

COURSE SYLLABUS: CHEM 205 (GENERAL CHEMISTRY I) - Fall 2019

1. GENERAL INFORMATION

Lectures:	Lec.01 (Dr. Dénès):	Tues. & Thurs.	11:45-13:00	room: LOY HB-130
	Lec.02 (Dr. Naccache):	Wed. & Fri.	8:45-10:00	room: LOY SP-S110
	Lec.03 (Dr. Rogers):	Wed. & Fri.	11:45-13:00	room: LOY CC-116
	Lec.51 (Dr. Dénès):	Wed. evening	18:00-20:30	room: LOY HB-130
	Lec.AA (Dr. Robidoux):	Thurs. evening	18:00-21:00	room: SGW H-531
Laboratories:	MANDATORY; biweekly, alternate with tutorial; time (3.0 h): refer to your class schedule; room: SP-232			
Tutorials:	MANDATORY; biweekly, alternate with laboratory; time (2.5 h) and room: refer to your class schedule			

STARTING: 1st LECTURES = week of Sept.4th & LAB/TUTORIAL = week of Sept.9th (see schedule on p.5)

IF REPEATING COURSE: Lab exemptions must be requested before 12 pm, Fri. Sept.6th by submitting the application form (visit <http://www.concordia.ca/artsci/chemistry/programs/undergraduate/procedures-forms.html> & see Student Requests) during business hours at the Dept. office (SP-201.01, (514) 848-2424 x3366). **All repeating students must repeat tutorials, homework (OWL), and all examinations.** Repeating students are eligible for a lab exemption if they passed (>60%) the labs of Chem 205 in the past 24 months; students who partially completed the labs or discontinued the course must repeat all labs/tutorials/OWL. Students still registered in a regular lab section after labs begin must repeat all labs (no exceptions).

▪ **Instructors:** (see your own lecture professor for conceptual questions; contact Coordinator for lab/tutorial/OWL problems)

Professor: Dr. Georges Dénès, Associate Professor, Dept. of Chemistry & Biochemistry
 Contact: georges.denes@concordia.ca & madenes@videotron.ca
 Office: SP-201.11; (514)848-2424 x3346; drop-in office hours Tues./Thurs. 1:15-2pm, Wed. 3-4:30pm

Professor: Dr. Rafik Naccache, Assistant Professor, Dept. of Chemistry & Biochemistry
 Contact: rafik.naccache@concordia.ca
 Office: SP-275.07; (514)848-2424 x3279; drop-in office hours Tues. 2-4pm

Professor: Dr. Sebastien Robidoux, Senior Lecturer, Dept. of Chemistry & Biochemistry
 Contact: sebastien.robidoux@concordia.ca
 Office: SP-201.15; (514)848-2424 x3377; drop-in office hours Tues./Thurs. 10:30-11:30am at SGW (room TBA)

Coordinator: Dr. Carrie Rogers, Senior Lecturer, Dept. of Chemistry & Biochemistry
 Contact: carrie.rogers@concordia.ca (for questions re: lab/tutorial rules/absences/OWL technical problems)
 Office: SP-201.17; (514)848-2424 x5838; office hours drop-in Tues./Wed. 3:30-5:00pm & Thurs. 10:30-11:30am

TAs (lab/tut): contact information provided on course's Moodle website (Core Materials Metasite)

▪ **Moodle sites:** Core Materials Metasite: lab/tutorial schedule, FAQs (course policies, labs, tutorials, OWL), sample finals
 Lecture section sites: section-specific lecture slides, sample midterm exams, other information

2. COURSE DESCRIPTION

▪ **Calendar description:** Stoichiometry, states of matter, atomic structure, electron structure of atoms, the periodic table, periodic properties, bonding, gases. Lectures and laboratory. NOTE: This course presumes a good grounding in secondary school mathematics. Students lacking such grounding or non-science students seeking only an awareness of chemistry are advised to enrol in CHEM 208. Students in programs leading to the BSc degree may not take this course for credit to be applied to their program of concentration.

