Course Syllabus
Fast-Track Organic Chemistry (I) 2423 73200-73201
Spring 2015

Math and Natural Science Learning Center
Division Office: P-330
Phone: 972-273-3500
Hours: Monday –Thursday 8 a.m. - 8:30 p.m.
Friday 8 a.m. - 4:30 p.m.

This course syllabus is intended as a set of guidelines for Organic Chemistry 2423. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information:

Instructor: Dr. Kay I. Kouadio
Email: angobil@dcccd.edu
Office Phone: 972-273-3511
Office: C303C
Office hrs: W: 12:30pm – 1:30pm
TR: 9:30am – 10:25am
F: 7:45 AM – 9:45 AM

Course Information
Course title: Organic Chemistry 2423
Credit hours: 4 credit hours
Class meeting time: 11:00 AM – 1:50 PM

Course Description: CHEM 2423 is an organic chemistry course designed for highly motivated students who are majoring in science or science-related fields and who have already taken CHM 1411 and 1412 courses. It is an introduction to the fundamental classes of organic compounds. Indeed, hydrocarbons and their derivatives will be covered. Furthermore, isomerism and stereochemistry are also introduced. Finally, the different types of organic reactions will be explored.

Course prerequisites: Chemistry 1411 and 1412. Developmental Reading 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) standard in Reading.
Required or Recommended Textbooks and Materials


Course Objectives

The goal of this course is to give you a basic understanding of the complex organic and biological reactions that take place in biological systems. Either you plan to become an MD or a pharmacist, the completion of this course will help you understand better the different concepts and facts that you will be exposed to at your next program. This course will also help you “tackle” CHEM 2425 with ease.

Course Learning Outcomes

1. Describe the humble beginnings of Organic Chemistry from the Vitalistic theory (and its demise) to Kékulé’s discovery of the tetravalent nature of carbon.
2. Review some fundamental concepts learned in Chem 1411 and 1412; atoms, electrons, nuclei, protons, neutrons, atomic number, mass number, isotopes, atomic weight, ions, cations, anions. Describe the different parts of the periodic table: groups and rows; become familiar with the chemical elements mostly encountered in Organic Chemistry. Review the shell model: shells, subshells, orbitals and their shapes. Review electron configurations and valence electrons. Reintroduce bonding concepts: ionic and covalent bonding; single, double, and triple bonds; Lewis structure, octet rule and exceptions, formal charges, resonance structures, and molecular geometry; bonding theories: The VSEPR, the valence bond and molecular orbital theories; The concept of electronegativity is reviewed.
3. Define acids and bases: Arrhenius, Brønsted – Lowry, and Lewis. Assess acid-base strength; calculate Ka and pKa; describe the factors affecting acid strength; recognize the acids and bases used in Organic Chemistry.
4. Introduce the student to organic compounds and the different classes of hydrocarbons: saturated (alkanes and cycloalkanes) and unsaturated (alkenes, cycloalkenes, alkynes, and aromatics). Recognize the most important functional groups: alcohol, aldehyde, ketone, ether, thiol, amine, amide, carboxylic acid. Explain the importance of functional groups; differentiate between electrophilic and nucleophilic sites. Describe intermolecular forces and how they affect physical properties (melting point, boiling point).
5. Write molecular and structural formulas of alkanes and cycloalkanes. Name straight chain, branched, and cyclic saturated alkanes. Discuss alkyl groups and nomenclature rules. Explore isomerism in the alkanes and physical and chemical properties. Discuss cis-trans isomerism in cycloalkanes. Describe the different sources of the alkanes (natural gas, petroleum, and
coal) and their use as fuels in combustion reactions. Discuss fossil fuels in general and their importance in global warming.

6. Introduce the student to the stereochemistry of alkanes and cycloalkanes. Sawhorse and Newman projections are discussed. Conformational analysis of ethane, propane and butane are carried out through eclipsed staggered conversions. Anti and gauche conformations are introduced. Discuss the Bayer theory and why it is wrong. The chair conformation of cyclohexane and its axial and equatorial positions are introduced. Final the boat conformation of cyclohexane is also discussed.

