Faculty of Science Course Syllabus
Department of Chemistry

Chem 1011 & Chem 1021
Concepts in Chemistry: Structure and Reactivity

Acting First Year Chemistry Coordinator
(Sept. 6-18, 2016)

Jennifer MacDonald

Email: chemlect@dal.ca
Phone: 902-494-2440
Office: Chemistry 108

First Year Chemistry Coordinator
(Beginning September 19, 2016)

Angela Crane

Email: chemlect@dal.ca
Phone: 902-494-6143
Office: Chemistry 1052

Lectures

Norm Schepp

Alan Doucette

Section 01 (Chem 1011 & 1021)
Time: 8:35 am – 9:25 am
Location: MacMechan Auditorium, Killam Library

Section 02 (Chem 1021)
Time: 9:35 am – 10:25 am
Location: MacMechan Auditorium, Killam Library

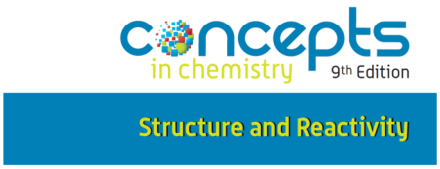
Heather Andreas

Section 02 (Chem 1011)
Time: 9:35 am – 10:25 am
Location: Ondaatje Hall, McCain Building

Section 03 (Chem 1011 & 1021)
Time: 10:35 am – 11:25 am
Location: Ondaatje Hall, McCain Building

Required Materials

DALHOUSIE UNIVERSITY



Textbook
Concepts in Chemistry:
Structure and Reactivity (9th Ed.)

Available at the Dalhousie Bookstore ($65.00)

It is **STRONGLY RECOMMENDED** that you bring your textbook to class with you.

First Year Chemistry Lab Coordinator

Jennifer MacDonald

Email: chemlab@dal.ca

Phone: 902-494-2440

Office: Chemistry 108

Labs

Location:
Basement of the Chemistry Building
Room 100 – 108P

Fall 2016 Lab Schedule:
The Lab Schedule can be accessed on the lab Brightspace site.

Labs Begin:
Monday, September 12, 2016

Lab Instructors

Gianna Aleman

Josh Bates

Jennifer MacDonald

Mark Wall

Required Materials: Mandatory for all Labs

Lab Manual: Available from the Dalhousie Bookstore ($22.00)

Hardcover Lab Notebook: Available from the Dalhousie Bookstore ($6.95)

Safety Glasses: Must be stamped with standards numbers of: **CSA-Z94-3 or ANSI Z87**
Available from the Dalhousie Bookstore ($4.95)

Lab Coats (100% cotton): Available from the Dalhousie Bookstore ($21.95)

Important Dates

Note: Topic schedule for Lectures is tentative. Test, Assignment and Prelab dates are fixed.

September

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/Sunday
CHEM 1011 and Chem 1021 Lab Groups: Group 1: B01, B03, B05, B07, B09, B10, B11, B13, B15, B17, B19, B51, B53, B55, B57 Group 2: B02, B04, B06, B08, B12, B14, B16, B18, B20, B52, B54, B56, B58			1	2	3 4
5 Labour Day University Closed	6 Classes Begin	7 Lecture 1 Intro T1	8	9 Lecture 2 Atomic Structure T1	10 11
12 Lecture 3 Atomic Structure T1	13	14 Lecture 4 Atomic Structure T1	15	16 Lecture 5 Atomic Structure T1 The Periodic Table T2	17 18 **Group 1 Exp. 2 Prelab Due**
19 Lecture 6 The Periodic Table T2 **Last day to cancel/add courses**	20 **Assign 1 due**	21 Lecture 7 The Periodic Table T2	22	23 Lecture 8 Periodic Properties T3	24 25 **Safety Module Due** **Group 2 Exp. 2 Prelab Due**
26 Lecture 9 Periodic Properties T3	27 **Assign 2 due**	28 **Test 1 (7:00 - 8:00 PM)** Lecture 10 Periodic Properties T3 Bonding & MO Theory T4	29	30 Lecture 11 Bonding & MO Theory T4	1-Oct 2-Oct **Group 1 Exp. 3 Prelab Due**

