Course Syllabus

General Chemistry 1412 76111, 76112 Summer II 2019

Math, Natural Science & Sports Sciences Learning Center
Division Office: P-330
Phone: 972-273-3500
Hours: check posted hours

This course syllabus is intended as a set of guidelines. NLC and your instructor reserve the right to make modifications as necessary to promote the best education possible within prevailing conditions. If you have questions please check for the answer in our ecampus website or this Syllabus before you send me an email.

Instructor Information

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Dr. Kay I. Kouadio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:angobil@dccc.edu">angobil@dccc.edu</a></td>
</tr>
<tr>
<td>Office Phone:</td>
<td>972-273-3511 (best to email me)</td>
</tr>
<tr>
<td>Office:</td>
<td>C 303 C</td>
</tr>
<tr>
<td>Office hours:</td>
<td>TBA or By Appointment</td>
</tr>
</tbody>
</table>

Course Information

Course title: General Chemistry 1412
Credit hours: 4 credit hours
Class meeting time: MTWR (No Fridays = TGIF) 9:45 AM – 11:45 AM

Course description: This course is for science and science-related majors. It is a continuation of Chemistry 1411. Topics include chemical equilibrium; phase diagrams and spectrometry; intermolecular interactions; acid-base concepts; buffers; colligative properties of solutions; thermodynamics; kinetics; electrochemistry; nuclear chemistry. Topics may further include transition-metal chemistry, an introduction to organic chemistry and qualitative inorganic analysis. Basic laboratory experiments support theoretical principles presented in CHEM 1412; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports

Course prerequisites: Chemistry 1411. MATH 1314 or equivalent (Statistics or DMAT 0310) and DIRW 0310 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) standard in Reading. High school chemistry recommended.

Required Textbooks and Materials

- **Dr. Kouadio’s Chem 1412 Lecture Templates, 4th edition.**
• **Homework System**: Pearson’s Modified Mastering (titled “MyLab & Mastering” on the website.
There are many options for buying the text and homework system. They can be bundled together in a “Value Pack” which includes both the text and the website access code, or they can be purchased separately. The following are ISBNs for the different options.

Value Pack: ISBN 0134414233/9780134414232  
Standalone Text: ISBN 0134294165/9780134294162  
Standalone MyLab & Mastering: ISBN 0134292812/9780134292816

*If you choose to use an earlier edition of the text let me know.*

• **Scientific calculator** – these can be purchased anywhere for as little as $10 or less. Make sure your calculator can do log functions and exponents.
• **Lab** – The lab manual is available through ecampus (so no lab manual cost!)
• **Access to ecampus** – our class website contains many documents and information such as grades and due dates for exams and labs.

**PROGRAM –LEVEL OBJECTIVES FOR Chemistry 1412**

Chemistry 1412 develops the following objectives from the Texas Higher Education Coordinating Board:

- Communications: Written
- Communications: Visual
- Critical Thinking
- Empirical & Quantitative Skills

**Specific Course Learning Outcomes**

Upon successful completion of this course (according to the ACGM from the Texas Higher Education Coordinating Board), students will:

1. State the characteristics of liquids and solids, including phase diagrams and spectrometry. Interpret heating curves. Recognize the three cubic unit cells and perform related calculations.
2. Articulate the importance of intermolecular interactions and predict trends in physical properties. Explain the solution process and the factors that affect solubility; compute solution concentrations. Describe the colligative properties; perform related calculations.
3. Identify the characteristics of acids, bases, and salts, and solve problems based on their quantitative relationships. Compare the relative strengths and definitions of acids and bases, both weak and strong. Describe buffers and explain how they work; compute the pH of buffers including those with acid base titrations.
4. Identify and balance oxidation-reduction equations, and solve redox titration problems.
5. Determine the rate of a reaction and its dependence on concentration, time, and temperature. Determine the mathematical expression of the rates, leading to the concept of reaction mechanisms. Perform integrated rate law calculations.
6. Apply the principles of equilibrium to aqueous systems using LeChatelier’s Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures. Determine equilibrium expressions and perform calculations with equilibrium reactions including those with acids, bases, and slightly soluble salts.
7. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.
8. Discuss the construction and operation of galvanic and electrolytic electrochemical cells, and determine standard and non-standard cell potentials. Explain the basic concepts of electrochemistry and balance redox reactions. Perform related calculations.
9. Define nuclear decay processes. Explain the basic concepts of nuclear chemistry including nuclear reactions, energy production, the uses of radioisotopes, and radiation in the environment and living systems; perform related calculations.
10. Describe basic principles of organic chemistry and descriptive inorganic chemistry. Perform qualitative analysis of ions.
11. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
12. Demonstrate safe and proper handling of laboratory equipment and chemicals.
13. Conduct basic laboratory experiments with proper laboratory techniques.
14. Make careful and accurate experimental observations.
15. Relate physical observations and measurements to theoretical principles.
16. Interpret laboratory results and experimental data, and reach logical conclusions.
17. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
18. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
19. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Course Outline (Calendar)

