exercises and Questions</strong> (learning purposes, relevance to other pharmacy courses, etc.)</td>
<td>The purposes of lab exercises are poorly stated, the importance of lab exercises is not understood.</td>
<td>The purposes of lab exercises are not clearly stated, the importance of lab exercises is partially understood.</td>
<td>The purposes of lab exercises are clearly stated, the importance of lab exercises is understood.</td>
<td>The purposes of lab exercises are explicitly stated with sufficient background knowledge, the importance of lab exercises is well understood.</td>
</tr>
<tr>
<td><strong>Results and Discussion</strong> (interpretation of results, correlation to pharmacy practice, explanation of findings, etc.)</td>
<td>Results are partially presented, incomplete or inappropriate explanations of results or data, no relevant discussion of the results or data.</td>
<td>Results are not clearly presented, limited explanations of results or data, discussion of the results or data to minimal degree.</td>
<td>Results are clearly presented, complete and appropriate explanations of results or data, adequate discussion of the results or data.</td>
<td>Logical and complete presentation of results or data, complete explanations of results or data with support of background knowledge, clear and relevant discussion of the results or data.</td>
</tr>
<tr>
<td><strong>Quality of Lab Report</strong> (organization, presentation, clarity, conciseness, etc.)</td>
<td>Report is difficult to follow or understand, numerous typos or grammatical mistakes, poor organization and presentation.</td>
<td>Report is basically organized and presented with limited mistakes.</td>
<td>Report is clearly organized and presented, no visible mistakes in spelling and grammar.</td>
<td>Report is clearly and logically organized and presented, it is accurate, concise and relevant to both lab exercises and background knowledge.</td>
</tr>
<tr>
<td><strong>Lab Report Weight Distribution</strong></td>
<td>Incompatibility / Sterile Products: To be combined into Quiz I</td>
<td>Isoproterenol Content / Acetaminophen Tablets: 5%</td>
<td>Epinephrine Stability: 10%</td>
<td>Aspirin Limits / Nicotine Tests: 15%</td>
</tr>
<tr>
<td></td>
<td>Calcium/Magnesium Measurements: 20%</td>
<td>HPLC Written Assignment: 30%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Table 4: Meeting AFPC Educational Outcomes

<table>
<thead>
<tr>
<th>Personal Course Objectives</th>
<th>Learning Level (Ideas, Connections, Extensions)</th>
<th>AFPC Outcome Achieved</th>
<th>Performance Level (Novice, Functional, Competent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To define common terminology of pharmaceutical analysis</td>
<td>Ideas</td>
<td>6.1</td>
<td>Functional</td>
</tr>
<tr>
<td>To employ terminology of pharmaceutical analysis by executing various analytical skills through lab exercises or instrumentation (e.g., sterile preparation; serial dilution; calibration; titration; spectrophotometer; chromatography)</td>
<td>Connections</td>
<td>6.1</td>
<td>Functional</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.4</td>
<td>Functional</td>
</tr>
<tr>
<td>To classify quality control criteria for various dosage forms by executing different lab exercises (e.g., sterility; drug content; tablet dissolution; stability protocol; drug diffusion)</td>
<td>Connections</td>
<td>6.1</td>
<td>Functional</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.4</td>
<td>Functional</td>
</tr>
<tr>
<td>To plan and execute a lab exercise using appropriate analytical skills and generate a comprehensive lab report on the findings</td>
<td>Extensions</td>
<td>6.1</td>
<td>Competent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.4</td>
<td></td>
</tr>
</tbody>
</table>

**Number of hours in the curriculum:** 78 hours
Schedule “A”

Section A: Academic Supports

Writing and Learning Support:

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor’s feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at: http://umanitoba.ca/student/academiclearning/. You can also contact the Academic Learning Centre by calling (204) 480-1481 or by visiting 201 Tier Building.

University of Manitoba Libraries (UML):

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: http://bit.ly/WcEbA1 or name: http://bit.ly/1tJ0bB4. In addition, general library assistance is provided in person at 19 University Libraries, located on both Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: http://bit.ly/1sXe6RA. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries’ homepage: www.umanitoba.ca/libraries.

Section B: Medical and Mental Health

For 24/7 mental health support, contact the Mobile Crisis Service at (204) 940-1781.
**Student Counselling Centre (SCC):**

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. Student Counselling Centre: [http://umanitoba.ca/student/counselling/index.html](http://umanitoba.ca/student/counselling/index.html); 474 University Centre or S207 Medical Services, (204) 474-8592.

**Student Support Case Management:**

Contact the Student Support Case Management team if you are concerned about yourself or another student and do not know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team. Student Support Intake Assistant: [http://umanitoba.ca/student/case-manager/index.html](http://umanitoba.ca/student/case-manager/index.html); 520 University Centre, (204) 474-7423.

**University Health Service:**

College of Pharmacy students may access medical services by calling (204) 940-8777 and identifying yourself as a Bannatyne student at the University of Manitoba. The address of the clinic is 425 Elgin Ave.

Alternatively, contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation. University Health Service: [http://umanitoba.ca/student/health/](http://umanitoba.ca/student/health/); 104 University Centre, Fort Garry Campus, (204) 474-8411 (Business hours or after hours/urgent calls).

**Health and Wellness:**

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault. Health and Wellness Educator: [http://umanitoba.ca/student/health-wellness/welcome.html](http://umanitoba.ca/student/health-wellness/welcome.html); Katie.Kutryk@umanitoba.ca, 469 University Centre, (204) 295-9032.

**Live Well @ UofM:**

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site: [http://umanitoba.ca/student/livewell/index.html](http://umanitoba.ca/student/livewell/index.html).

**Section C: Copyright**

All students are required to respect copyright as per Canada’s Copyright Act. Staff and students play a key role in the University’s copyright compliance as we balance user
rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community. Visit http://umanitoba.ca/copyright for more information.

Section D: Policies and Procedures

Your rights and responsibilities:

As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The Academic Calendar (http://umanitoba.ca/student/records/academiccalendar.html) is one important source of information. View the sections University Policies and Procedures and General Academic Regulations.

While all of the information contained in these two sections is important, the following information is highlighted.

If you have questions about your grades, talk to your instructor. There is a process for term work and final grade appeals. Note that you have the right to access your final examination scripts. See the Registrar’s Office website for more information including appeal deadline dates and the appeal form: http://umanitoba.ca/registrar/.

You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the Academic Integrity regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support: http://umanitoba.ca/academicintegrity/. View the Student Academic Misconduct procedure for more information.

The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment
http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline
http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html

Violent or Threatening Behaviour
http://umanitoba.ca/admin/governance/governing_documents/community/669.html
If you experience Sexual Assault or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The Sexual Assault policy may be found at: 
More information and resources can be found by reviewing the Sexual Assault site: 
http://umanitoba.ca/student/sexual-assault/.

For information about rights and responsibilities regarding Intellectual Property, view the policy: 

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site: 
http://umanitoba.ca/faculties/.

Contact an Academic Advisor within our faculty/college or school for questions about your academic program and regulations: http://umanitoba.ca/academic-advisors/.

Student Advocacy:

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

Website: http://umanitoba.ca/student/advocacy/
Address: 520 University Centre, Fort Garry Campus
Tel: (204) 474 7423
Email: student_advocacy@umanitoba.ca