

**Fundamental Chemistry  
Fall 2019**

**Instructor:** Dr. Faith Yarberry  
**Office:** Laney-Manion Annex 129  
**Phone:** 501-852-2530  
**Email:** fyarberry@uca.edu  
**Official Office Hours:** MW 10:00-11:00 am (except 9/11), T 3:00-4:00 pm (except 9/12)

**Course Information:**

**Lecture:** MWF Noon-12:50 in Laney-Manion 102  
**Text :** *Stoichiometry Boot Camp* by R. F. Mauldin and J. J. White  
**Materials:** Scientific calculator, Blackboard, Mastering Chemistry, and EdPuzzle

**Grading:**

Course Item	# Given	# Dropped	Points per Item	Total Points
IYPT Art Project	1	0	50	50
Mastering Chemistry	34	4	5	150
Element Paper	1	0	100	100
Quizzes	15	5	10	100
Exams	4	1	100	300
Final Exam	1	0	150	150
<b>Total</b>				<b>715</b>

**Grades:**     **A  $\geq$  765**     **B  $\geq$  680**     **C  $\geq$  595**     **D  $\geq$  510**     **F < 510**

**There will be no make-up quizzes, exams, or MasteringChemistry assignments.** Missed items will be dropped up to the allotted number. After that they will count as a zero towards your final grade. There will be a 5 pt deduction for everyday that the project and/or paper are turned in late.

*The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Office of Disability Services, 450-3135.*

**Course Description**

The purpose of this course is to provide the background necessary for subsequent study in chemistry. We will cover basic concepts of chemistry for students with limited to no previous chemistry instruction.

**Course Materials**

You will need access to Blackboard, a scientific calculator, MasteringChemistry access, EdPuzzle access, and the textbook

## Policies

- 1. Attendance** - Each class meeting is important to the course development. Class begins at Noon and ends at 12:50 pm. Roll will be taken. 6 unexcused absences may result in a W grade at the instructor's discretion. It is the responsibility of the student to obtain any information covered during their absence.
- 2. Lecture** – This course uses a flipped classroom style. Flipped classrooms are designed so that you watch the lecture online prior to class thereby providing more time to practice content during the lecture. During the lectures, I will summarize the content presented in the videos, teach you techniques for learning the material, and guide you on how to work the problems associated with the content.
- 3. Blackboard Homework** –Success in Chemistry comes from working problems over the material. You will, therefore, be given lots of problems in the form of online worksheets to increase mastery of the material. These, along with textbook problems, will also be the worksheets that we will work during class.
- 4. MasteringChemistry** – Working problems in the presence of the instructor and classmates often seems simple. Most students do not know if they understand the material until they are forced to work the problems alone. Therefore, you will have homework, presented through MasteringChemistry that will count towards your grade. You will be given a minimum of 2 opportunities to get each question correct without significant impact toward your grade.
- 5. Quizzes** – 15 quizzes will be given on Blackboard or EdPuzzle throughout the semester. The professor will give you heads up to due dates in the course announcements.
- 6. Exams** - 4-50 min exams will be administered on the dates listed in the syllabus beginning at noon. Exam dates are 9/11, 10/9, 11/6, and 12/4. The final exam will be held December 11<sup>th</sup> from 11:00 am – 1:00 pm. *Plan your schedule accordingly because make-up exams will NOT be offered. Missed exams will be dropped up to the allotted number. The Final Exam WILL ONLY be offered according to the universities Final Exam Schedule.*
- 7. IYPT Art Project and Element Paper** – See details attached to the back of the syllabus.
- 8. Official Office Hours** - This time is specifically set aside for you to ask me questions and receive help on course material. Use this time! *If you cannot make the scheduled times, make other arrangements with me. I am usually in my office by 8:00 am and will be there unless in class or in a meeting. If my office door is open, feel free to ask me questions.*
- 9. Academic Integrity** - The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student

Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy. *The penalty for academic dishonesty on an exam or quiz in this course is that the student will receive a zero for that exam and the exam grade will be counted into their final average. Plagiarism on any paper and the student will receive a zero for that grade.*

- 10. Emergency Procedures Summary** - An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.
- 11. Title IX Disclosure** - If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to “student-on-student” or “employee-on-student”), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <https://uca.edu/titleix>. *\*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.*
- 12. Other Policies** - Information concerning University Academic Policies (such as the Sexual Harassment Policy and Academic Policies) can be found in the Student Handbook. Students should familiarize themselves with all policies listed in the Student Handbook at <http://uca.edu/ubulletin2015/general-policies-information> .
- 13. Course Evaluations** - Student evaluations of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the thirteenth week of instruction through the end of finals week by logging in to myUCA and clicking on the Course Evaluations task.