October

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/Sunday
3 Lecture 12 Bonding & MO Theory T4	4 **Assign 3 due**	5 Lecture 13 Bonding & MO Theory T4	6	7 Lecture 14 Lewis Bonding Model T5 **Last day to drop without W**	8 9
10 Thanksgiving University Closed	11 **Assign 4 due**	12 Lecture 15 Lewis Bonding Model T5	13	14 Lecture 16 Lewis Bonding Model T5	15 16 **Group 2 Exp. 3 Prelab Due**
	No Labs this week!				
17 Lecture 17 VSEPR T6	18 **Assign 5 due**	19 Lecture 18 VSEPR T6	20	21 Lecture 19 Valence Bond Theory T7	22 23 **Group 1 Exp. 4 Prelab Due**
24 Lecture 20 Valence Bond Theory T7 Polarity T8	25	26 **Test 2 (7:00 - 8:00 PM)** Lecture 21 Polarity T8	27	28 Lecture 22 Quant. Aqueous T9	29 30 **Group 2 Exp. 4 Prelab Due**
31 Lecture 23 Quant. Aqueous T9					

November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/Sunday
	1 **Assign 6 due**	2 Lecture 24 Quant. Aqueous T9	3	4 Lecture 25 Qual. Acid/Base T10	5 6
7	8	9	10	11 Remembrance Day University Closed	12 13 **Group 1** **Exp. 5 & 6 Prelab Due**
	Study Break (No Labs this week)				
14 Lecture 26 Qual. Acid/Base T10 **Last day to drop with W**	15 **Assign 7 due**	16 Lecture 27 Qual. Acid/Base T10	17	18 Lecture 28 Quant. Acid/Base T11	19 20 **Group 2** **Exp. 5 & 6 Prelab Due**
21 Lecture 29 Quant. Acid/Base T11	22 **Assign 8 due**	23 Lecture 30 Quant. Acid/Base T11	24	25 Lecture 31 Quant. Acid/Base T11	26 **27** **Group 1 & 2** **Exp. 7 Prelab Due**
28 Lecture 32 Applications Acid/Base T12	29 **Assign 9 due**	30 Lecture 33 Applications Acid/Base T12			

December

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/Sunday
			1	2 Lecture 34 Applications Acid/Base T12	3 4
5 Lecture 35 Applications Acid/Base T12	6 **Assign 10 due** Lecture 36 Review Last Day of Classes	7	8 Exams Begin	9	10 11

Course Assessment

Grading Scheme

Component	Weight
Assignments (Best 9 of 10)	15%
Laboratory	15%
Test 1 Sept. 28, 2016 7:00-8:00 PM Test 2 Oct. 26, 2016 7:00-8:00 PM	**30%** 20% for best test 10% for other test
Final Exam	40%
Total	**100%**

Important Notes

1. In order to obtain a passing grade in Chem 1011/1021, you must meet all of the following criteria:
   - Obtain at least a grade of 35/70 on the testing component of the course (i.e., on the combined test and final exam grades)
   - Obtain at least a grade of 7.5/15 on the lab component of the course
   - Obtain at least a total combined grade of 50/100.

   Students who do not meet these criteria will not receive a passing grade in Chem 1011/1021.
2. If you miss a test/exam, please follow the missed test/exam policy outlined below.
3. Under emergency circumstances that have a serious impact on the delivery of this class, there may be a need to alter the syllabus.

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	**B+** (77-79)	**C+** (65-69)	**D** (50-54)
A (85-89)	**B** (73-76)	**C** (60-64)	**F** (<50)
A– (80-84)	**B–** (70-72)	**C–** (55-59)	

Lecture Component

Tests and Exams

All tests and exams are 100% multiple choice. Please bring a pencil to fill out the bubble sheets!

Allowed Materials for Tests and Exams:

- **Study Aid**: handwritten 8.5 inch × 11 inch piece of paper (Tests: handwriting on one side only, Final Exam: handwriting on both sides)
- **Non-programmable calculator**: (programmable calculators or any other electronic devices are not permitted during tests or exam)

You will be provided with the Periodic Table and Constants: available for you to view on Brightspace

Missed Tests or Final Exam: If you miss a test or final exam, you must contact the First Year Chemistry Coordinator (chemlect@dal.ca) within 24 hours of the missed test/exam for further instructions. If appropriate documents (such as a medical certificate) are submitted to the First Year Chemistry Coordinator within one week of the missed test/exam you will be eligible and expected to write a make-up test/exam. The medical certificate must indicate the dates and duration of the illness, and when possible should describe the impact it had on the student's ability to fulfill academic requirements, and should include any other information the physician considers relevant and appropriate.

