Everyday Chemistry

A. General Information:

Course title:	Everyday Chemistry	Instructor:
Course Number:	202-DBF-AB/01	Office:
Ponderation:	3-0-3	Telephone:
Credits:	2	Email:
Competency code:	000Y	Lecture:
Total Contact Hours:	45	Classroom:
Prerequisite:	none	Office Hours:
Semester:		

This course is meant for Social Science and other non-Science students and belongs to the domain Science & Technology ensemble 2.
Competency: To apply the scientific method to everyday chemical phenomena.

B. Introduction:

Chemical phenomena are an integral part of our daily lives. Soaps help remove dirt, food cooks, glues stick, paints provide colour and balls bounce. Rather than taking it all for granted, we can learn some of the underlying chemical principles and apply the scientific method to explore and appreciate our world. And yet, the word "chemical" itself often elicits reactions of fear in many people.

From hair products to foods and leisure goods, store shelves are filled with products that rely on chemistry to deliver the benefits they promise. Our kitchens are home laboratories filled with chemical substances. Sometimes cakes and muffins are deliciously fluffy and sometimes their texture fails to please. Understanding the mechanisms of leavening, identifying the variables that can affect the result and systematically manipulating them, can produce delicious proof that the scientific method works. Oil and vinegar combine to make salad dressing. Will the addition of a little mustard improve the emulsion? After gaining some basic understanding of the underlying chemistry, variables can be identified, curiosity ignited, hypotheses formulated, and experiments conducted. Analyzing results can lead to pleasant discoveries or to more questions. The method developed for solving chemistry problems can be applied generally to enhance all critical thinking.

This course will also look at some of the misconceptions and misinformation surrounding chemistry in the media and popular culture.

C. Course Objective:

Domain: Science & Technology Set 2 000Y	**Total Contact Hours: 45 Credits: 2**
Statement of the Competency To resolve a simple problem in everyday chemistry using basic scientific procedures	**Achievement Context** Reference material, oral and/or written, is provided to build sufficient background knowledge in focused basic areas of chemistry to be then explored experimentally Tests are administered to evaluate factual and cognitive understanding Team exercises are conducted to practice laboratory techniques, data collection, data presentation, and result analysis. Student involvement in determining the objective of the experiments is gradually increased over the term as experience in experimental techniques is accrued. A team project is assigned to practice and test the ability to form an independent hypothesis, design an experiment with controlled variables, collect data, analyze the results, and communicate findings.
Elements of the competency	**Performance Criteria**
1. To describe the main steps in a standard scientific procedure	1.1 Existing scientific procedures for the creation of household products will be examined and analyzed. 1.2 The common steps and patterns will be identified and described.
2. To formulate a hypothesis in order to solve a simple scientific or technological problem	2.1 Students will identify chemical and physical changes occurring in their daily lives. 2.2 Questions about these phenomena will be generated and related hypotheses formulated.
3. To verify a hypothesis by applying the rudimentary principles of basic experimental procedures	3.1 The variables involved in a physical or chemical change will be identified by using knowledge gleaned from the reference material studied. 3.2 Hypotheses will be tested by the judicious control of some variables and the manipulation of others. 3.3 Resourcefulness in the use of readily available materials will be encouraged. 3.4 The experimental results collected will be analyzed to validate, support or disprove, the hypothesis. 3.5 The possibility of limitations and uncertainties in experimental procedures will be recognized.

D. Evaluation Plan:

Assessment	Ponderation	Competency	Date
Term test 1	20%	(000Y) 1, 2	Week 6
Term test 2	20%	(000Y) 1, 2	Week 12
Experimental work	25%	(000Y) 3	Bi-weekly
Assignments and/or in-class work	20%	(000Y) 1, 2	weekly
Project	15%	(000Y) 1, 2, 3	Week 14 and 15

- The term tests will be written in class, approximately spaced in the middle and at the end of the semester.
- The laboratory work will be performed in class and evaluated based on material submitted at the end of the session. The group project will include a presentation to the class. The term tests are to be individual while the remainder of the marks is to be a mix of group and individual work.
- Any written work will be evaluated using Turnitin in order to prevent plagiarism.
- The final evaluation of this course is comprised of the term tests (40%) and project (15%).

E. Course Content:

The course consists of lectures and laboratory activities.
The course will consist of thematic modules; each module will consist of two parts. The first part of each module will be the presentation of background material covering chemistry and science concepts. The second part of the module will be a laboratory experiment integrating the theory learned and some (or all) components of the scientific method.

F. Required Texts:

There is no textbook for this course. Course material will be made available on-line.
PowerPoint slides will be used to introduce any necessary background chemistry material.

G. Teaching Methods

The course will be 45 hours, divided into lectures and supporting laboratory experiments.