Please see Appendix A at the end of this syllabus for a complete and detailed Outline/Calendar.

Means of Assessment of Course Learning Outcomes

The Course Learning Outcomes are addressed in more detail for each chapter in the Learning Objectives. These outcomes/objectives will be assessed using methods of testing through departmental exams, in-class group work, homework assignments, and written lab reports.

Evaluation Procedures

ONLINE HOMEWORK – 10%
Problems are assigned and graded by the computer.

The “Homework” button in ecampus has details on how to register and enroll in My Lab and Mastering, and the Course ID for the current semester.

Students are strongly encouraged to complete the assignments in preparation for the tests. Homework due dates will be shown in the website. Late homework is worth 50% so do the
homework on time. The homework assignments will stay available until the stated
deadline. No extension given.
Do NOT wait to begin the homework. Work the assignments a little at a time as we finish the
sections. Bring questions to class and we will work the problems. If you click on “show answer”
you will receive a grade of zero for that problem so ask for help before you do that.

Your homework grades are posted on the My Lab and Mastering web site. Your final homework
average for the course will be posted in eCampus. You can register at

Note: If you are having trouble getting My Lab and Mastering to accept your multiple choice
answer or show the problem, switch browsers or go back to a previous version of your current
browser. The problem can also be that you need to update your flash player or enable your
JavaScript. Go to the website for details and downloads.

TAKE HOME QUIZZES – 10%
Problems are assigned from my lecture templates and manually graded.

LAB – 30%
NOTE: YOU CANNOT PASS THIS COURSE WITH A FAILING LAB GRADE

Grades come from the completed experiments. For each experiment you will take a lab quiz
(20%) at the beginning of the lab and turn in a lab report (80%) before you leave. You may look
over your graded reports, but they will not be returned. The “Labs” button in ecampus and your
lab instructor will provide more details.

EXAMS – 50%
The four exams and the final will be multiple choice. Each exam (except the final) will be taken
using the computer in the Testing Center. A green scantron is required for the final. For the
computer exams, you will log on to eCampus and click on the “Exams” button and select the
exam. You may take the exam once the testing center has put in the password. Exam scores will
appear on eCampus immediately upon completion of the exam. The final exam will be given
during the scheduled time in the classroom.

Exams must be taken during the scheduled times. Any student who misses a test deadline
with an excused absence can only earn a maximum of 70% of the total points. Exams will
be cumulative; however, they will focus on more recent material.

MAKE-UPS: For a missed exam with an excused absence during the testing dates, a make-up
exam must be taken as soon as possible at the discretion of the instructor. It is the Math/Science
division policy that you will not be allowed under any circumstances to take more than 2 tests
during the last week of the regular semester or more than 1 test on any given day in the same
subject. Excused absences will only be offered for one of the following reasons: illness, death in
family, official University business, or documented emergency.
The testing center will provide scratch paper and a copy of the periodic table. You must turn in these when you are finished with the exam. Do **NOT** take any testing materials with you. This includes the test, answers, charts, scratch paper, etc. To do so constitutes Academic Dishonesty. Do **NOT** use websites or other additional information during the test other than what is provided as that also constitutes Academic Dishonesty.

There will also be some formulas and additional info provided on the exam itself. Refer to the document under the **Exams** button to see what will be provided so you will know what formulas or information you do need to know that are not provided.