**Bonus Opportunities (Up to 30 points) – Must check in with Bear Card and pay attention.**

<b>Item</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>	<b>Points</b>
Science of Alcohol	Aug 28	6:30-7:30 pm	Kings Live Music 1020 Front Street Conway, AR	5
Successful Goal-Setting and Planning	Sept 5	1:40-2:30 pm	Doyne Auditorium	5
What Do I Need to Write Down? Note-Taking Strategies	Sept 17	1:40-2:30 pm	Doyne Auditorium	5
Chalk Talk	Sept 19	6:00-6:50 pm	STEM@Arkansas Hall Classroom – Room 110	5
I Didn't Have to Study in High School: Study Skills for Successful Students	Sept 24	1:40-2:30 pm	Doyne Auditorium	5
Science of Religion	Sept 25	6:30-7:30 pm	Kings Live Music 1020 Front Street Conway, AR	5
Effective Communication is NOT Common Sense – or Common Practice	Oct 1	1:40-2:30 pm	Doyne Auditorium	5
I Don't Like Group Work! Successful Group Work Strategies	Oct 8	1:40-2:30 pm	Doyne Auditorium	5
Chalk Talk	Oct 22	1:40-2:30 pm	LSC 100	5
Program-in-a-Box (check bonus folder for information)	Oct 22	6:00-7:00 pm	Laney-Manion 102	5
Science of Time Travel	Oct 23	6:30-7:30 pm	Kings Live Music 1020 Front Street Conway, AR	5
Bear Food Pantry Donation (check bonus folder for information)	Nov 18	By 5:00 pm	Dr. Yarberry's office	1 pt per item up to 10
Chalk Talk	Nov 19	1:40 – 2:30 pm	MCST 110	5
Science of Language	Nov 20	6:30-7:30 pm	Kings Live Music 1020 Front Street Conway, AR	5
Pseudoscience Fair (check bonus folder for forms)	Nov 22	Noon-3:00 pm	CCCS	5/eval up to 10 points

<b>Exams</b>	
Exam 1	_____ /100
Exam 2	_____ /100
Exam 3	_____ /100
Exam 4	_____ /100

<b>Quizzes</b>	
Quiz 1	_____ /10
Quiz 2	_____ /10
Quiz 3	_____ /10
Quiz 4	_____ /10
Quiz 5	_____ /10
Quiz 6	_____ /10
Quiz 7	_____ /10
Quiz 8	_____ /10
Quiz 9	_____ /10
Quiz 10	_____ /10
Quiz 11	_____ /10
Quiz 12	_____ /10
Quiz 13	_____ /10

<b>IYPT Project</b>	
Project	_____ /50

<b>Element Paper</b>	
Grade	_____ /100

<b>Bonus</b>	

<b>Mastering Assignments</b>	
MC Assignment 1	_____ /5
MC Assignment 2	_____ /5
MC Assignment 3	_____ /5
MC Assignment 4	_____ /5
MC Assignment 5	_____ /5
MC Assignment 6	_____ /5
MC Assignment 7	_____ /5
MC Assignment 9	_____ /5
MC Assignment 10	_____ /5
MC Assignment 11	_____ /5
MC Assignment 12	_____ /5
MC Assignment 13	_____ /5
MC Assignment 14	_____ /5
MC Assignment 15	_____ /5
MC Assignment 16	_____ /5
MC Assignment 17	_____ /5
MC Assignment 18	_____ /5
MC Assignment 19	_____ /5
MC Assignment 20	_____ /5
MC Assignment 21	_____ /5
MC Assignment 22	_____ /5
MC Assignment 23	_____ /5
MC Assignment 24	_____ /5
MC Assignment 25	_____ /5
MC Assignment 26	_____ /5
MC Assignment 27	_____ /5
MC Assignment 28	_____ /5
MC Assignment 29	_____ /5
MC Assignment 30	_____ /5
MC Assignment 31	_____ /5
MC Assignment 32	_____ /5
MC Assignment 33	_____ /5
MC Assignment 34	_____ /5

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To determine what you need to make on your final exam:

- A. Sum of Top 3 Exam Grades \_\_\_\_\_
- B. Sum of Top 30 Mastering Chemistry Assignments \_\_\_\_\_
- C. Top 10 Class Quizzes \_\_\_\_\_
- D. IYPT Project \_\_\_\_\_
- E. Element Paper \_\_\_\_\_
- F. Bonus \_\_\_\_\_
- G. Total Sum A – F above** \_\_\_\_\_

For an A on your transcript, the following equation indicates the number of points you need on your final exam.

$$900 - G = \underline{\hspace{2cm}}$$

For a B on your transcript, the following equation indicates the number of points you need on your final exam.

$$800 - G = \underline{\hspace{2cm}}$$

For a C on your transcript, the following equation indicates the number of points you need on your final exam.

$$700 - G = \underline{\hspace{2cm}}$$

# International Year of the Periodic Table Celebration

The International Year of the Periodic Table Celebration shall consist of two parts. Part 1 shall be an art project. Part 2 shall be a paper about an assigned element. Both parts are due to Dr. Yarberry by **October 2, 2019, at noon**. Projects will not be accepted late.