▪ **Required background knowledge/skills:** proficiency in high-school mathematics necessary (see moodle for skills list)

▪ **Expanded course description:** To solve problems of a chemical nature, scientists assess factual information, apply concepts and perform mathematical calculations. In General Chemistry I, you will memorize language and facts and learn concepts and calculations used by scientists to describe matter and the things that different types of matter do. The hands-on laboratory experiments further demonstrate how textbook chemistry is used to solve real chemical problems. Together, the theory and lab work provide the introduction to chemical thinking needed for scientists and engineers.

▪ **To succeed in Chem 205**, you must regularly work through problems from the OWL online homework system and textbook, in addition to doing the readings. Emphasize the end-of-chapter "General Questions" - these test your understanding and build your problem-solving skills by mixing topics together, as they are encountered in the real world and on exams (see samples on course website). Go back to the dozens of earlier "Study & Practicing Skills" questions when you've identified a particular topic with which you need extra practice. If you start at question #1 in each chapter, you'll run out of study time before you've ever tested yourself. Write out all problems/calculations in full to forge a strong link between your brain and your pen - your course work will be graded on both correctness and completeness. In OWL, take advantage of the optional "Adaptive Study Plan" quizzes for each chapter, to find out where your own strengths and weaknesses lie, and work on optional EOC problems and Mastery assignments (look for these in the "Assignments I Can Practice Now" area).

3. OBJECTIVES

▪ **Students are expected to:**

- Draw on background: routinely use high-school level physical science and mathematics (algebra) knowledge
- Acquire knowledge: memorize factual information & laws; assimilate scientific concepts; learn chemical calculations
- Build competencies: look below surface to find causes; observe & interpret; apply knowledge to real situations
- Develop skills: discipline; logic; explanation (what/how/why); problem-solving; hands-on lab techniques
- Lay groundwork: for science/engineering: knowledge of matter & reaction types, & how to learn more about matter

4. COURSE MATERIALS *(All materials are sold at the Loyola campus Bookstore.)*

- **Required:**
 - Textbook:** *Chemistry and Chemical Reactivity*, 10th Ed., by Kotz *et al.* (9th Ed. ok if get 10th's OWL) Packaged with OWLv2 at Bookstore (~\$180), **OR, as ebook with OWLv2 (~\$75) at bookstore or via THIS link (do not just search for OWLv2 on google):** <http://www.nelsonbrain.com/webapp/wcs/stores/servlet/en/micrositesca/Concordia-CHEM205-206>
 - Used book? Any General Chem. book is fine, AS LONG AS you get the Kotz 10th OWLv2-ebook too.
 - OWLv2:** Interactive homework system & personalized study planner, sold with text or e-book
If buy new text, go to: <https://login.cengagebrain.com/course/E-26R66RWQ6R8FJ>
If buy OWLv2-ebook, use course key: E-26R66RWQ6R8FJ
 - Lab manual:** *Chem 205, General Chemistry I*, by the Dept. of Chem. & Biochem. (Concordia)
OR, free: download experiment pdfs from moodle Core Materials site & print yourself
 - Calculator:** non-programmable; recommended models: Sharp EL-531 or Casio FX-300MS
 - Equipment:** lab-coat, safety glasses or goggles, lab spatula or scoopula
 - Lec.02 & 03:** any iclicker device **OR** (cheaper) subscription to iClicker REEF for phone/tablet/laptop
- **Optional:** Tutor-like book: *General, Chemistry I as a 2nd Language* by D. Klein (also available as ebook)
- **Other:** Other GenChem texts: available on reserve at Vanier Library (e.g., Zumdahl, Gilbert & Kirss).
Library research tips: <http://library.concordia.ca/help/tutorial/>
- **Readings:** Kotz, Treichel, Townsend & Treichel, 10th Ed., Ch. 1-4, 19.1, 6-8, 12.3, 9.1, 10 (for 9th Ed.: same + 9.2).