You will need to bring a pen or pencil and your scientific calculator to the testing center along with your government or school issued photo identification. You do not need a programmable calculator. You may use your own programmable calculator (TI 83/84 plus) if you agree to have the memory cleared before and after the exam. The testing center can provide a calculator during your exam if you need it. Fill out the Test Request Form upon arrival at the testing center. Bring a quarter for the coin return lockers if desired. Do not bring personal items such as bags, cell phones or pagers into the testing area. Do not bring children to the testing center.

Know the following information when you request your test:

- Instructor’s name
- Subject, course number, and section number (ex: CHEM 1412 73111)
- Exam number (1st, 2nd, 3rd, etc.)
- Exam deadline

The Testing Center is located in A425. Be sure to arrive in plenty of time to take the exam. Be aware that exams are not given within one hour of closing. **Do not wait until the end of the last day as you may not get in due to large numbers of students taking exams and there are no extensions of the deadlines due to overcrowding or schedule conflicts.**

Be sure to **check the hours** of the testing center particularly if there are changes due to **holiday hours**. For more information about the Testing Center go to [North Lake College Testing Center](#).

As you study, be sure to refer to the **Learning Objectives** for each chapter. These Learning Objectives will help you prepare for the exams.

### GRADING

The grades will be based on the following distribution and scale:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Final Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five Exams</td>
<td>50%</td>
</tr>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Lab</td>
<td>30%</td>
</tr>
</tbody>
</table>

A = 90-100    B = 80-89    C = 70-79    D = 0-69    F = 0-59
Your grade can be calculated at any time using the formula below. This formula is the same one that I use. Do not ask me to calculate your grade since you can do it as well as me.

\[
\text{Grade} = (\text{Exam Ave} \times 0.50) + (\text{Hwk Ave} \times 0.10) + (\text{Lab Ave} \times 0.30) + (\text{Ave MC} \times 0.10)
\]

Note: I do not give review sessions as the lectures and textbook are enough to pass my tests. Furthermore, I do not go over the tests in class. I do not have sample tests to give to students. Finally, I do not feed students with answers during the lecture. I’d rather lead the students to the answer of a question. Be prepared to answer questions during lectures. Work very hard. I do not give free grades or change student earned grades. Please, erase from your head any kind of false expectations and perceptions as we will go by this syllabus. In other words, do not give yourself false grades.

Note: The last day to drop with a W is Saturday August 3, 2019.

**Discipline/ Course/ Department/Policies**

**Classroom Policies:**

- Attendance in all class lectures and labs are **mandatory** and roll is taken daily. Arrive on time so you do not disturb the class. You are encouraged to ask questions and participate in class discussions and thus be an active learner. **Students should be aware that they are responsible for all materials handed out and all announcements made during their absence regardless of the reason(s) of the absence.**
- Excused absences will only be offered for one of the following reasons: illness, death in family, official University business, or documented emergency. For any excused absence written documentation is required. To obtain an excused absence, email me and bring documentation to the next class meeting.
- Distractive talking or any disorderly conduct is prohibited. Please be courteous of others.
- Taping of lectures is not allowed unless permission is obtained from the instructor.
- Follow the Code of Student Conduct for model behavior.
- Do not beg for points; you earn them.
- Students are encouraged to go to the Science Learning Center.
- No **cell phones or beeping devices allowed. No open lap tops.**
- Paper, pencil and calculator are required at all classes.
- Do not ask for extra credit. There is already have extra credit in the homework as well as bonus questions on each exam. There were something “extra” I wanted you to learn I would already have included it. **THERE IS NO EXTRA CREDIT.** Anyone who asks for extra credit will be deducted five points on an exam.

**SCIENCE LEARNING CENTER**
The Science Learning Center (P333) provides free tutorial services for North Lake science students. The center features tutors, software, videos, CDROM’s, internet, models, places to study quietly, places for group work, and other materials to assist in science classes. In order to
access resources of the center a North Lake College ID Card is required. The subject specific schedule of tutors is updated every semester and is located at the front of the center, just ask a tutor. For more information call 972-273-3273 or go to North Lake College Tutorial Services

Institutional Policies

ACADEMIC DISHONESTY
The Student Code of Conduct prohibits academic dishonesty and prescribes penalties for violations. According to this code, which is printed in the college catalog, "academic dishonesty", includes (but is not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion.

