



During both summer sessions **lectures, recitations, and laboratories WILL meet during the 1st week** of class. It is particularly important to attend the first laboratory meeting to guarantee your "roster spot".

## General Chemistry Syllabus – CHEM 1031, 1032, 1033, and 1034

### COURSE DESCRIPTIONS AND PRE-REQUISITES

#### General Chemistry I:

lecture/recitation, *CHEM 1031 (formerly CHEM C071)*

laboratory, *CHEM 1033 (formerly CHEM C073)*

The first semester of chemistry for science majors, pre-professional students, and others in science-related fields. A quantitative introduction to atomic and molecular structure, states of matter, basic thermodynamics and solutions.

#### General Chemistry II:

lecture/recitation, *CHEM 1032 (formerly CHEM C072)*

laboratory, *CHEM 1034 (formerly CHEM C074)*

The second semester of chemistry for science majors, pre-professional students, and others in science-related fields. An introduction to thermodynamics, equilibrium, kinetics, electrochemistry, and descriptive chemistry.

#### PRE-REQUISITES

([http://www.temple.edu/bulletin/ugradbulletin/ucd/ucd\\_req\\_policy.html](http://www.temple.edu/bulletin/ugradbulletin/ucd/ucd_req_policy.html))

**1031:** Placement into Mathematics 1022 (formerly MATH C074), Mathematics 1021 (formerly MATH C073) with a grade of C or better, or equivalent transfer. Chemistry 1033 is normally taken concurrently. Students unsure of their background should consider Chemistry 1027 (formerly CHEM C055) and/or MATH 1021 as a review before taking General Chemistry I.

**1032:** C- or better in CHEM 1031

**1033:** CHEM 1031 is a co-requisite, or if taken previously, a C- or better in CHEM 1031.

**1034:** C- or better in CHEM 1033. CHEM 1032 is a co-requisite, or if taken previously, a C- or better in CHEM 1032.

Students enrolled without meeting these requirements may be de-enrolled by the Dean's office.

**COURSE MATERIALS :** Available from the campus bookstore (<http://temple.bkstore.com/>, 215.204.7385) or Zavelle's bookstore (215.763.1514, 1520 N. Broad):

Textbook	Chemistry – Matter and Its Changes	Brady and Senese, Wiley, 4 <sup>th</sup> Edition
Lab Manual	<b>OPTIONAL</b>	General Chemistry I and II Laboratories
Red Safety Book	General Guidelines for CST, Biology, and Chemistry Labs	available at TU Copy Center, 601 Conwell Hall
Eye Protection	Safety glasses or goggles	Meet ANSI Z.87.1 1989_requirement
Scientific Calculator		should include log and exponential functions

During quizzes or examinations, use of PDAs, cell phones, or GRAPHING CALCULATORS is not permitted. Sharing of calculators is not permitted.

### INSTRUCTOR OFFICE HOURS AND CONTACT INFORMATION

Each of your instructors will schedule a minimum of two hours of office hours each week. This is your time to address grading concerns, ask questions, or otherwise consult your instructor. Please limit your visits to posted office hour times or make an appointment with your instructor. Please write each instructor's contact information in the table below.

Information to be filled in by the student at the first class meeting							
	<u>Course#</u>	<u>Location</u>	<u>Day(s), Time(s)</u>	<u>Instructor</u>	<u>Office</u>	<u>Phone</u>	<u>Email</u>
<b>Lecture</b>							
<b>Recitation</b>							
<b>Laboratory</b>							
<b>Coordinator</b>				Dr. Michel	BE200	215-204-2434	jmichel@temple.edu

Drawer # \_\_\_\_\_

Note that drawers are not locked, so please do not keep personal items in your drawer.

### REGISTRATION, DROP/ADD, WITHDRAWAL

Students may register for classes at their college advising offices, or via OWLnet ([www.owl.net.temple.edu](http://www.owl.net.temple.edu)) or the Diamond Line (215.204.2525) with their 4-digit PIN. Open/Close status is best viewed via TU Courses ([www.temple.edu/TUcourses](http://www.temple.edu/TUcourses)).

### GREEN CARDS

**Lab Green Cards will ONLY be issued at the FIRST lab meeting, not at any other time..**

**Lecture/recitation Green Cards will only be issued with the approval of the lecturer.**

To register for the lecture/recitation portion of the course, you must find an open section. New lecture/recitation and lab sections may be added, so check OWLnet frequently.

The full Green Card policy ([www.temple.edu/GenChem/](http://www.temple.edu/GenChem/), follow "Course Information" link) will also include important information on how to maximize the probability that you can enroll in the section you want.