CAPA Assignments

Assignment	Due Date (11:30 PM)
Assigment 1 (Self Study A1)	Sept. 20
Assignment 2	Sept. 27
Assignment 3	Oct. 4
Assignment 4	Oct. 11
Assignment 5 (Self Study A2)	Oct. 18
Assignment 6	Nov. 1
Assignment 7	Nov. 15
Assignment 8	Nov. 22
Assignment 9	Nov. 29
Assignment 10	Dec. 6

There are 10 online assignments, your final grade will be based on your best 9 assignments. We encourage you to refer to the Assignment Guide for tips on inputting your answers into CAPA and to start early to ensure you are able to get help with the questions that cause you difficulty.

Practice Assignments: Available now and can be attempted 99 times. There is no grade associated with the practice assignments.

Graded Assignments: Comprised of 10 questions/assignment. You will be given **three tries at each question** to obtain your desired grade. Note: You will only be given one try for True/False questions. **The deadline for each assignment will be strictly adhered to, no exceptions.**

Laboratory Component

Your Lab Instructor will give further information about the lab protocols (pages vii – x in the lab manual) during your first lab. Be sure to read this **before** coming to your first lab.

The Lab Instructors are responsible for making all decisions concerning the running and grading of the labs. Queries concerning the laboratories should be directed to them.

You must pass the lab component of the course (7.5/15) in order to pass Chem 1011/1021.

Student Safety in the Undergraduate Laboratories

Chemicals and lab equipment can pose serious hazards if they are not treated with an appropriate amount of caution. As a chemistry student, part of your training involves understanding the hazards that are present within a chemistry lab and learning the measures that must be taken in order to maximize your safety and the safety of your peers.

As part of your lab assignment, you are REQUIRED to complete a Chemistry Safety Module. This must be completed by **11:30 pm September 25th, 2016.**

Students who do not successfully complete this requirement will not be allowed to perform experiments in any Dalhousie undergraduate chemistry lab.

Successful completion of the Safety Module includes reading the General Safety Statement in your lab manual, obtaining a perfect mark (i.e. 100%) on the Safety Module (located in CAPA on the First Year Chemistry Labs – 2016 Fall site), and completing the lab map during your first time in lab.

After completion of these requirements you should feel comfortable working in a chemistry lab and have the tools you need to promote a safe lab environment.

CAPA PreLabs

PreLab	Due Date (Group 1)	Due Date (Group 2)
Exp. 2	Sept. 18	Sept. 25
Exp. 3	Oct. 2	Oct. 16
Exp. 4	Oct. 23	Oct. 30
Exp. 5 & 6	Nov. 13	Nov. 20
Exp. 7	Nov. 27	Nov. 27

Group 1
B01, B03, B05, B07, B09, B10, B11, B13, B15, B17, B19, B51, B53, B55, B57

Group 2
B02, B04, B06, B08, B12, B14, B16, B18, B20, B52, B54, B56, B58

Prelab Assignments

The online prelab assignments have been developed to help you prepare for the lab. Prelabs are due 11:30 pm on the due date. The prelab assignments comprise 2/15 of your total lab grade.

The deadline for each assignment will be strictly adhered to, no exceptions.

We encourage you to start early to ensure you are able to get help with the questions that cause you difficulty.

We have done our best to ensure that the questions are free from errors. However, if you feel there is an error you can apply for a grade adjustment by selecting the "Send Feedback" at the bottom of the page for the specific CAPA question. Make sure you explain why you feel your grade should be adjusted before sending your message.

Lab Reports and CAPA Post-Labs

Report	Due Date	Location of Post-Lab
Exp. 1	Next Lab Day	Lab Manual
Exp. 2	Next Lab Day	Lab Manual
Exp. 3	Same Day in Lab	Lab Manual
Exp. 4	Next Lab Day	Lab Manual
Exp. 5	Same Day in Lab	Lab Manual
Exp. 6	Next Lab Day	Lab Manual
Exp. 7	Same Day in Lab	Lab Manual

Lab reports comprise 13/15 of your total lab grade. Some lab reports are due at the end of the lab period in which you complete the experiment and others are due at the beginning of your next lab day.

Missed Labs

If you miss a lab, you must email your lab instructor (chemlab@dal.ca) within 24 hours of the missed lab to schedule a make-up experiment.