5. GRADING

- **Breakdown:**

OWLv2 homework:	8 %	(1% each assignment: 1 Intro., 5 Tutorial-preps, 1 Gases, 1 Last Asst.)
Tutorial activities:	12 %	(5 two-stage quizzes, worth 2.4% each: 1/2 group quiz, 1/2 individual)
Midterm exam (Lec.2,3,AA):	15 %	(dropped if final exam grade is higher than midterm exam, in %)
Midterm exam (Lec.01,51):	20 %	(dropped if final exam grade is higher than midterm exam, in %)
Final examination:	40 %	(55% Lec.02,03,AA or 60% Lec.01,51 if midterm grade is dropped)

Theory Pass Required: must earn >45% on final exam + >50% on combined theory to pass course

Laboratory reports:	20 %	(5 reports worth 4% each)
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Lab Pass Required: must earn >60% (12/20) on lab reports to pass course

Participation (Lec.2,0,AA):	5 %	(Lec.02-03: clickers at lecture >85% participation earns full points) (Lec.AA: not using clickers; professor will explain details in class)
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Note: If a student who wrote the midterm exam performs better on the cumulative final exam, their midterm will not count & their final exam will count for 55% (Lec.02,03,AA) or 60% (Lec.01,51).
- **Expectations:** application of pre-requisite knowledge (& common sense) to new concepts, situations and problems
logical explanation of concepts/situations, supported by facts, drawings & calculations as appropriate
objective, reasonable analysis and interpretation of laboratory observations and quantitative data
- **Attendance:**
 - Labs/tutorials:** if miss > 1 lab or >1 tutorial (any reason), a Repeat (R) grade is earned for course
missed labs/tutorials earn zero grades, and cannot be made-up after the fact
contact Course Coordinator to plan for religious holidays or medical appointments
absences (max.1 each) excused if valid doctor/employer note - [see Course Coordinator](#)
- **Submitted work:** must be handed in directly to TAs before or on the due date; late penalties apply (10% per day)
work must be organized, legible (handwritten is acceptable), & printed on double-sided paper if possible
- **Grading scale:** A+ (≥ 86.7%), A (83.4-86.6%), A- (80-83.3%); B+ (76.7-79.9%), B (73.4-76.6%), B- (70-73.3%);
C and D grade ranges similar to Bs.
- **Failing grades:**
 - Fail (F) grade: if earn < 50% on theory or < 45% in the final exam
 - Repeat (R) grade: if earn < 60% on labs, or miss >1 lab or >1/tutorial for any reason, or < 35% in theory
If repeating course: can register in lab-exempt section (see SP-201.01) but must repeat tutorials & OWL

When a student receives a lab exemption for a lab taken at Concordia, the previous lab mark will be used again in determining the new grade. If a student receives a lab exemption based on a lab taken at another institution, the lab mark is not used again, and the course grade is based entirely on the "theory" marks obtained at Concordia.

6. SCHEDULE (May be subject to change.)

- **Important dates:**
 - Lab/tutorials: start the week of Sept.9th, 2019 (arrive at lab; complete OWL intro. first if possible).
 - Chem 101: seminars Sept.16-20th; on-line quiz must be completed before 23:55 Sun.Oct.6th.
 - Drop deadlines: **DNE (tuition refund) deadline: Mon. Sept.16th; DSC deadline: Mon. Nov.4th.**
 - Midterm exam: in October, date/time announced in class by lecture professor
- **Assignments:** mandatory homework assignments (1 intro. assignment, 5 tutorial-preps, 1 gases, 1 final assignment)
must be completed on-line using OWLv2 before the deadlines posted in the Lab/Tutorial Schedule.
- **Lecture topics:** see course outline table on following pages for order of topics & readings list.
- **Labs/tutorials:** mandatory; see schedule on following pages.