### DROP/ADD

During days 1 & 2 of each Summer session, students may still register, **without coordinator signature, for any OPEN Lec/Rec sections.** During day 3 of each Summer session, students may only register for OPEN Lec/Rec sections with coordinator permission. During the first two weeks of summer session, students may drop a course with no record of the class appearing on the transcript.

### WITHDRAWAL

In weeks three and four of the summer session, the student may withdraw with advisor's permission – there is no need to seek an instructor's signature. The course will be recorded on the transcript with the notation of "W," indicating that the student withdrew. A student may withdraw from no more than five courses during his/her undergraduate career. A student may not withdraw from the same course more than once.

After June 17, students may not withdraw from courses and will receive a letter grade.

## ATTENDANCE

Students are expected to attend all classes, to arrive on time, and to remain for the entire class.

**LECTURE** It is the lecture instructor's prerogative to record attendance in lecture and/or recitation and use it in the determination of your grade.

**RECITATION** Most students benefit greatly from the 50 min/week recitation – homework, student questions, and important lecture topics are reviewed, and quizzes are given. Attendance is mandatory **in your registered section** during quizzes. There are **NO MAKE-UP QUIZZES**.

It is the student's responsibility to note any announced (in lecture or recitation) schedule changes and their implications to graded work. **Recitation scores are included in the student's lecture grade.**

**LABORATORY ATTENDANCE AT ALL LAB MEETINGS IS REQUIRED.** Students are expected to be prepared and to attend their registered laboratory section at the scheduled time. Students who arrive at class more than 15 minutes late or after the lab quiz may not be admitted.

**LABORATORY ABSENCES** If you are absent, you should contact the instructor via email ASAP (ideally in advance but no more than 24 hours after the missed class). This is particularly important if a graded assignment, test, or quiz is involved. A compelling reason and documentation are required for consideration for make-up; otherwise a score of zero will be reported. If the student is absent from two labs (that are not made-up), the student must meet with his/her academic advisor to develop a "recovery plan" and/or discuss withdrawal from the course with the coordinator.

**INCLEMENT WEATHER** The University's radio broadcast class cancellation numbers are **101** for day classes and **2101** for evening classes (class starting after 4 PM). The most accurate and up-to-date information can be obtained directly from the University ([215-204-1975](tel:215-204-1975); [WRTI, 90.1 FM](http://www.wrti.com); or <http://www.temple.edu>). In the event of a cancellation, it should be assumed that any exams or graded work will be due at the next class meeting unless otherwise stated.

### MAKE-UP

**Make-up lecture exams** will be offered only if an absence is beyond the student's control and compelling documentation is provided. The student must contact the lecture instructor, ideally within 24 hours. There are **no make-up recitation quizzes**; a score of zero will be recorded for a missed quiz. However, the recitation grade is calculated from the three highest quiz scores (of the four quizzes given). If a student is absent from a **laboratory exam**, the policy is the same as for a lecture exam, except that the lab instructor must be contacted, ideally within 24 hours.

**Make-up laboratory experiments:** There will be no make-up of missed laboratory experiments, due to the constraints of the summer schedule.

## EXAMINATIONS

Students must have their Temple photo ID card during lecture exams. **TU-ID Numbers** must be correctly & completely filled in on Lecture EXAMS to ensure your score is properly recorded.

All lecture and lab exams are held during regularly-scheduled lab periods.

## GRADING AND GRADING DISPUTES

Grades for the lecture and laboratory courses are calculated and issued independently, according to the listed guidelines. The lecture grade policy may be altered by your lecture instructor during the first class meeting.

<u>LECTURE/RECITATION</u>		<u>LABORATORY</u>	
Lecture Exams	3 @ 150 pts each	Lab Reports	10 @ 50 pts each
Lecture Final	1 @ 350 pts	Lab Quizzes	10 @ 10 pts each
Lecture Quizzes	100 pts total	Lab Exams	1 @ 200 pts each
Recitation Quizzes, best 3 out of 4 (100 pts total)		Total	800 pts
Total	1000 pts		

All exams should be considered cumulative unless otherwise noted. The Chem 1032 final exam may be an all-inclusive exam covering material from the entire year of General Chemistry (Chem 1031 & 1032).

If graded work is submitted on time and in the proper format, every effort will be made to return it the following week. It is the student's responsibility to submit work directly to his/her instructor and to collect it when returned. Your instructor is not responsible for uncollected work after 1 week.