Your lab instructor will then email you a letter of permission to do a make-up lab at an agreed-upon time. Make-up experiments are only available within 2 weeks of your missed lab. When you arrive to your make-up lab you must be prepared to do the experiment, present yourself to the instructor and sign the guest book. **No student will be allowed to do a make-up after the last day of scheduled labs.** If the lab report for a make-up lab is due on your next scheduled lab day and you have none remaining, the report is due on the last day of scheduled labs for the term.

Lab Exemptions

Lab exemptions will be granted to those who have already completed the course and have a ***lab grade of 10/15 or better*** on the lab component of the course.

Lab grades for lab exemption requests can only carry forward for one academic year. You must contact the first year lab coordinator (chemlab@dal.ca) in order to apply for a lab exemption. Labs exemptions **will not** automatically be granted.

Student Resources

Brightspace Lab and Lecture Sites

We post a number of resources on the Brightspace Lab and Lecture sites. We strongly recommend that you review these sites. The resources on these sites are intended to support your learning as the term progresses. Some of these resources include prelab videos, online video tutorials for lab reports and lecture material, schedules, contact information, and much more! We also recommend that you refer to the sites on a regular basis. Important information such as grades and test locations will be posted as they become available.

The Concept Room

Location: Basement of the Chemistry Building
Inside the Chemistry Resource Centre

Members of the First Year Chemistry team are available to answer lecture and lab questions in The *Concept* Room.

Opens Monday, September 12, 10:00 AM

Schedule	Lecture Support	Lab Support
Monday	11:30 – 12:30 pm; 2:00 – 4:00 pm	10:00 – 11:30 am
Tuesday	10:00 am – 12:00 noon; 4:00 – 6:00 pm	1:30 – 3:00 pm
Wednesday	3:00 – 4:00 pm	10:00 – 11:30 am; 1:30 – 3:00 pm
Thursday	---	10:00 – 11:30 am
Friday	2:30 – 3:30 pm	10:00 am – 12:30 pm

The *Concept* Room: Lecture Support

Heather Andreas

Josh Bates

Angela Crane

Alan Doucette

Norm Schepp

Marc Whalen

The Concept Room: Lab Support

Gianna Aleman

Matt Christian

Lin Ma

Luke Murphy

Mark Wall

Chemistry Resource Centre

Location: Basement of the Chemistry Building.

The Resource Centre is staffed by advanced undergraduate/graduate students during the times that there is not a member of the first year team in The *Concept* Room.

Opens Monday, September 12, 2016

	Monday	Tuesday	Wednesday	Thursday	Friday
10:00-11:00	Concept Room Lab	Concept Room Lecture	Concept Room Lab	Concept Room Lab	Concept Room Lab
11:00-12:00	Concept Room Lecture		Resource Centre Assistant	Resource Centre Assistant	
12:00-1:00	Resource Centre Assistant	Resource Centre Assistant			Resource Centre Assistant
1:00-2:00		Concept Room Lab	Concept Room Lab		
2:00-3:00	Concept Room Lecture				Concept Room Lecture
3:00-4:00		Resource Centre Assistant	Concept Room Lecture		
4:00-5:00	Resource Centre Assistant	Concept Room Lecture	Resource Centre Assistant		
5:00-6:00					

Course Description

Credit Hours: 3

The electronic structures of atoms and molecules are used to explain the reactivity and properties of chemicals.
Topics include atomic structure, bonding models, structure and shape of molecules and ions, and acid/base chemistry.

It is recommended that students have Nova Scotia grade 12 chemistry or equivalent before taking this course.

PREREQUISITE: CHEM 1011.03 or equivalent

COORDINATORS: A. Crane, J. MacDonald

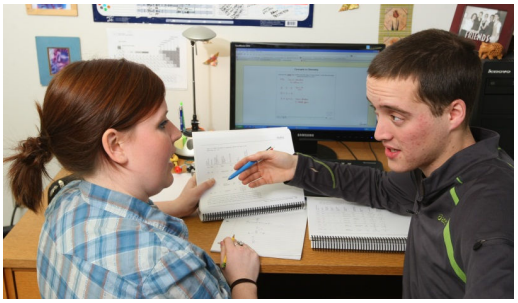
FORMAT: Lecture| Lab

LECTURE HOURS PER WEEK: 3

LAB HOURS PER WEEK: 3

EXCLUSIONS: Credit will be given for only one of the following combinations: CHEM 1011.03/1012.03 or CHEM 1021.03/1022.03

Course Objectives



Our primary objective for First Year Chemistry is to offer you a comprehensive and relevant course on the fundamental concepts in chemistry.