7. RIGHTS AND RESPONSIBILITIES OF THE STUDENT

- **Read the Core Materials Moodle site during the first week of classes:**

Full explanations of the course policies, activities, and helpful tips are provided there as FAQs (frequently asked questions). Please read it before the 2nd week of class – by registering for the course, you are agreeing to follow these rules. The information will remain accessible all term for your reference. If you have questions, please ask the Course Coordinator.

- **Be prepared for lectures, tutorials & labs: (for lab check-in only: no preparation required)**

Lectures: Read the lecture materials before class, and then be ready to (i) answer questions (including calculations) during the lecture and (ii) engage in discussion with classmates to clarify each others' understanding.

Tutorials: Complete the OWLv2 tutorial-prep homework assignment, and then be ready to (i) participate in TA-led review exercise and (ii) write a two-stage quiz (complete a quiz in small groups, then write similar quiz individually).

Labs: Read the experiment thoroughly & complete the prelaboratory exercises (individually), and then be ready to (i) perform the experiment together with a lab partner and (ii) write a lab report based on your data (individually).

- **Contribute to a positive learning environment:**

Disruptive or disrespectful behaviour will not be tolerated in any Concordia environments: classrooms, labs, tutorials or on-line. Cell phones, laptops, tablets and other electronic devices are permitted in classrooms/labs **only** if being used for approved course-related activities. Students engaging in inappropriate behaviour will be asked to leave, without the opportunity to make up the missed work.

- **Complete the MANDATORY “Chem 101” seminar & quiz:**

MANDATORY COURSE REQUIREMENT: As part of this course, you **are required to** (i) attend the “Chem 101” seminar on academic integrity, the academic code of conduct and the appropriate use of information sources & (ii) earn 100% on the “Chem 101” moodle on-line quiz. (**Note:** This is **not** the University's quiz you may have taken when you first registered and logged into the myConcordia portal; the Chem 101 quiz is graded by the Department of Chemistry and Biochemistry, and you cannot take it until after you have attended the seminar.) The aim of the seminar and quiz is to clarify the code of conduct in terms of what practices are considered unacceptable in work submitted for grading in Chemistry & Biochemistry courses. You are exempt from this requirement **ONLY** if you already did both (i) and (ii) in **Fall 2014** or more recently;* otherwise, you must complete both this term. **You are exempt if you can locate your ID in the pdf file located on the Departmental web site (<http://www.concordia.ca/content/dam/artsci/chemistry/docs/compliance-list.pdf>).*

The seminar (1 hour) will be held several times during the week of Sept.16-20th: Mon.-Fri. at 4:45pm, Tues. & Wed. at 8:45pm. Please sign up EARLY for your preferred time, as seating is limited. Sign-up sheets (indicating the room locations) will be posted outside SP 201.01 (Departmental office). **IMPORTANT: Late-comers will not be admitted.**

If you do not complete Chem 101, your final Chem 205 grade will be lowered by one letter grade and carry an incomplete notation (e.g., C+/INC if you earned a B-). Please refer to the Department website FAQs or the Undergraduate Calendar (section 16.3.6) for details on removing an INC notation (thus restoring your grade) via the “Late Completion” process.

The Concordia University academic code of conduct can be found in section 17.10 of the current academic calendar (<http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html>). Any form of unauthorized collaboration, cheating, copying or plagiarism found in this course will be reported and the appropriate sanctions applied. The Chem 101 seminar is a clear and fair opportunity to learn what our faculty regards as academic misconduct. Failure to take part in this learning opportunity and thus ignorance of these regulations is no excuse and will not result in a reduced sanction in any case where academic misconduct is observed.