7. Review isomerism in general. Handedness, enantiomers, diastereomers are introduced. Discuss four-bonded carbons and stereogenic (chiral) centers. R and S configurations using Cahn, Ingold, and Prelog rules are introduced. Fisher projections and R,S assignments to compounds with many stereogenic centers are investigated. Assign D and L configuration to sugars. Explain Polarimetry and $d$ - $l$ configurations. Explain the significance of chirality in biological systems.

8. Describe the four major types of organic reactions: addition, elimination, substitution, and rearrangement. Explain homolytic and heterolytic bond breaking. Explain homogenic and heterogenic bond forming. Describe the structures of the common intermediates encountered in organic reactions: free radicals, carbocations, carbanions, and carbenes. Calculate bond dissociation energies and applications. Compare thermodynamics to chemical kinetics. Write the expression of an equilibrium constant and explain the meaning of the equilibrium constant. Calculate Gibbs free energy using the equilibrium constant. Explain the difference between $\Delta G$, $\Delta H$, and $\Delta S$. Calculate $\Delta G$ using $\Delta H$, and $\Delta S$. Explain the difference between exergonic and endergonic reactions. Describe the factors that affect reaction rate: concentration, temperature, and activation energy. Write the expression of a rate law. Explain how a catalyst affects the rate of a reaction by using activation energy. Describe enzymes as biological catalysts.

9. Describe the general structure of alkyl halides. Discuss the different kinds of alkyl halides: simple, vinyl, aryl, allylic, and benzylic halides. Classify simple alkyl halides: methyl, primary, secondary, and tertiary halides. Discuss the nomenclature of alkyl halides. Discuss the physical properties of alkyl halides: melting, boiling points, solubility. Explain how CFCs deplete the ozone layer.

10. Review electrophiles and nucleophiles. Discuss the two types of polar substitution reactions: SN1 and SN2. Explain SN2 and its mechanism. Discuss Walden inversion. List the factors that affect SN2 reactions: substrate size, nucleophile strength, the leaving group, and the solvent. Explain SN1 and its mechanism. Discuss the factors that affect SN1 reactions: substrate size, nucleophile strength, the leaving group, and the solvent. Discuss the stability of carbocations.

11. Discuss the two types of polar elimination reactions: E1 and E2. Explain E2 and its mechanism. Discuss the stability of alkenes. Explain syn periplanar and anti periplanar geometry. Define stereoselective and regioselective reaction. Discuss the kinetic deuterium isotope effect. List the factors that affect E2 reactions: substrate size, nucleophile strength, the leaving group, and the solvent. Explain SN1 and its mechanism. Discuss the factors that affect SN1 reactions: substrate size, nucleophile strength, the leaving group, and the solvent. Discuss the stability of carbocations. Discuss the stability of carbocations. Explain E1 and its mechanism.
the leaving group, and the solvent

12. Discuss the general structures of alcohols, phenols, ethers, epoxides, thiols, and sulfides. Discuss the nomenclature of alcohols, phenols, ethers, epoxides, thiols, and sulfides. Introduce the synthesis and reactions (and mechanisms) of alcohols, phenols, ethers, epoxides, thiols, and sulfides. Discuss the qualitative analysis of alcohols: Lucas test, Bordwell-Wellman test, FeCl₃ test. Discuss the physical properties of alcohols, phenols, ethers, epoxides, thiols, and sulfides.

13. Discuss the general structures of alkenes and cycloalkenes. Explain the different types of alkenes: terminal, internal, symmetrical, and unsymmetrical. Discuss cis-trans isomerism in the alkenes. Introduce the concept of degrees of unsaturation and associated rules. Discuss the nomenclature of branched and unbranched alkenes. Discuss the use of E-Z in the nomenclature of the alkenes. Investigate the physical properties of the alkenes. Discuss the synthesis and reactions (and mechanisms) of the alkenes. Discuss the qualitative tests used to detect the alkenes in the laboratory: bromine water, Baeyer’s test, the sulfuric acid test.

