STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: Forensic Chemistry
Course Number: CHM205

Required Materials

Textbook(s): Textbook: Bell, Suzanne. Forensic Chemistry, 3rd Edition, CRC Press Taylor & Francis Group ISBN: 978-1-138- 33984-2 Lab Manual: experiment are available on blackboard to print with additional quick guide reference help sheets.

Required Readings: Lab materials provided by instructor

Additional Materials: Additional Required Materials Safety goggles and a carbon copy notebook both available for purchase in the bookstore.

Course Outline/Calendar

The date of coverage and order of coverage may be modified based on the faculty member and events beyond the control of faculty members that interfere with class times and teaching.

Class

Week	Chapter/Topic/Lab
1	Introduction to Basic Chemistry Concepts and Applications
2	Chapter 3: Chemical Fundamentals: Partitioning, Equilibria, and Acid-Base Chemistry
3	Chapter 4: Chromatography and Mass Spectrometry Chapter 5: Spectroscopy
4	Review for Exam 1 **Exam 1 covering Chapters 4, 5, and 6**
5	Chapter 6: Drugs and Poisons
6	Chapter 7: Novel Psychoactive Substances Chapter 8. Fundamentals of Toxicology
7	Chapter 8. Fundamentals of Toxicology Chapter 9: Applications of Forensic Toxicology
8	Review for Exam 2 **Exam 2 covering chapters 6, 7, 8, and 9**
9	Chapter 10: Overview of Combustion Chemistry Chapter 11: Fire investigation and Fire Debris Analysis

Week	Chapter/Topic/Lab
10	Chapter 12: Explosives
11	Review for Exam 3 **Exam 3 covering Chapters 10, 11, and 12**
12	Chapter 13: Firearms and Firearms Discharge Residue Chapter 14: Forensic Chemistry and Trace Evidence Analysis
13	Review for Exam 4 **Exam 4 covering Chapters 13 and 14**
14	Open
15	Review for Final Exam
16	**Comprehensive Final Exam**

Labs

Week	***Exp #***	***Name of Experiments***
1	0	Expectations and Best Practices and Safety (Instructional)
2	1	Pipetting Calibration Lab
3	2	Duct Tape Evidence Analysis
4	3	Trace Evidence Analysis
5	4	Forgery/Ink Analysis
6	5	Arson Investigation
7	6	Fiber Analysis
8	7	Fluorescein synthesis (lab practical)
9	8	TLC of Powdered Samples
10	9	Unknown Powder Analysis
11	10	Blood Spatter Analysis
12	11	DNA Fingerprinting, Electrophoresis
13	12	Crime Scene Investigation: In the Field
14	13	Crime Scene Investigation: In the Lab 2-weeks
15	13.2	Crime Scene Investigation: In the Lab 2-weeks
16		***Finals week, No Lab***