H. Instructional Methods:

The lectures will be given using PowerPoint slides and other handouts.

Laboratory sessions will take place the class after the lecture material is presented. They will include online experiments/activities related to the concepts presented in class. Students may be required to purchase a nominal amount of supplies for at-home activities.

I. Departmental Policies:

a) Regular attendance is expected. If lectures are missed, it is the responsibility of the student to cover the material missed and to be aware of any announcements made concerning assignments, quizzes, tests or changes to the schedule.
b) There is no guarantee that make-up tests, quizzes or labs will be available. If you miss an evaluation session or deadline due to illness, you must notify your instructor as soon as possible. A valid medical note is required to prove absence for a medical reason. Late homework policy will be determined on a case-by-case basis.
c) Students are expected to behave respectfully towards their classmates and teachers. In case of inappropriate behavior, a student will be asked to leave the class or the lab session. If an assessment is planned for this session, a mark of zero will be given in that case.

J. College Policies:

Policy No. 7- IPESA, Institutional Policy on the Evaluation of Student Achievement
http://departments.johnabbott.qc.ca/wp-content/uploads/2017/08/Policy-7-IPESA.pdf

a) Changes to Evaluation Plan in Course Outline (Article 5.3).
Changes require documented unanimous consent from regularly attending students and approval by the department and the Program Dean.

b) Religious Holidays (Articles 3.2.13 and 4.1.6)
Students who wish to miss classes in order to observe religious holidays must inform their teacher of their intent in writing within the first two weeks of the semester.

d) Student Rights and Responsibilities (Article 3.2.18 and Article 3.3.6)
It is the responsibility of students to keep all assessed material returned to them and/or all digital work submitted to the teacher in the event of a grade review. (The deadline for a Grade Review is 4 weeks after the start of the next regular semester.)

Students have the right to receive graded evaluations, for regular day division courses, within two weeks after the due date or exam/test date, except in extenuating circumstances. A maximum of three (3) weeks may apply in certain circumstances (e.g. major essays) if approved by the department and stated on the course outline. For evaluations at the end of the semester/course, the results must be given to the student by the grade submission deadline (see current Academic Calendar). For intensive courses (i.e., intersession, abridged courses) and AEC courses, timely feedback must be adjusted accordingly.

e) Cheating and Plagiarism (Article 9)
Cheating and plagiarism are unacceptable at John Abbott College. They represent infractions against academic integrity. Students are expected to conduct themselves accordingly and must be responsible for all of their actions.

College Definition of Cheating:
Cheating means any dishonest or deceptive practice relative to examinations, tests, quizzes, lab assignments, research papers or other forms of evaluation tasks. Cheating includes, but is not

restricted to, making use of or being in possession of unauthorized material or devices and/or obtaining or providing unauthorized assistance in writing examinations, papers or any other evaluation task and submitting the same work in more than one course without the teacher's permission. It is incumbent upon the department through the teacher to ensure students are forewarned about unauthorized material, devices or practices that are not permitted

College Definition of Plagiarism:
Plagiarism is a form of cheating. It includes copying or paraphrasing (expressing the ideas of someone else in one's own words), of another person's work or the use of another person's work or ideas without acknowledgement of its source. Plagiarism can be from any source including books, magazines, electronic or photographic media or another student's paper or work.

- For PowerPoint on cheating and plagiarism**,** refer to the JAC Portal: My JAC Communities / Academic Council / Curriculum Validation Committee (CVC) / Course Outlines – Reference Documents / Academic Integrity.
- For link to interactive tutorial on how to cite sources correctly: http://citeit.ccdmd.qc.ca

K. Provisos for Winter 2022

- Attendance: Due to the COVID-19 health crisis, attendance policies may need to be adjusted by your teacher. The normal attendance expectations are outlined below and your teacher will inform you of any modifications as needed. Please note that attendance continues to be extremely important for your learning, but your teacher may need to define it in different terms based on the way your course is delivered during the semester.
- Please note that course outlines may be modified if health authorities change the access allowed on-site. This includes the possibility of changing to an online format.
- In addition to LEA, Teams and Moodle, other software may be used for the submission of essays or projects or for testing. Further details will be provided if applicable.
- Classes that have been approved for online delivery may be recorded by your teacher and subsequently posted on Teams to help for study purposes only. If you do not wish to be part of the recording, please let your teacher know that you wish not to make use of your camera, microphone or chat during recorded segments. Any material produced as part of this course, including, but not limited to, any pre-recorded or live video is protected by copyright, intellectual property rights and image rights, regardless of the medium used. It is strictly forbidden to copy, redistribute, reproduce, republish, store in any way, retransmit or modify this material. Any contravention of these conditions of use may be subject to sanction(s) by John Abbott College.