14. Discuss the general structures of alkenes. Explain the different types of alkynes: terminal, internal, symmetrical, and unsymmetrical. Discuss the nomenclature of branched and unbranched alkynes. Investigate the physical properties of the alkynes. Discuss the synthesis and reactions (and mechanisms) of the alkynes.

15. Define redox reactions. Introduce the difference types of reducing and oxidizing used in Organic Chemistry. Discuss redox reactions (and mechanisms) of the alkenes and alkynes: hydrogenation, epoxidation, ozonolysis, cleavage. The oxidation of alcohols is also discussed.

Course Outline

Please see Appendix A attached to this syllabus for a complete and detailed course outline.

Means of Assessment of Course Learning Outcomes

These outcomes will be assessed using methods of testing through departmental exams, in class group work, Sapling Learning Chemistry assignments, and written lab reports.

Evaluation Procedures

Homework problems are assigned and graded. You will be using Sapling Learning Chemistry, an online tutorial and homework program. You can go directly to the Sapling Learning Chemistry web site without going through eCampus by going to www.Saplinglearning.com. Many of the problems in Sapling Learning Chemistry are based on the textbook. Students are strongly encouraged to complete the assignments in preparation for the tests. Late homework are not accepted. Also included in the Sapling Learning Chemistry assignments are practice problems to help you understand the material. The practice problems are optional. Details on how to register and enroll in our course on Sapling Learning Chemistry can be found under the Assignments button in eCampus. Your homework grades are posted on the Sapling Learning Chemistry website. Your final homework average for the course will be posted in eCampus.
The lab reports will be graded by the following week in lab. You may look over your reports, but they will not be returned.

**Exams**

The 5 exams will be multiple choice. Each exam (except the final) will be taken at the Testing Center on the stated dates. A green scantron is required for all exams including the final. 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. The final exam will be given during our scheduled time in the classroom. 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. 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 will need to bring a pen or pencil and your scientific calculator to the testing center along with your picture ID. You may use your own programmable calculator if you agree to have the memory cleared before and after the exam.

The Testing Center is located in A425. Be sure to arrive in plenty of time to take the exam. The normal hours are M-R 8:30am to 9:00pm, F-Sat 8:30am to 3:30pm, and closed Sun. 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 [http://www.northlakecollege.edu/resources/testing.html](http://www.northlakecollege.edu/resources/testing.html)

**Grading Scale**

The grades will be based on the following distribution

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five Exams</td>
<td>65%</td>
</tr>
<tr>
<td>Computer based Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Lab</td>
<td>25%</td>
</tr>
</tbody>
</table>

A = 90-100      B = 80-89      C = 70-79      D = 60-69      F = 0-59

Grades will be posted on e-Campus when for each exam.

To calculate your grade at any time you may wish to use the following formula.

Grade = (Exam Avg x 0.65) + (Sapling Hmwk Avg x 0.10) + (Lab Avg x 0.25)

**Last Day to Withdraw:** March 1, 2013

**Discipline/ Course/ Department/Policies**
Science Learning Center
The Science Learning Center (P333) provides tutorial services for North Lake science students. For more information call 972-273-3273 or go to http://www.northlakecollege.edu/resources/tutoring.html

INSTITUTIONAL POLICIES

Classroom Policies:
• Attendance in all class lectures and labs are mandatory. You are encouraged to ask questions and to participate in class discussions. You are expected to be an active learner and not a passive one.

Students should be aware of the fact 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 or call me at 972-273-3236 by the next class period. Documentation should be brought to the next class meeting.

• No cell phones or beeping devices allowed.

• No texting.

• 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.

• Model citizenship and collegiate attitude are expected from all students as outlined in the Code of Student Conduct.

• Students are encouraged to go to the Science Learning Center for help.

• This course is a college level course taught at a very high pace. Unnecessary grumbling about the pace or the difficulty of the material and other puerile mannerisms are highly distractive, and therefore, not welcome.

• Students should understand that grades are earned, not given. Final grades are assigned on a merit basis regardless of personal GPA needs or future career goals. Therefore, begging for grades is useless, unethical, and counterproductive and is absolutely discouraged. Students have the sole responsibility for their own GPAs.

• Grade boosting term papers are not given in this course by the end of the semester.