1) The Vice-President of Academic & Student Affairs may initiate disciplinary proceedings against a student accused of academic dishonesty.
2) Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion.
3) Cheating on a test includes:
   a) Copying from another student’s test paper;
   b) Using, during a test, materials not authorized by the person giving the test;
   c) Collaborating with another student during a test without permission to do so.
   d) Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test.
   e) Substituting for another student, or permitting another student to substitute for you to take a test; and
   f) Bribing another person to obtain an un-administered test or information about an un-administered test.
4) “Plagiarism” means the appropriation of another’s work (ideas and/or words) and the unacknowledged incorporation of that work in one’s written work offered for credit. Quotes not identified as quotes constitute a form of plagiarism even if the borrowed ideas are documented.
5) “Collusion” means an unauthorized collaboration with another person in preparing written work offered for credit.

Academic dishonesty may result in the following sanctions, including, but not limited to:
1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

NOTIFICATION OF ABSENCE DUE TO RELIGIOUS HOLY DAY(S)
Students who will be absent from class for the observance of a religious holiday must notify the instructor in advance. Please refer to the Student Obligations section of the college catalog for more explanation. You are required to complete any assignments or take any examinations missed as a result of the absence within the time frame specified by your instructor.

REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT
North Lake College provides academic accommodations to students with disabilities, as defined under ADA law. It is the student's choice and responsibility to initiate any request for accommodations. If you are a student with a disability who requires such ADA accommodations, please contact North Lake College's Disability Services Office in person (A430) or by phone at 972-273-3165. View more information by going to North Lake College Disability Services

DROP POLICY
If you are unable to complete this course, you must officially withdraw by the date stated on the academic calendar. Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you. There are important additional factors which are affected by withdrawals. See the categories below for additional information. It is strongly encouraged that a student speaks with the instructor before withdrawing. If a student stops attending class and does not officially withdraw, that student will receive
a performance grade based on work completed and missed. For more details concerning withdrawals go online to [Dropping or Withdrawing from Classes](#).

All Dallas County Community Colleges charge a higher tuition rate to students registering the third time for a course. This rule applies to the majority of credit and Continuing Education / Workforce Training courses. Developmental Studies and some other courses are not charged a higher tuition rate. Third attempts include courses taken at any DCCCD college since the fall 2002 semester. For further information, go online to [Third Attempt at DCCCD](#).

**ADMINISTRATIVE WITHDRAWAL**

Students with valid extenuating circumstances may be eligible for an administrative withdrawal by the Dean of the Division in which the course or courses are taught. An administrative withdrawal will not be awarded to students who simply fail to withdraw prior to the last day to receive a “W.” The request for an administrative withdrawal must be made in writing to the Dean of the Division with any supporting documentation attached. This must occur before the last official day of the semester.

**FINANCIAL AID STATEMENT**

Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate are also subject to this policy.

To apply for financial aid in the DCCCD, students must complete FAFSA (Free Application for Federal Student Aid) on the web at [FAFSA](#).

**STOP BEFORE YOU DROP**

For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: [eConnect Facts About Dropping Classes](#).

**COUNSELING SERVICES**

Counseling services for personal issues are provided to all students currently enrolled at North Lake College at NO CHARGE. These services are provided by or supervised by licensed professionals who are bound by confidentiality (within ethical parameters). With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills.

To make an appointment call 972-273-3333 or go to A 311.

For additional information go to: [http://northlakecollege.edu/services-and-resources/health-and-wellness/counseling-services/Pages/default.aspx](http://northlakecollege.edu/services-and-resources/health-and-wellness/counseling-services/Pages/default.aspx)

**THE ACADEMIC SKILLS CENTER (ACS)**

The ASC is designed to provide assistance to students in the following areas:

• Labs for students enrolled in foreign language, Developmental Reading, and ESOL courses. One-on-one tutoring is available.