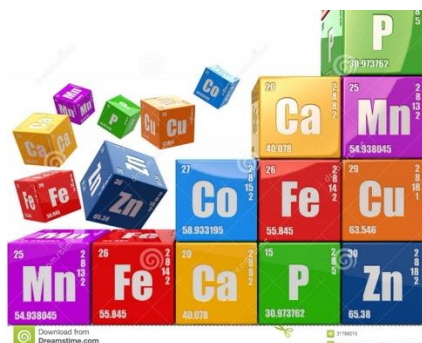
## Art Project

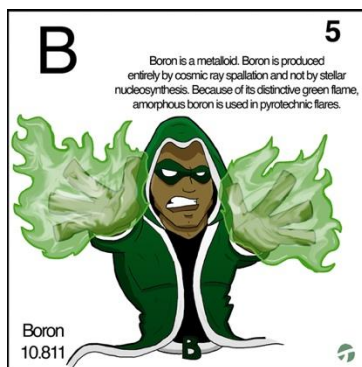
Let the elements and the periodic table be your artistic muse as we celebrate the International Year of the Periodic Table. Your Fundamental Chemistry course, the UCA American Chemical Society, and the Central Arkansas Section of the American Chemical Society is hosting an art competition (painting, sculpture, 3-D art, etc). You are required to make an art piece revolving around the periodic table or an element within that table. The art project will count as 50 completion points of your course grade.

As an extra incentive:

1. Your art project will be turned in October 2<sup>nd</sup>.
2. Members of the UCA ACS section who are not participating in the competition and the Department of Chemistry faculty will determine their top winners.
3. The universities top art project would be sent to the Central Arkansas Section of the American Chemical Society by October 15<sup>th</sup>
4. The officers and members of the Central Arkansas Local Section will judge and decide on 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place winners from all college entries across the State of Arkansas

Below are artistic representations of what is possible as found on the internet.





## Paper

Not everyone is an artist, but everyone should be able to develop quality written work. Corporations, etc. look for individuals that are capable of writing well no matter what the individuals background. The paper will constitute 100 points of your course grade and will be graded according to quality, plagiarism, and information contained within the paper.

1. You will be assigned an individual element Dr. Yarberr during the first couple of days of class.
2. Your paper will include the following:
  - a. A cover page with the following items centered on page with no spacing:
    - i. The name of the element in 28 point font, bolded
    - ii. Your name, course name, Instructor's name, and date in 20 point font, not bolded
  - b. 2-3 pages of written information (12 point font, double spaced, 1-in margins, superscripts and subscripts should be used as appropriate) containing:
    - i. Element name
    - ii. History of the element
    - iii. Where it is commonly found



- iv. 3 compounds (name and formula) that contain that element and how they were discovered if they were a mineral or how they are used in today's society. (If you start this process early enough and you are having trouble identifying the compounds, etc., ask Dr. Yarberry.
    - v. A list of the element's common isotopes
    - vi. The number of protons, neutrons, electrons found in each isotope of the element
    - vii. The elements electron configuration.
    - viii. A list of the element's common ions (give the formula and name of the ion).
    - ix. Closing paragraph about what you learned from doing the paper.
  - c. Citation page in MLA format. (Chemists use the American Chemical Society formatting and if you take upper-division chemistry courses, you will learn the formatting.)
  - d. Handwritten page to be turned in separately that shows the calculation of your elements average atomic mass from the isotope mass and % abundance. Make sure to put your name on the handwritten page so that Dr Yarberry can collate it to the rest of your document.
3. The majority of the paper will be turned in using SafeAssign on Blackboard (no exceptions). Safe Assign will check for plagiarism. The only items that may be plagiarized will be:
  - a. Element Name and formula
  - b. The name of the scientist and founding location of the element
  - c. Compound formulas and names
  - d. Electron Configurations
  - e. Isotopic symbols
  - f. Number of protons, neutrons, and electrons in each isotope
  - g. References or citations using MLA format.
4. Once SafeAssign has checked the document for plagiarism, Dr Yarberry will grade the document for the required pieces using the rubric attached. The points earned according to the rubric will be scaled up to reflect your grade out of 100 points.

