



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: Introduction to Forensic Science
Course Number: CHM105

Required Materials

Textbook(s): Textbook: Bertino and Bertino. Forensic Science Fundamentals and Investigations 3rd Edition. Cengage Learning – National Geographic Learning, Chicago, IL. ISBN: 978-0-357-36172-6

Required Readings: In addition to the lab manual and the textbook, **the online course** has the following additional reading and video watching requirements:

- <https://www.youtube.com/watch?v=9hdT8PgT19w>
- <https://www.smithsonianmag.com/smithsonian-institution/home-where-corpse-frances-glessner-lees-miniature-dollhouse-crime-scenes-180965204/>
- <https://www.youtube.com/watch?v=2-6ndwvK3UI>
- <https://americanart.si.edu/exhibitions/nutshells?fbclid=IwAR0mz9thc9bwudIDbQXgW1XDFuJuUpyYMi qAZhS--gk3V4q93RxfF11gXfk>
- <https://www.youtube.com/watch?v=2-6ndwvK3UI>
- <https://www.youtube.com/watch?v=6urbx8-7qlM>
- <https://www.youtube.com/watch?v=dqJ2fk29NZA>
- <https://www.youtube.com/watch?v=jilBpHC7Lfo>
- <https://www.crime-time.co.uk/redherring.html>

Additional Materials: Lab manual purchased from the SSC bookstore (Face-to-face course only) or At-home lab kit purchased from the SSC bookstore (online course only)

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.

Course Content Calendar 16 weeks

Week	Chapter/Topic/Lab
1	Chapter 1: Forensic Science and Observation Chapter 2: Crime-Scene Investigation and Evidence Collection
2	Chapter 3: Hair Analysis Chapter 4: Fiber Analysis
3	Exam 1: Chapters 1, 2, 3, & 4
4	Chapter 5: Forensic Botany Chapter 6: Fingerprints
5	Chapter 7: DNA Profiling Chapter 8: Blood and Blood Splatter
6	Exam 2: Chapters 5, 6, 7, & 8
7	Chapter 9: Forensic Toxicology Chapter 10: Handwriting Analysis, Forgery, and Counterfeiting
8	Chapter 11: Forensic Entomology Chapter 12: Death: Manner, Mechanism, and Cause
9	Exam 3: Chapters 9, 10, 11 & 12
10	Chapter 13: Soil Evidence Chapter 14: Forensic Anthropology
11	Chapter 15: Glass Evidence Chapter 16: Casts and Impression
12	Chapter 17: Tool Marks Chapter 18: Firearms and Ballistics
13	Review for Exam 4
14	Exam 4: Chapters 13, 14, 15, 16, 17 & 18
15	Review for Final Exam
16	Comprehensive Final Exam

Course Content Calendar 8 weeks Online only

WEEK	LECTURE SUBJECT	Homework/Labs
1	Chapter 1: Forensic Science and Observation Chapter 2: Crime-Scene Investigation and Evidence Collection Chapter 3: Hair Analysis	Chapters 1/2/3 Experiment 1 Safety Contract
2	Chapter 4: Fiber Analysis Chapter 5: Forensic Botany Chapter 6: Fingerprints	Chapters 4/5/6 <i>Exam 1: Chapters 1, 2, 3, & 4</i> Activities 1 and 2
3	Chapter 7: DNA Profiling Chapter 8: Blood and Blood Splatter Chapter 9: Forensic Toxicology	Chapters 7/8/9 <i>Exam 2: Chapters 5, 6, 7, & 8</i> Experiments 2 and 3
4	Chapter 10: Handwriting Analysis, Forgery, and Counterfeiting Chapter 11: Forensic Entomology Chapter 12: Death: Manner, Mechanism, and Cause	Chapters 10/11/12 <i>Exam 3: Chapters 9, 10, 11 & 12</i> Activity 3 Experiment 4
5	Chapter 13: Soil Evidence Chapter 14: Forensic Anthropology	Chapters 13/14 Experiments 5 and 6
6	Chapter 15: Glass Evidence Chapter 16: Casts and Impression	Chapters 15/16 Experiment 7 Activity 4
7	Chapter 17: Tool Marks Chapter 18: Firearms and Ballistics	Chapters 17/18 <i>Exam 4: Chapters 13, 14, 15, 16, 17 & 18</i> Experiment 8
8	Review for Final Exam	Comprehensive Final Exam Experiment 9 and 10

Face-to-Face Labs

Week	Exp #	Name of Experiments
1	1	Best Laboratory Practices and Safety
2	2	Tools of the Trade
3	3	Trace Analysis – Fiber and Hair
4	4	Fingerprint Basics - Controlled Environment
5	5	Blood Spatter Analysis
6	6	DNA PCR
7	6.2	Electrophoresis of PCR Products
8	7	DNA Extraction and Collection
9	8	Ink Identification
10	9 and 9.2	Shoe Impression Analysis, sample collection and Fingerprinting in the Elements
11	10	Serial Number Restoration
12	11	Firearm Examination
13	12	CSI - Observe, Collect, and Create a Plan CSI Part 1
14	12	CSI – Identification CSI Part 2
15	13	CSI Mock Trial

Online Labs

WEEK	Experiments
1	Safety Contract
2	Experiment 1 Evidence Collection and Processing
3	Activity 1 Observation Skills & Crime Scene Investigation
4	Activity 2 Inside the Crime Laboratory
5	Experiment 2 Blood Spatter Analysis
6	Experiment 3 DNA Extraction
7	Experiment 4 Fingerprinting
8	Activity 3 Exploring the Mutter Museum & The Body Farm
9	Experiment 5 Firearms & Tool Marks
10	Experiment 6 Trace Evidence
11	Experiment 7 Forensic Chemistry - Unknown Identification
12	Experiment 8 Arson and the Chemistry of Fire
13	Experiment 9 Arson Unknown Identification
14	Experiment 10 Chromatography
15	Activity 4 Solve a Digital Crime