- **Demonstrate academic integrity:** (Source: Academic Integrity Website, www.concordia.ca/students/academic-integrity/plagiarism.html)

Plagiarism: The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as “**the presentation of the work of another person as one’s own or without proper acknowledgement**”. This could be material copied word for word from books, journals, internet sites, professor’s course notes, etc. It could be material that is paraphrased but closely resembles the original source. It could be the work of a fellow student, for example, an answer on a quiz, data for a lab report, or a paper or assignment completed by another student. It might be a paper purchased through one of the many available sources. “Presentation” is not limited to written work – it can also refer to copying images, graphs, tables, ideas, oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into French or English and do not cite the source, this is also plagiarism. In simple words: **DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT SAYING FROM WHERE YOU OBTAINED IT!**

8. CONCORDIA UNIVERSITY SERVICES FOR STUDENTS (partial list)

- Counselling & Development: career, learning, psychological services (etc.): <http://www.concordia.ca/offices/cdev.html>
- Student Success Centre: <http://www.concordia.ca/offices/cdev.html/our-services/resources-and-drop-in-centres/>
- New Student Program: <http://www.concordia.ca/offices/cdev.html/our-services/services-for-new-students/>
- Concordia Library Citation & Style Guides: <http://library.concordia.ca/help/howto/citations.html>
- Academic Integrity Website: www.concordia.ca/students/academic-integrity/plagiarism.html
- Access Centre for Students with Disabilities: <http://www.concordia.ca/offices/acsd.html/>
- Student Transition Centre: <http://www.concordia.ca/extended-learning/advising.html>
- Advocacy & Support Services: <http://www.concordia.ca/offices/advocacy.html/>
- Financial Aid & Awards: <http://www.concordia.ca/offices/faao.html>
- Health Services: <http://www.concordia.ca/students/health.html>

CHEM 205 – COURSE OUTLINE & READINGS (Kotz 10th Ed. *Chemistry & Chemical Reactivity*)
▪ Suggestions on how to approach lectures:

- **Read** upcoming textbook sections before each class. Lectures are intended to clarify your understanding of the topics covered in the text and to get you actively thinking about the material. Lectures do not replace readings, & vice versa.
- **Print out** the lecture slides and bring them to class to write on. Check the moodle sites for updates.
- **Take notes** during class to recall the explanations & discussion. Don't waste time copying down what is on the slides!
- **Think actively** in the classroom. When given the opportunity, answer in-class questions and discuss material with your classmates – research shows that active participation improves both understanding and retention.

Chapter title	List of topics <i>(Note: professor may add supplementary material and/or cover topics in a different order)</i>	Text readings
Let's Review: the Tools of Quantitative Chemistry	Units of measurement; Making measurements – precision, accuracy, experimental error & standard deviation; Mathematics of chemistry; Problem solving by dimensional analysis; Graphs & graphing; Problem solving & chemical arithmetic	"Let's review" Sections 1 – 6 (after Ch.1 in Kotz)
Basic Concepts of Chemistry	Chemistry & its methods; Sustainability & green chemistry; Classifying matter; Elements; Compounds; Physical properties; Physical & chemical changes; Energy – some basic principles	1.1 – 1.8
Atoms, Molecules & Ions	Atomic structure, atomic number & atomic mass; Isotopes & atomic weight; The periodic table; Molecules, compounds & formulas; Ionic compounds – formulas, names & properties; Atoms, molecules & the mole; Chemical analysis – determining compound formulas; Instrumental Analysis – determining compound formulas	2.1 – 2.8
Chemical Reactions	Introduction to chemical equations; Balancing chemical equations; Introduction to chemical equilibrium; Aqueous solutions; Precipitation reactions; Acids & bases; Gas-forming reactions; Oxidation-reduction reactions; <i>(from Ch. 19)</i> Balancing redox equations in acidic/basic solution; Classifying reactions in aqueous solution	3.1 – 3.9, 19.1
Stoichiometry: Quantitative Information about Chemical Reactions	Mass relationships in chemical reactions – stoichiometry; Reactions in which one reactant is present in limited supply; Percent yield; Chemical equations & chemical analysis; Measuring concentration of compounds in solution; pH, a concentration scale for acids & bases; Stoichiometry of reactions in aqueous solution - fundamentals; Titrations; Spectrophotometry	4.1 – 4.9
Bonding & Molecular Structure	Chemical bond formation; Covalent bonding & Lewis structures; Atom formal charges in covalent molecules and ions; Resonance; Exceptions to the octet rule; Molecular shapes; Bond polarity & electronegativity; Bond and molecular polarity; Bond properties – order, length & energy; <i>(from Ch. 12)</i> Bonding in ionic compounds – lattice energy	8.1 – 8.9, 12.3
The Structure of Atoms	Electromagnetic radiation; Quantization – Planck, Einstein, energy & photons; Atomic line spectra & Niels Bohr; Particle-wave duality – prelude to quantum mechanics; The modern view of electronic structure – wave or quantum mechanics; The shapes of atomic orbitals; One more electron property – electron spin	6.1 – 6.7
The Structure of Atoms & Periodic Trends	The Pauli exclusion principle; Atomic subshell energies & electron assignments; Electron configurations of atoms; Electron configurations of ions; Atomic properties & periodic trends; Periodic trends & chemical properties	7.1 – 7.6
Valence Bond Theory	Valence bond theory <i>(note: 9.2-9.3 are not covered in Chem 205)</i>	9.1 only
Gases & Their Properties	Modeling a state of matter – gases and gas pressure; Gas Laws – the experimental basis; The ideal gas law; Gas laws & chemical reactions; Gas mixtures & partial pressures; The kinetic-molecular theory of gases; Diffusion & effusion; Nonideal behaviour of gases NOTE: the gases chapter will be covered via a required on-line OWLv2 assignment (available after Ch.4 covered in lectures); might also be covered in lectures if time permits at the end of the term.	10.1 – 10.8