• The Writing Center can help students clarify writing tasks, understand instructors’ requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or “fixing” papers, tutors focus on helping students develop and improve their writing skills.

• The Online Writing Lab (OWL) allows students to submit papers to our writing tutors electronically and get feedback within 24-72 hours. The OWL can be accessed through eCampus. After logging on to eCampus, click on the Community Tab at the top. Type “Owl” in the search field and click “Go.” Next, click on the double drop-down arrows next to “NLC-OWL2,” and then click on “Enroll.” Once enrolled, students can receive services from the OWL. For more information or to schedule a tutoring appointment, come by A-332 or call 972-273-3089.
TESTING CENTER (A 425)

Monday-Thursday: 8:30 a.m. – 8:00 p.m.
No tests will be issued after 7:00 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 8:00 p.m.

Friday-Saturday: 8:30 a.m.-3:30 p.m.
No tests will be issued after 2:30 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 3:30 p.m.

Sunday – CLOSED

If you instructor requires you to complete an exam in the Testing Center, be sure to have the following information when you request you test:
1. Instructor’s name
2. Subject, course number, and section number (exp: Speech 1311.7011)
3. Exam number (1st, 2nd, 3rd, etc.)
4. Exam deadline (Get this information from your instructor. The testing staff cannot look up this information on computers).

You should also bring the following supplies:
1. Pencil
2. Scantron answer sheet
3. A Test Request Form must be completed before entering the Testing Center.
5. Government or school issued photo identification is required & enforced.

You may not bring personal items into the Testing Center. This includes bags, cell phones, and pagers.

Please show courteous and cooperative behavior while using the services provided by the Testing Center.

DO NOT bring children to the Testing Center. You must make arrangements for the care of your children prior to your exam date. The police department will be notified of any unattended children.

DO NOT take any testing materials with you when you leave the Testing Center. This includes the test, answers, charts, scratch paper. These items will be attached to your test.

My policy is that you are NOT allowed to leave the testing center during a test and return to complete the test. Visit the rest room before your exam and do not drink a liter of fluid before your exams. If you need special accommodations please contact me.

Questions? Please visit the Testing Center (A 425) or call 972-273-3160.
State-Outcomes Core Curriculum

As part of the core, this course contributes to the development of six basic **Program Level Outcomes**. These Outcomes are essential to the learning process in any discipline and are defined by the Texas Higher Education Coordinating Board.

This course reinforces Program Level Outcome 1 with written and visual communications, Program Level Outcome 2, 3, and 4.

**Program-Level Outcome 1: Communication Skills** - to include effective development, interpretation and expression of ideas through written, oral and visual communication

1. **Written**: Process and produce effective written communication adapted to audience, purpose, and time constraints.
2. **Oral**: Produce effective oral communication adapted to audience, purpose, and time constraints.
3. **Visual**: Effectively interpret visual images or produce effective visual images.
4. **Listening**: Comprehend, and analyze oral information.

**Program-Level Outcome 2: Critical Thinking Skills (CT)** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

**Program-Level Outcome 3: Empirical and Quantitative Skills (EQS)** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

**Program-Level Outcome 4: Teamwork (TW)** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

**Program-Level Outcome 5: Personal Responsibility (PR)** - to include the ability to connect choices, actions and consequences to ethical decision-making

**Program-Level Outcome 6: Social Responsibility (SR)** - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
# Learning Activities, Outcomes, and Assessment

The following table shows how the Course Outcomes reflect the State Outcomes and are incorporated and assessed in the course.