• This instructor does not change earned grades by the end of the semester to suit a student need. No exceptions!!!!

• A student’s grade or score will not be released to a third party.

• The instructor cannot drop you from this course. If you do not drop yourself, you will receive an F. If you stop coming to class or if you do not come prior to the certification date, you will not be dropped. You can
drop on-line in some instances or go to the Admissions Office.

**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. 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**
In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, any student who feels that he or she may need any special assistance or accommodation because of an impairment or disabling condition should contact the ADA/ACCESS Office at (972) 273-3165 or visit Room A-430 at North Lake College. It is the policy of NLC to provide reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ADA/ACCESS Office.

**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. If you are dropping a class(es), go to the Admissions Office (A405) and complete a drop or withdrawal form. 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.

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: http://www.DCCCD.edu/thirdcourseattempt .

**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.
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 [http://www.fafsa.ed.gov](http://www.fafsa.ed.gov).

**COUNSELING SERVICES**
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. 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 visit A 430.

**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: [https://www1.dcccd.edu/coursedrops](https://www1.dcccd.edu/coursedrops)

**WRITING CENTER (A309)**
The Writing Center supports and supplements classroom instruction by providing focused, individualized writing instruction in response to the specific needs of the student. Its services are available to all North Lake students, not just those enrolled in English classes. The tutors are skilled writing specialists who 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" students' papers, the Writing Center staff focuses on helping students develop and improve their writing skills.

Located in Room A309, the Writing Center is open 8:00 AM to 9:30 PM Monday through Thursday and 8:00 AM to 5:00 PM on Friday. Saturday hours are 9:00 AM to 2:00 PM during fall and spring semesters. Hours will vary during other sessions. Students who have scheduled an appointment in advance will have a tutor available to work with them at their scheduled time. Walk-ins are welcome, but they may have to wait for an opening or make an appointment for a later time, perhaps a later day. To schedule an appointment, come by the Writing Center, call 972-273-3089, or email [nlcwritingcenter@dcccd.edu](mailto:nlcwritingcenter@dcccd.edu).
State Outcomes Core Curriculum

As part of the core, this course contributes to the development of 6 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** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

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

**Program-Level Outcome 4: Teamwork** - 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** - to include the ability to connect choices, actions and consequences to ethical decision-making

**Program-Level Outcome 6: Social Responsibility** - 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 provides examples on how the Course Outcomes, Educational Exemplary Objectives, and Core Curriculum Intellectual Competencies are incorporated into the course

1. **Learning Activity:**
   a. **Learning Outcomes**: Students will analyze a pair of structures with multiple stereogenic centers and determine whether the structures are enantiomers, diastereomers, a meso compound, and/or the same compound. 70% proficiency.
   b. **Assessment**: Students will discuss their answers in class and the assessment is the question on the departmental exam.
   c. **Program Level Outcome 2, Specific Course Outcome 3**
### 2. Learning Activity. Students will interpret a graph of energy vs dihedral angle to determine the identity of an alkane. 70% proficiency

a. **Learning Outcomes:** Students will interpret a graph of energy vs dihedral angle to determine the identity of an alkane. 70% proficiency.

b. **Assessment:** Students will discuss their answers in class and the assessment is the question on the departmental exam.

c. **Program Level Outcome 3, Specific Course Outcome 6**

### 3. Learning Activity:

a. **Learning Outcomes:** The student will analyze and determine the correct structure for a substituted cyclohexane and explain which structure has the lowest energy (most stable) at 75% proficiency on departmental exams.

b. **Assessment:** Students will discuss their answers in class and the assessment is the question on the departmental exam.

c. **Program Level Outcomes 1.3, Specific Course Outcomes 5, 6**

---

### APPENDIX A:

#### COURSE OUTLINE

CHM 2423

- Chapter 1: Structure and Bonding
- Chapter 2: Acids and Bases
- Chapter 3: Introduction to Organic Molecules
- Chapter 4: Alkanes
- Chapter 5: Stereochemistry
- Chapter 6: Understanding Organic Reactions
- Chapter 7: Alkyl halides: SN1 and SN2
- Chapter 8: Alkyl halides: E1 and E2
- Chapter 9: Alcohols, Ethers, and Epoxides
- Chapter 10: Alkenes
- Chapter 11: Alkynes
- Chapter 12: Oxidation and Reduction React
Chem 2423 73200-73201  
Spring 2015  