We offer a number of resources to support your studies including a customized textbook that will be used during the lectures, online video tutorials and extra help from a first year team member in the Chemistry Concept Room.

Learning Outcomes

- Describe the subatomic composition of atoms, ions and isotopes.
- Calculate spectroscopic quantities in relation to electronic transitions.
- Write electronic configurations of atoms and ions and relate to the structure of the Periodic Table.
- Interpret quantum numbers in terms of orbital shape and the electronic structure and properties of atoms.
- Predict atomic and ionic properties based on electron configurations.
- Draw and interpret molecular orbital diagrams for simple diatomic molecules.
- Draw Lewis dot structures for atoms, molecules, and ions.
- Describe the types of bonds in chemical compounds (ionic, covalent, multiple, sigma, pi).
- Predict molecular geometry, shape, bond order, polarity and hybridization based on Lewis structures.
- Classify different types of intermolecular interactions.
- Draw resonance structures, perspective drawings, hybrid orbital shapes, and hybrid orbital diagrams based on Lewis structures.
- Perform calculations related to solution concentration in various units.
- Describe the characteristics of aqueous solutions.
- Write molecular and net ionic equations for simple reactions in aqueous solution.
- Classify chemical substances as acids and bases in various ways (strong, weak, conjugate, amphoteric, polyfunctional, Brønsted, Lewis).
- Write reactions and equilibrium constant expressions for weak acids and bases.
- Perform calculations (pH, concentration, etc.) relevant to acids and bases and their mixtures (buffers, titrations) at a foundational level.
- Predict the relative strengths of acids and bases based on equilibrium constants and structural characteristics.

Course Content	
Self Study A1 **Introductory Concepts in Chemistry**	• The Vocabulary of Chemistry • Element Names and Symbols • Cations, Anions and Regions of the Periodic Table, • Naming Inorganic Compounds (Nomenclature) • Fundamental Units of Measurement for Chemistry • Accuracy and Precision • Significant Figures • Multiple Measurements: Averages and Standard Deviations • Logarithms • Solving Problems Using Dimensional Analysis • Molecules, Molecular Formulae, Molecular Mass and Formula Mass • The Mole, Avogadro's Number and Molar Mass • Empirical Formula and Mass Percent • Mathematics and Chemistry
Self Study A2 **Chemical Reactions and Stoichiometry**	• Writing Chemical Equations • Procedure for Balancing Chemical Equations • Stoichiometry and Mass • Determining the Limiting Reagent • Actual, Theoretical and Percent Yield • Elemental Analysis and Empirical Formula
Topic 1 **Atomic Structure**	• Subatomic Particles • Mass Number, Isotopes and Average Atomic Mass • Electromagnetic Radiation: A Useful Probe of Atomic Structure • Atomic Line Spectra and the Bohr Model • Quantum Mechanics • Shapes of Atomic Orbitals
Topic 2 **The Periodic Table**	• Pauli Exclusion Principle and Hund's Rule • Relative Energies of Atomic Orbitals • Electron Configurations • Valence and Core Electrons • The Periodic Table and Electron Configurations

Topic 3 **Periodic Properties of the Elements**	• Effective Nuclear Charge • Atomic Size • The Size of Ions • Ionization Energy • Electron Affinity • Electronegativity • Solid State Properties: Metals, Metalloids and Non-Metals
Topic 4 **Chemical Bonding and MO Theory**	• Electrostatic Interactions and Ionic Bonding • Covalent Bonding • Delocalized Electron Model • Molecular Orbital Diagram for Dihydrogen • Second Row Diatomic Molecules
Topic 5 **The Lewis Bonding Model**	• Lewis Structures • Procedure for Drawing Lewis Structures (Method 1) • Procedure for Drawing Lewis Structures (Method 2) • Lewis Structures for Stuctural Isomers • Resonance, Energy Equivalent Structures and "Curly Arrows" • Limitations of the Lewis Bonding Model
Topic 6 **Molecular Structure and the VSEPR Model**	• The Principles of the VSEPR Model • Procedure for Predicting Molecular Shape
Topic 7 **Valence Bond Theory (Hybridization)**	• σ Bonds (Sigma Bonds) • Hybridizing Atomic Orbitals to Make σ Bonds • Unhybridized p Orbitals and π Bonds (Pi Bonds) • Hybridization in Compounds Containing Heavy Metals • Compounds Involving Lone Pairs in Hybrid Orbitals
Topic 8 **Bond Polarity and Molecular Polarity**	• Electronegativity and Bond Polarity • Molecular Polarity and Dipole Moment • Non-covalent Intermolecular and Inter-ion Interactions
Topic 9 **Quantitative Description of Aqueous Solutions**	• General Characteristics of Aqueous Solutions • Solution Concentration • Mass Percent • Mole Fraction (*X*) • Molarity (*M*) • Dilution • Reactions Involving Aqueous Solutions