<table>
<thead>
<tr>
<th>1. Learning Activity:</th>
<th>Students will work problems in class in pairs and share their answers in the determination of all intermolecular forces present in a given substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Learning Outcomes:</td>
<td>Students will select the kinds of intermolecular forces for a substance given the molecular formula with 70% proficiency on departmental exams.</td>
</tr>
<tr>
<td>b. Assessment:</td>
<td>Students will discuss their answers in class and the assessment is the question on the departmental exam.</td>
</tr>
<tr>
<td>c. Program Level Outcomes:</td>
<td>Core CT, ACGM 2</td>
</tr>
<tr>
<td>2. Learning Activity:</td>
<td>Students will form pairs to solve a problem on the density of an element in a metallic crystal structure following the example given in the lecture.</td>
</tr>
<tr>
<td>a. Learning Outcomes:</td>
<td>Students will calculate the density of a metal in a cubic crystalline structure using the edge of the cubic cell and the radius of the metal atom with a 70% proficiency.</td>
</tr>
<tr>
<td>b. Assessment:</td>
<td>The students will discuss their answers in class and the assessment is a question on the department exam.</td>
</tr>
<tr>
<td>c. Program Level Outcomes:</td>
<td>CT and EQS, AGM 1</td>
</tr>
<tr>
<td>3. Learning Activity:</td>
<td>Students will solve in groups a problem involving concentration: molarity, molality, mole fraction, etc.</td>
</tr>
<tr>
<td>a. Learning Outcomes:</td>
<td>Students will calculate the molality of a solution with a 70% proficiency on departmental exams.</td>
</tr>
<tr>
<td>b. Assessment:</td>
<td>Students will discuss their answers in class and the assessment is the question on the departmental exam.</td>
</tr>
<tr>
<td>c. Program Level Outcomes:</td>
<td>Core CT and EQS, ACGM 2</td>
</tr>
</tbody>
</table>
APPENDIX A

Chem 1412 75111, 75112  
Summer II 2019

Tentative Exam Schedule

<table>
<thead>
<tr>
<th>Exam</th>
<th>Due Date</th>
<th>Chapters Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>July 16</td>
<td>11, 12.7, 13</td>
</tr>
<tr>
<td>2</td>
<td>July 23</td>
<td>14, 15</td>
</tr>
<tr>
<td>3</td>
<td>July 30</td>
<td>16, 17.3</td>
</tr>
<tr>
<td>4</td>
<td>Aug. 2</td>
<td>17.4, 19</td>
</tr>
<tr>
<td>Final</td>
<td>Aug. 8 (Th)</td>
<td>20, 21</td>
</tr>
</tbody>
</table>
APPENDIX B

Course Outline

11.12 Intermolecular Forces, Liquids, and Solids
13. Physical Properties of Solutions
14. Chemical Kinetics
15. Chemical Equilibrium
16. Acid-Base Equilibria
17. Additional Aspects of Aqueous Equilibria
19. Chemical Thermodynamics
20. Electrochemistry
21. Nuclear Chemistry
## Tentative Lecture Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Chapter</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>July 8</td>
<td>11</td>
<td>Liquids and intermolecular forces</td>
</tr>
<tr>
<td>2</td>
<td>July 9</td>
<td>12</td>
<td>Solids and Modern materials</td>
</tr>
<tr>
<td>3</td>
<td>July 10</td>
<td>13</td>
<td>Physical properties of solutions</td>
</tr>
<tr>
<td>4</td>
<td>July 11</td>
<td>13</td>
<td>&quot;</td>
</tr>
<tr>
<td>5</td>
<td>July 15</td>
<td>14</td>
<td>Chemical kinetics</td>
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<tr>
<td>6</td>
<td>July 16</td>
<td>14</td>
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<tr>
<td>7</td>
<td>July 17</td>
<td>15</td>
<td>Chemical Equilibrium</td>
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<tr>
<td>8</td>
<td>July 18</td>
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<tr>
<td>9</td>
<td>July 22</td>
<td>16</td>
<td>Acid-Base Equilibria</td>
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<td>10</td>
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<tr>
<td>11</td>
<td>July 24</td>
<td>17</td>
<td>Buffers, Acid base titration, Solubility</td>
</tr>
<tr>
<td>12</td>
<td>July 25</td>
<td>17</td>
<td>Solubility</td>
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<tr>
<td>13</td>
<td>July 29</td>
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<tr>
<td>14</td>
<td>July 30</td>
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</tr>
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<td>Aug 6</td>
<td>21</td>
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</tr>
<tr>
<td>20</td>
<td>Aug 8</td>
<td>20,21</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
## APPENDIX D