CHEM 205 – LAB AND TUTORIAL SCHEDULE – Fall 2019 (all sections)

- **Check-in week:** Sept.9-13th. Attendance mandatory. Go to SP-232 at start of your lab/tutorial time. Assigned to Group A/B there.
- **OWL course key:** follow syllabus p.2 to purchase OWL, or add course to pre-existing account using key: E-26R66RWQ6R8FJ
- **Tutorial prep.:** Complete OWLv2 tutorial-prep assignment for **your** Group (A or B), by deadline Mon.11:55pm (see schedule). Study & practice problems to be prepared for group-work & two-stage quiz on the tutorial topics listed in OWL.
- **Prelabs:** To be allowed to enter the lab, give TA your completed prelab summary and questions (found in lab manual).
- **Lab reports:** All reports are due at the start of your next lab. A late penalty (10%/day) will be deducted for late submissions.

Group A	Date	Group B
Check-in: Meet in lab SP-232 for introductory activities & division into schedule Groups A/B. On your own (all students): Complete OWL Intro. Assignment (math review, due 23:55 Mon.Sept.16)	Sept.9-13 *see Course Coordinator ASAP if you register late*	Check-in: Meet in lab SP-232 for introductory activities & division into schedule Groups A/B. On your own (all students): Complete OWL Intro. Assignment (math review, due 23:55 Mon.Sept.16)
Tutorial 1A: see topics summary in OWL (Tut.1A) Homework: OWL Tut.1A-prep, due 23:55 Mon.Sept.16	Sept.16-20	Experiment: Densities of Organic Liquids <i>(due at next lab)</i>
Experiment: Densities of Organic Liquids <i>(due at next lab)</i>	Sept.23-27	Tutorial 1B: see topics summary in OWL (Tut.1B) Homework: OWL Tut.1B-prep, due 23:55 Mon.Sept.23 rd
Tutorial 2A: see topics summary in OWL (Tut.2A) Homework: OWL Tut.2A-prep, due 23:55 Mon.Sept.30	Sept.30-Oct.4	Experiment: Separation of a Mixture <i>(due at next lab)</i>
Experiment: Separation of a Mixture <i>(due at next lab)</i>	Oct.7-11	Tutorial 2B: see topics summary in OWL (Tut.2B) Homework: OWL Tut.2B-prep, due 23:55 Mon.Oct.7
Tutorial 3A: see topics summary in OWL (Tut.3A) Homework: OWL Tut.3A-prep, due 23:55 Mon.Oct.15	Oct.15-18 + Mon.Oct.21	Experiment: Observations "A" – Observations vs Conclusions <i>(due at next lab)</i>
<i>OWL Gases assignment opens (due Dec.4)</i>	Mon. Oct.21	<i>OWL Gases assignment opens (due Dec.4)</i>
Experiment: Observations "A" – Observations vs Conclusions <i>(due at next lab)</i>	Oct.22-25 + Mon.Oct.28	Tutorial 3B: see topics summary in OWL (Tut.3B) Homework: OWL Tut.3B-prep, due 23:55 Mon.Oct.21