Rubric for Paper

Name: \_\_\_\_\_

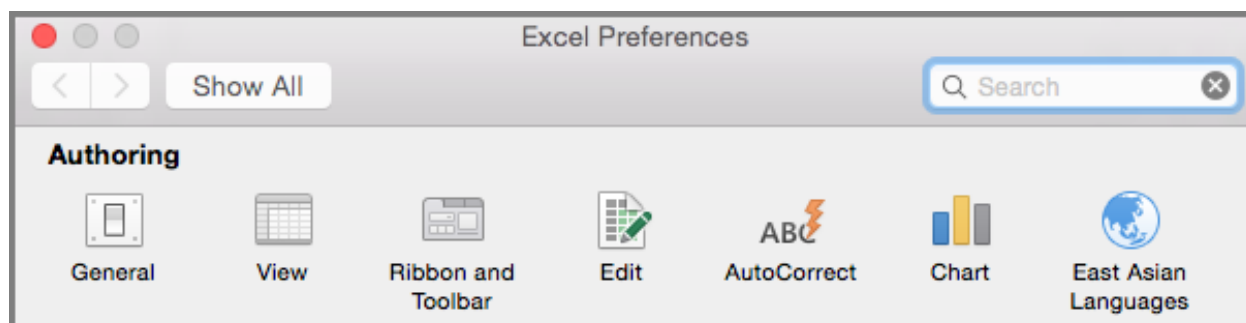
Required Item	4	3	2	1	0	Points Awarded
2 pages Minimum 12 point Times New Roman 1" margins Double Spaced	Followed All 4 guidelines	Followed 3 of the 4 Guidelines	Followed 2 of the Four Guidelines	Followed 1 of the Four Guidelines	Followed None of the Guidelines	
Cover Page	Yes				No	
Organization	Organizational pattern is clear and consistent, polished, and makes the content cohesive	Organizational pattern in clear and consistent	Organizational pattern is partially developed	Organizational pattern is poorly developed and unclear	Does not meet a score of 1	
Content and Audience	Demonstrates a thorough understanding of the context, uses language appropriate to the audience	Demonstrates adequate consideration of the context and uses thoughtful language given the audience	Demonstrates some awareness of the context and uses mundane language given the audience	Demonstrates a minimal attention to the context and uses unclear language given the audience	Does not meet a score of 1	
Control of Syntax and Mechanics	Demonstrates clear and fluid control of syntax and mechanics that skillfully communicates meaning to readers and is virtually error-free	Uses syntax and mechanics that generally conveys meaning to the readers with clarity. The language has a few errors	Exhibits substantive errors in syntax and mechanics which, at times, impedes the clarity of the work	Shows serious pattern of error in syntax and mechanics that interferes with meaning	Does not meet a score of 1	
Historical Introduction	Gives a very thoughtful explanation about the History of the Element	Gives 1 paragraph about the history of the Element	Gives 3 sentences about the History of the Element	Gives the name, location, and year of founding	None Given or Plagiarized	
Location where commonly found	Yes				Not given	

Location where it can be found in the State of Arkansas	Yes				Not given	
Compounds of the Element	3 Compounds with information about discovery or use, their name spelled correctly, and their formula with correct notation	3 Compounds with information about discovery or use, their name sand their formula	2 Compounds with information about discovery or use, their name spelled correctly, and their formula with correct notation	1 Compounds with information about discovery or use, their name spelled correctly, and their formula with correct notation	Compounds not listed, names incorrectly spelled, formulas incorrectly written, or Plagiarism	
List of common isotopes	All		A Couple		None Given	
P, n, e in each isotope	All		A couple		None Given	
Electron Configuration	Shows the Correct Electron Configuration with appropriate notation		Gives the correct Electron configuration but doesn't use superscripts or subscripts as appropriate		None Given	
List of Common Ions	All		Some		None	
Citations	Citations given at the end of document and referenced throughout paper		Citations given at the end of the document but not referenced in the paper		None given	
Calculation illustrating how to determine average atomic mass for the element	Shows the calculation of their elements average atomic mass			Shows the formula for the calculation of average atomic mass but doesn't perform the calculation	Not turned in	

Score \_\_\_\_\_/60= \_\_\_\_\_/100

## Adding Superscript and Subscript icons to your toolbar

1. To customize the Ribbon, open or create a Word, Excel, or PowerPoint document.
2. Go to the app Preferences and click Ribbon and Toolbar.



3. On the **Ribbon** tab window, select the commands you want to add or remove from your Ribbon and click the add or remove arrows.