See the Course Schedule for announced exams, quizzes, and experiments. It may be necessary to alter the course schedule due to Inclement Weather or for instructional purposes. It is the student's responsibility to take note of the announced change.

Students should keep a record of all scores received, and confirm scores with their instructor at the end of the semester. If there is a discrepancy, the scores recorded in the grade book prevail unless the work can be produced.

Letter grades for the lecture/recitation class are assigned by the lecturer. Letter grades for the lab course are assigned by the coordinator, based on scores and input provided by the lab instructor. If the scoring of an assignment is disputed, the student must contact his/her instructor to resolve the issue within two weeks after the assignment was returned. If the dispute cannot be resolved, contact the coordinator. After the two-week window, your instructor has no obligation to consider grade disputes.

Students should confirm scores with their instructor before the last class meeting to ensure there are no transcription errors. Once scores are submitted to the coordinator, they become final.

If the student disputes the course letter grade, he/she must contact the coordinator within 6 months of the close of the semester. Grade changes are warranted only if there was an error in the calculation of the grade, and must be approved by the Dean's office.

### CHEATING

Students are expected to adhere to the highest standards of academic honesty. Collaboration and discussion are encouraged, but all work to be graded (e.g. lab reports) is to be written in the student's own words. Teamwork is a critical part of some lab experiments; each student is expected to perform an equal share of the experimental work, and each student is responsible for writing his/her own individual lab report. Cheating of any kind is not tolerated; refer to the Student Code of Conduct, [http://policies.temple.edu/getdoc.asp?policy\\_no=03.70.12](http://policies.temple.edu/getdoc.asp?policy_no=03.70.12).

### STUDENT RIGHTS AND RESPONSIBILITIES

The University has a policy on Student and Faculty and Academic Rights and Responsibilities (Policy #03.70.02 [http://policies.temple.edu/getdoc.asp?policy\\_no=03.70.02](http://policies.temple.edu/getdoc.asp?policy_no=03.70.02)). Temple University is a community of scholars in which freedom of inquiry and expression are valued. Each member of the University community is expected to have respect for the rights of others, to conduct one's self in a manner that is compatible with the University's mission, and to take responsibility for one's actions. To fulfill its functions of promoting and disseminating knowledge, the University has authority and responsibility for maintaining order and for taking appropriate action, including, without limitation, exclusion of those who disrupt the educational process. A complete copy of the Student Code of Conduct may be found at the **Student Assistance Center** (*A6 Student Center, 215.204.8531, <http://www.temple.edu/assistance/>*).

## HELP

Take full advantage of all of the academic support services available at Temple University. These include your lecture, recitation, and lab instructors' office hours, and the Math and Science Resource Center (MSRC, 1810 Liacouras Walk - Rooms 201 & 208; [215-204-8466](tel:215-204-8466), <http://www.temple.edu/msrc>)

## DISABILITY

Any student who has a need for accommodation based on the impact of a disability should contact the coordinator to discuss the specific situation as soon as possible. Contact Disability Resources and Services at 215-204-1280 in 100 Ritter Annex to arrange reasonable accommodations for students with documented disabilities.

## ASSIGNMENTS AND CLASS PREPARATION

### RECITATION HOMEWORK

It is the lecturer's prerogative to use attendance at recitation or graded homework in determining the lecture grade. Homework is expected to be completed and ready for review at the START of the recitation period. Material submitted after the start of class may be considered late at the instructor's discretion.

### LAB PREPARATION

BEFORE coming to lab, students are expected (1) to have **read** and **outlined** the experiment, (2) to have **completed the pre-lab exercise**, (3) to read the relevant parts of the MSDS (material safety data sheet), and (4) to **understand** the day's experiment. Preparation is required for your safety as well as the safety of your fellow students. Students who are not prepared may be barred from the lab. If asked by your instructor to leave the laboratory, for any reason, please do so.

Upon arrival at lab and BEFORE the lab quiz, the pre-laboratory exercise and outline for the day's experiment, and the lab report for the previous week's experiment, are due. Submission after the lab quiz will be considered late.

### LATE WORK

Late work should be delivered directly to your instructor. If you place your work in a mailbox, under an office door, or give it to a third party, we will not be held responsible if it is lost or delayed. If unable to directly deliver your work, please retain a photocopy and email your instructor requesting that he check his box. Under no circumstances should work be placed in the mailbox of your lecture instructor or the coordinator. All late work will be assessed a **10 point deduction per day**.

Even if you are absent, graded assignments are still due on the date prescribed.