### TEMPLATE - TEXTBOOK CORRESPONDENCE

<table>
<thead>
<tr>
<th>TEXTBOOK CHAPTER</th>
<th>LECTURE UNIT #</th>
<th>TEST #</th>
<th>LECTURE PACE</th>
<th>Homequiz Assignment Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>1</td>
<td>1</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>11/12</td>
<td>2</td>
<td>1</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>1</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>1</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>5</td>
<td>2</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>6</td>
<td>2</td>
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<tr>
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<tr>
<td>16</td>
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<td>3</td>
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<td></td>
</tr>
<tr>
<td>16</td>
<td>9</td>
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<td>17.3</td>
<td>10</td>
<td>3</td>
<td>Very slow</td>
<td></td>
</tr>
<tr>
<td>17.4</td>
<td>11</td>
<td>4</td>
<td>Slow</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>12</td>
<td>4</td>
<td>Fast</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>13</td>
<td>FINAL</td>
<td>Very fast</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>14</td>
<td>FINAL</td>
<td>Very fast</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>15</td>
<td>FINAL</td>
<td>Very fast</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>16</td>
<td>FINAL</td>
<td>Very fast</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E:

**Differences Between High School and College**

<table>
<thead>
<tr>
<th>HIGH SCHOOL</th>
<th>COLLEGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your time is usually structured by others.</td>
<td>You manage your own time.</td>
</tr>
<tr>
<td>You can count on parents and teachers to remind you of your responsibilities and to guide you in setting priorities.</td>
<td>You will be faced with a large number of moral and ethical decisions you have not had to face previously. You must balance your responsibilities and set priorities.</td>
</tr>
<tr>
<td>Each day you proceed from one class directly to another.</td>
<td>You often have hours between classes: class times vary throughout the day and evening.</td>
</tr>
<tr>
<td>You spend 6 hours each day – 30 hours a week – in class.</td>
<td>You spend 12 to 16 hours each week in class.</td>
</tr>
<tr>
<td>Teachers carefully monitor class attendance.</td>
<td>Professors may not formally take roll, but they are still likely to know whether or not you attend.</td>
</tr>
<tr>
<td>Teachers check your completed homework.</td>
<td>Professors may not always check completed homework, but they will assume you can perform the same tasks on tests.</td>
</tr>
<tr>
<td>Teachers approach you if they believe you need assistance.</td>
<td>Professors are usually open and helpful, but most expect you to initiate contact if you need assistance.</td>
</tr>
<tr>
<td>Teachers often write information on the board to be copied in your notes.</td>
<td>Professors may lecture nonstop, expecting you to identify the important points in your notes. When professors write on the board, it may be to amplify the lecture, not to summarize it. Good notes are a must.</td>
</tr>
<tr>
<td>Teachers often take time to remind you of assignments and due dates.</td>
<td>Professors expect you to read, save, and consult the course syllabus (outline); the syllabus spells out exactly what is expected of you, when it is due, and how you will be graded.</td>
</tr>
<tr>
<td>You may study outside of class as little as 0 to 2 hours a week, and this may be mostly last-minute test preparation.</td>
<td>You need to study at least 2 to 3 hours outside of class for each hour of class.</td>
</tr>
<tr>
<td>You will usually be told in class what you needed to learn from assigned readings.</td>
<td>It’s up to you to read and understand the assigned material; lectures and assignments proceed from the assumption that you’ve already done so.</td>
</tr>
<tr>
<td>Testing is frequent and covers small amounts of material.</td>
<td>Testing is usually infrequent and may be cumulative, covering large amounts of material. You, not the professor, need to organize the material to prepare for the test. A particular course may have only 2 or 3 tests in a semester.</td>
</tr>
<tr>
<td>Makeup tests are often available.</td>
<td>Makeup tests are seldom an option; if they are, you need to request them.</td>
</tr>
<tr>
<td>Consistently good homework grades may help raise your overall grade when test grades are low.</td>
<td>Grades on tests and major papers usually provide most of the course grade.</td>
</tr>
<tr>
<td>Initial test grades, especially when they are low, may not have adverse effect on your final grade.</td>
<td>Watch out for the first tests. These are usually wake-up call to let you know what is expected — but they also may account for a substantial part of your course grade.</td>
</tr>
</tbody>
</table>

**NOTE:** The instructor reserves the right to amend this document as needed.