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>Jan 30</td>
<td>1,2</td>
</tr>
<tr>
<td>2</td>
<td>Feb 6</td>
<td>3, 4</td>
</tr>
<tr>
<td>3</td>
<td>Feb 13</td>
<td>5, 6, 7</td>
</tr>
<tr>
<td>4</td>
<td>Mar 6</td>
<td>7, 8, 9</td>
</tr>
<tr>
<td>Final</td>
<td>Mar 19</td>
<td>10, 11, 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Chapter</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 18</td>
<td>1</td>
<td>Prologue</td>
</tr>
<tr>
<td>1</td>
<td>“</td>
<td>1</td>
<td>Structure and Bonding</td>
</tr>
<tr>
<td>2</td>
<td>Jan 25</td>
<td>2</td>
<td>Acid and Bases</td>
</tr>
<tr>
<td>2</td>
<td>“</td>
<td>3</td>
<td>Introduction to Organic Molecules</td>
</tr>
<tr>
<td>3</td>
<td>Feb 1</td>
<td>4</td>
<td>Alkanes</td>
</tr>
<tr>
<td>3</td>
<td>“</td>
<td>5</td>
<td>Stereochemistry</td>
</tr>
<tr>
<td>4</td>
<td>Feb 8</td>
<td>6</td>
<td>Understanding Organic Reactions</td>
</tr>
<tr>
<td>4</td>
<td>“</td>
<td>7</td>
<td>Alkyl halides: SN1 and SN2</td>
</tr>
<tr>
<td>5</td>
<td>Feb 15</td>
<td>7</td>
<td>“</td>
</tr>
<tr>
<td>5</td>
<td>“</td>
<td>8</td>
<td>Alkyl Halides: E1 and E2</td>
</tr>
<tr>
<td>6</td>
<td>Feb 22</td>
<td>9</td>
<td>Alcohols, Ethers, and Epoxides</td>
</tr>
<tr>
<td>6</td>
<td>“</td>
<td>9</td>
<td>“</td>
</tr>
<tr>
<td>7</td>
<td>Mar 1</td>
<td>10</td>
<td>Alkenes</td>
</tr>
<tr>
<td>7</td>
<td>“</td>
<td>11</td>
<td>Alkynes</td>
</tr>
<tr>
<td>8</td>
<td>Mar 15</td>
<td>12</td>
<td>Oxidation and Reduction Reactions</td>
</tr>
<tr>
<td>8</td>
<td>Mar 19</td>
<td>10, 11, 12</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
### APPENDIX C:

**OCHEM I: TEMPLATES - SMITH RELATIONSHIP**

<table>
<thead>
<tr>
<th>Textbook Chapter #</th>
<th>Template Unit #</th>
<th>Test #</th>
</tr>
</thead>
<tbody>
<tr>
<td>prologue</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX D:

CALCULATION OF YOUR FINAL GRADE: AN EXAMPLE

Suppose that the following grades are your earned grades on all classwork:

<table>
<thead>
<tr>
<th>Class work</th>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Test 4</th>
<th>Final</th>
<th>Average Lab</th>
<th>Average online Assign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earned Grade</td>
<td>75</td>
<td>85</td>
<td>75</td>
<td>78</td>
<td>88</td>
<td>90</td>
<td>92</td>
</tr>
</tbody>
</table>

Final Grade = \( \frac{(\text{test 1} + \text{test 2} + \text{test 3} + \text{test 4} + \text{Final}) \times 65 + (\text{Ave Lab} \times 25) + (\text{Ave online} \times 10)}{100} \)

Final Grade = \( \frac{(75 + 85 + 75 + 78 + 88) \times 65 + (90 \times 25) + (92 \times 10)}{100} \)

Final Grade = 83.83

ASSIGNED EARNED LETTER GRADE: B
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.