## LABORATORY SAFETY AND HYGIENE

Students are required to conduct themselves in a professional and safe manner (as outlined in the safety release form that you must sign and file with your instructor). Students who are acting unprofessionally or unsafely will be ejected from the lab **without** the possibility of a make-up.

Although most of the chemicals used in this course are no more dangerous than what is under your kitchen sink, in order to comply with Federal Laws and OSHA regulations, students are required to come to class dressed properly.

- (1) Shorts and mini-skirts are not permitted in the lab. Wearing a full-length lab coat or apron at all times is recommended (provided in lab).
- (2) Sandals or open-toe shoes are not permitted in the lab at any time.
- (3) Students must ABSOLUTELY don a pair of **ANSI Z87.1** approved GOGGLES before entering the lab.

Students that come to class dressed improperly or without goggles will not be permitted to work in the lab. If asked to leave the laboratory, for any reason, by your instructor, do so immediately.

The cleanliness of your work area is your responsibility. The cleanliness of the entire lab (particularly balances, sinks and fume hoods) is the responsibility of the entire class.

**HOMEWORK ASSIGNMENTS, CHEM 1031 AND 1032** (4<sup>th</sup> Edition of Brady-Sense)

Chapter	Assigned Problems
Ch 1: Atoms & Elements	10, 11, 13, 20, 22, 23, 24, 25, 26, 29, 30, 34, 36, 37, 40, 42, 44, 45, 47, 50, 52, 55, 58, 59, 61, 62, 64, 65, 66, 68, 70, 74, 76, 80, 82
Ch 2: Compounds & Chem Rxn	2, 4, 5, 6, 7, 9, 10, 11, 14, 16, 17, 20, 22, 23, 26, 28, 29, 32, 33, 34, 39, 42, 43, 44, 48, 49, 51, 53, 55, 59, 60, 62, 65, 71, 73, 75, 77, 79, 81, 83, 85, 89, 93, 95, 97, 99, 101
Ch 3: Measurement	1, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18, 20, 22, 26, 28, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 56, 58, 62, 64, 68, 70, 72, 74, 78, 84, 94
Ch 4: The Mole	2, 4, 5, 6, 9, 14, 16, 19, 22, 24, 26, 28, 30, 32, 34, 36, 42, 44, 52, 54, 58, 62, 64, 68, 72, 76, 80, 84, 88, 92, 94, 96, 100, 104, 106, 110, 114, 116, 120, 122
Ch 5: Rxn Between Ions	1, 2, 7, 8, 9, 11, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 37, 41, 43, 45, 48, 50, 53, 54, 55, 57, 59, 60, 62, 66, 70, 76, 78, 80, 82, 84, 88, 90, 96, 98, 102, 104, 108, 112, 118, 124, 130,
Ch 6: REDOX	1, 8, 9, 12, 15, 20, 22, 25, 27, 29, 35, 37, 39, 43, 45, 51, 57, 59, 63, 67, 69, 71, 77, 81
Ch 7: Energy & Chem Change	3, 4, 7, 10, 12, 14, 18, 19, 43, 49, 53, 57, 65, 67, 69, 73, 75, 79, 83, 91, 93, 97, 101
Ch 8: Quantum Mechanics	1, 3, 4, 7, 8, 16, 24, 34, 41, 50, 58, 61, 63, 68, 72, 73, 77, 85, 87, 91, 95, 99, 105, 109, 111, 115, 121, 125, 129, 131, 133
Ch 9: Chem Bonding – General	2, 3, 5, 9, 12, 13, 15, 22, 32, 37, 39, 46, 55, 56, 68, 70, 76, 78, 82, 84, 88, 90, 92, 94, 98, 102, 108, 110, 114, 115, 116, 122,
Ch 10: Chem Bonding – Structure	1, 2, 3, 7, 10, 23, 24, 35, 42, 54, 56, 58, 60, 66, 68, 70, 72, 76, 80, 82, 86, 88, 90, 97
Ch 11: Gases	2, 7, 10, 14, 22, 23, 27, 36, 54, 58, 62, 66, 76, 80, 84, 88, 92, 96, 100
Ch 12: Intermolecular Attractions	3, 7, 8, 10, 13, 21, 26, 33, 40, 43, 56, 86, 88, 94, 98, 102, 104, 106
Ch 13: Solids	1, 3, 9, 18, 23, 92, 94, 100, 106
Ch 14: Solutions	5, 6, 9, 12, 16, 26, 29, 30, 34, 65, 67, 71, 75, 77, 79, 81, 83, 89, 91, 95, 107
Ch 15: Kinetics: Rates of Reaction	5, 6, 9, 10, 17, 22, 24, 25, 34, 41, 50, 59, 64, 66, 70, 72, 78, 80, 82, 84, 90, 94, 96, 98,
Ch 16: Chemical Equilibria	5, 13, 19, 21, 23, 27, 33, 39, 41, 45, 47, 51, 55, 61, 63
Ch 17: Acids & Bases: A Second Look	1, 5, 8, 13, 19, 21, 37, 40, 42, 44, 46, 50, 56, 58, 66, 70, 72, 74
Ch 18: Equilibria of Weak Acids & Bases	1, 2, 14, 25, 28, 33, 37, 42, 48, 50, 54, 56, 62, 64, 66, 76, 80, 82, 84, 98, 100, 104, 108, 16, 118
Ch 19: Solubility	3, 5, 7, 11, 14, 16, 18, 22, 24, 32, 34, 36, 46, 48, 52, 56
Ch 20: Thermodynamics	5, 12, 19, 20, 22, 24, 25, 26, 30, 54, 58, 60, 64, 66, 68, 72, 74, 82, 86, 90, 92, 100, 104
Ch 21: Electrochemistry	1, 4, 41, 47, 51, 54, 55, 66, 68, 70, 72, 80, 86, 88, 82, 94, 98, 104, 106, 114