Tutorial 4A: see topics summary in OWL (Tut.4A) Homework: OWL Tut.4A-prep, due 23:55 Mon.Oct.28	Oct.29-Nov.1 + Mon.Nov.4	Experiments (all students do <u>both</u> experiments): Observations "B" – Solubility vs Reactivity Analysis "A" – Unknown Oxide of Copper <i>(due at next lab)</i>
Experiments (all students do <u>both</u> experiments): Observations "B" – Solubility vs Reactivity Analysis "A" – Unknown Oxide of Cu <i>(due at next lab)</i>	Nov.5-8 + Mon.Nov.11	Tutorial 4B: see topics summary in OWL (Tut.4B) Homework: OWL Tut.4B-prep, due 23:55 Mon.Nov.4
<i>OWL Last assignment opens (due Dec.2)</i>	Fri.Nov.15	<i>OWL Last assignment opens (due Dec.2)</i>
Tutorial 5A: see topics summary in OWL (Tut.5A) Homework: OWL Tut.5A-prep, due 23:55 Mon.Nov.11	Nov.12-15 + Mon.Nov.18	Experiments (all students do <u>both</u> experiments): Synthesis "A" – Lead(II) Iodide Synthesis "B" – Manganese(II) Chloride <i>(due to TA in 2 weeks)</i>
Experiments (all students do <u>both</u> experiments): Synthesis "A" – Lead(II) Iodide Synthesis "B" – Manganese(II) Chloride <i>(due to TA before Dec.2)</i>	Nov.19-22 + Mon.Nov.25	Tutorial 5B: see topics summary in OWL (Tut.5B) Homework: OWL Tut.5B-prep, due 23:55 Mon.Nov.18
ABSOLUTE LAST DAY TO HAND IN LAB REPORTS	Mon. Dec.2	ABSOLUTE LAST DAY TO HAND IN LAB REPORTS
Deadline to complete OWL Last assignment (note: open Fri.Nov.15 to 23:55 Mon.Dec.2)	Mon. Dec.2	Deadline to complete OWL Last assignment (note: open Fri.Nov.15 to 23:55 Mon.Dec.2)
Deadline to complete OWL Gases assignment (note: open Mon.Oct.21 to 23:55 Wed.Dec.4)	Wed. Dec.4	Deadline to complete OWL Gases assignment (note: open Mon.Oct.21 to 23:55 Wed.Dec.4)

CHEM 205 – LAB REPORT RECEIPT RECORD – Fall 2019**Important:**

- You must have your teaching assistant (TA) sign this sheet for each group of labs you hand in.
- No arguments of the type "*The T.A. lost my lab report*" will be investigated without this proof that your TA received the report(s).

Student Name			ID #	
Experiment	Prelab Exercises		Lab	
	T.A. Signature	Date	T.A. Signature	Date
DENSITY				
SEPARATIONS				
OBSERVATIONS - A				
OBSERVATIONS - B				
ANALYSIS				
SYNTHESIS - A				
SYNTHESIS - B				

NOTE: In the event of extraordinary circumstances beyond the University's control (e.g., influenza pandemic), the content and/or grading scheme in this course is subject to change. Details will be outlined only if this happens.