Topic 10: **Qualitative View of Acid-Base Equilibria in Aqueous Solution**	• Strong Acids • Strong Bases • Weak Acids and Weak Bases • The Equilibrium Constant • Auto-dissociation of Water • pK_a and pK_b • Polyprotic Acids • Structural Influences on the Magnitude of pK_a or pK_b
Topic 11: **Quantitative Acid-Base Chemistry in Aqueous Solution**	• pH and pOH • Acid-Base Reactions • Titrations Involving Strong Acids and Strong Bases • Determining the pH for Solutions of Weak Acids and Weak Bases • Solutions of Acidic and Basic Salts
Topic 12: **Applications of Acid-Base Equilibria:** **Buffer Solutions**	• Buffer Solutions from a Weak Acid and Its Conjugate Base • Henderson-Hasselbalch Equation • Buffering Action • Buffer Solutions from Weak Acids (Bases) and Strong Bases (Acids) • Preparation of Buffer Solutions of a Desired pH
Topic 13: **Coordination Chemistry**	• Lewis Acids and Bases • Complex Ions and Transition Metal Coordination Compounds • Ligands and Oxidation Numbers of the Central Metal • Electron Counting in Transition Metal Complexes • Coordination Geometries of Complex Ions • Bonding and Electronic Structure of Transition Metal Complexes • Magnetic Properties of Transition Metal Complexes

Accommodation Policy for Students

Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie's Student Accommodation Policy can be accessed here: http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Advising and Access Services Centre (AASC)** prior to or at the outset of the regular academic year. More information and the ***Request for Accommodation*** form are available at www.dal.ca/access.

Academic Integrity

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (http://academicintegrity.dal.ca) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie's ***Policy on Intellectual Honesty*** and ***Faculty Discipline Procedures*** is available here:

http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html

Student Code of Conduct

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

"The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect

- the integrity and proper functioning of the academic and non – academic programs and activities of the University or its faculties, schools or departments;
- the peaceful and safe enjoyment of University facilities by other members of the University and the public;
- the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University's premises;
- the property of the University or its members."

The full text of the code can be found here:

http://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Services Available to Students

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

General Academic Advising	Killam Library, Ground Floor *Bissett Centre for Academic Success* (Room G28)
Support Provided Help with: - understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or other difficulties	Contact In person: Killam Library Rm G28 By appointment: - Email: advising@dal.ca - Phone: (902) 494-3077 - Book online through MyDal

Dalhousie Libraries	Killam Library, Ground Floor (Librarian offices)
Support Provided - Help to find books and articles for assignments - Help with citing sources in the text of your paper and preparation of bibliography	Contact In person: Service Point (Ground floor) By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time http://dal.beta.libguides.com/sb.php?subject_id=34328

Studying for Success (SFS)	Killam Library, 3rd floor Coordinator (Room 3104), Study Coaches (Room 3103)
Support Provided - Help to develop essential study skills through small group workshops or one-on-one coaching sessions - Match to a tutor for help in course-specific content (for a reasonable fee)	Contact To make an appointment: - Visit main office (Killam Library, Room G28) - Call (902) 494-3077 - Email Coordinator at: sfs@dal.ca - Simply drop in to see us during posted office hours **See our website: www.dal.ca/sfs**

Writing Centre	Killam Library, Ground floor, Learning Commons & Room G25
Support Provided Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) - Learn to integrate source material into your own work appropriately - Learn about disciplinary writing from a peer or staff member in your field	Contact To make an appointment: - Visit the Centre (Rm G25) and book an appointment - Call (902) 494-1963 - Email writingcentre@dal.ca - Book online through MyDal We are open six days a week **See our website: writingcentre.dal.ca**