**LISTING OF LABORATORY EXPERIMENTS****1033**

<b>M&amp;D</b>	Measurement and Density
<b>Hydrate</b>	The Empirical Formula of Select Hydrates
<b>EF</b>	Empirical Formula and Stoichiometry
<b>RS</b>	Reactions and Solubility
<b>Vinegar</b>	Titration of Vinegar
<b>MW</b>	Titration of an Unknown Acid
<b>Redox</b>	REDOX Reactions - The Activity Series
<b>Heat-M</b>	Specific Heat of Metals
<b>Heat Rxn</b>	Heats of Reaction and Solvation
<b>Rxn Cu</b>	Reactions of Copper

**1034**

<b>Sol'n Prep</b>	Solution Preparation and Beer's Law
<b>VP</b>	The Vapor Pressure of Water
<b>REDOX-Titr</b>	Oxidation-Reduction Titration
<b>Rate</b>	Determination of a Rate Law
<b>Keq</b>	Determination of an Equilibrium Constant
<b>A-B Ind</b>	Acid-Base Indicators
<b>A-B Titr.</b>	Acid-Base Titrations
<b>Ksp</b>	Solubility Product and Common Ion Effect
<b>Ecell</b>	Electrochemistry: The Zn-Cu Cell
<b>Ion</b>	Synthesis of a Complex Ion

Gen Chem I (1031 and 1033)

Gen Chem II (1032 and 1034)

Week #	Week Start	Comments	Class	Gen Chem I (1031 and 1033)				Gen Chem II (1032 and 1034)			
				Mon	Tue	Wed	Thu	Tue	Wed	Thu	Fri
1	19-May	May 19: SS1 starts	Lecture	Ch. 1 & 2	2	3	no classes	Ch. 11	12	no classes	12
			Recitation	Ch. 1		2 & 3		Ch. 11			
			Lab experiment		Check-in + expt 1			Check in			expt 1 Sol'n Prep
2	26-May	May 26: Memorial Day May 30: last drop		no classes	3	3	4	13	13	14	14
						3 & quiz		12		13 & quiz	
					expt 2- hydrate		expt 3 emp form		expt 2 Vap P		expt 3 Redox Titr
3	2-Jun			4	4	Lec Exam	4	Lec Exam	15	15	16
				3 & 4		4	14		14		
					expt 4 rxn & solub		expt 5 vinegar		expt 4 Rate Law		expt 5 K <sub>eq</sub>
4	09-Jun			5	5	6	6	16	17	17	18
				5		6 & quiz	15		16 & quiz		
					expt 6 Molar Mass		expt 7 Redox		expt 6 A-B Ind		expt 7 AB Titr
5	16-Jun	June 17: last withdraw		6,7	7	Lec Exam	8	Lec Exam	18	19	19
				6		7 & quiz	17		18 & quiz		
					expt 8 Spec Heat		expt 9 Heat of Rxn		expt 8 Comp Ion		expt 9 K <sub>sp</sub>
6	23-Jun			8	9	10	10	20	20	21	21
				8		9 & quiz	19		20 & quiz		
					expt 10 Rxn of Cu		Lab Exam		expt 10 Electrochem		Lab Exam
7	30-Jun	July 1: Summer session I ends		10	Final Exam			21	Final Exam		
				10				21			

