FORENSIC ANALYSIS
FSC 320
Fall 2017

Instructor: Dr. Xuyang He
Time and Location: Mon & Wed. 5:00 – 6:15 pm in AKH 107
Office: Arthell Kelley Hall (AKH) 104
Office Hours: Mon & Wed 9 am-12 pm, 1-3 pm
E-mail: xuyang.he@usm.edu

Recommended Pre-requisite: CHE 251 or CHE 255
Co-requisite: FSC 320L

COURSE DESCRIPTION AND OBJECTIVES

The goal of this course is to prepare you for Survey of Forensic Toxicology (FSC 430) and Drug Identification (FSC 440). In this regard, we will cover a series of topics on modern instrumentation and techniques utilized in forensics. Students will learn the basic working principles and practical applications of various instruments. The topics covered in this forensic science course include but not limited to chromatography, spectrophotometry, immunoassay, and mass spectrometry.

As the instructor, it is my job to facilitate your learning. To do this, I will present the material in a clear and organized fashion. However, it is not my responsibility to make you learn. As a student, it is your responsibility to learn the material and perform at your best. This includes attending all class sessions on time when possible, completing all assignments, and making this class a top study priority. Because the material builds on itself throughout the semester, it cannot be learned by the "cram before the exam" method. Good study habits are essential for success in this course.

COURSE MATERIALS

No text is required for this course.

A. Recommended Text:

B. Calculator: Graphing calculators are permitted (but not necessary) for this class; however, some type of scientific calculator is required. Your calculator needs to be able to handle exponential and logarithmic functions. Cell phones may NOT be used as calculators during quizzes or exams.

C. Canvas support: Lecture notes, syllabus, and assignments will be available on Canvas as well as other relevant online resources.
COURSE WORKLOAD STATEMENT

Students are expected to invest considerable time outside of class in learning the material for this course. The expectation of The University of Southern Mississippi is that each week students should spend approximately 2-3 hours outside of class for every hour in class working on reading, assignments, studying, and other work for the course. We realize that most students work and have family or other obligations. Time management is thus critical for student success. All students should assess their personal circumstances and talk with their advisors about the appropriate number of credit hours to take each term, keeping in mind that 30 credit hours each year are needed to graduate in four years. Resources for academic support can be found at https://www.usm.edu/success.

EVALUATION AND GRADING

A. **Exams:** Four exams will be given over the course of the semester: three regular exams and one comprehensive final exam. If the prorated score of your final exam is higher than the lowest score of your regular exam, the lowest one will be replaced by the prorated final exam grade. **No makeup exams will be given.** If a student misses one exam due to medical emergency, death of an immediate family member, or other serious causes, the excuse must be verified by the Office of Student Ombudsman Services (osos@usm.edu or alfreda.horton@usm.edu) and approved by the instructor. Then the missed exam will be dropped. **Missing two exams without valid excuses will result in an F for the course.** You will get a zero for the exam if you are late for more than 30 min on the exam day.

B. **Quizzes, homework, and review assignments:** Several in-class quizzes will be given throughout the semester. The partial purpose of the quizzes is to check if every student did the assigned homework, so there will be no notification in advance. Once the material has been covered in class, it is fair game for a quiz at any time. **No makeup quizzes will be given.** A missed quiz will be dropped if your absence is supported by verified excuses from the Office of Student Ombudsman Services (osos@usm.edu or alfreda.horton@usm.edu). The homework will be on Canvas, and it may be collected during a quiz. There will be a review assignment at Canvas prior to each exam, and it is helpful for your preparation for the exam.

C. **Attendance:** An attendance sheet will be provided for each class. Students need to sign the sheet to confirm attendance. The instructor reserves the right to decide which (and how many) sheets will contribute to attendance points and/or extra points. An absent student needs to provide verified excuses (osos@usm.edu or alfreda.horton@usm.edu) to avoid the loss of attendance points.

D. **Grading:**

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<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>100</td>
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<tr>
<td>Exam 2</td>
<td>100</td>
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<tr>
<td>Exam 3</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>200</td>
</tr>
<tr>
<td>Quizzes (homework)</td>
<td>150</td>
</tr>
<tr>
<td>Attendance</td>
<td>50</td>
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<tr>
<td>Total</td>
<td>700</td>
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The final grade can be calculated as the percentage by dividing your actual points by the total possible points. Grades will be assigned as outlined below. Students with less than 60% points will receive an F in the class.

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\begin{align*}
A & : 100 \% – 90 \% \\
B & : 89 \% – 80 \% \\
C & : 79 \% – 70 \% \\
D & : 69 \% – 60 \%
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*The instructor reserves the rights to modify the course topics/exam dates and assign seats for exams. Appropriate curving of the grades, adding bonus points, or providing extra points opportunity would be possible if deemed necessary by the instructor.*

**CLASSROOM EXPECTATIONS**

A. Attendance: Classroom attendance has been shown to have a positive effect on grades. For this reason, you are expected to attend all lectures and tests, and to arrive on time. If you need to leave early or be late for class, please try not to disturb the class. Attendance may be taken in terms of in-class quizzes and/or attendance sheets. During class, please avoid distractions such as personal conversations or engaging in non-class activities.

B. Electronic devices: Computers, recording devices and other educational aids may be used in class; however, these privileges will be revoked if they are abused (e.g. Facebook, e-mail, etc.). Please turn all cell phones, ipads, etc. off during class. Such devices are a distraction and discourteous to your fellow students. *No communication devices are allowed during tests.* If you disrupt the class in any way you may be asked to leave and you forfeit your right to turn in any quizzes or assignments due that day.

**COURSE SCHEDULE**

Course Topics include (but not limited to):

- Preliminary tests
- Sample preparation
- Method validation
- Chromatography
- Spectrophotometry
- Mass spectrometry

These topics are listed in order of appearance in the course; however, the instructor may change the order if necessary and the time we spend on each topic will be determined as we progress. We may or may not get to all topics listed.

**Important Dates**

<table>
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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>Aug 23</td>
<td>Last day to add/drop full-semester classes without instructor permission and receive 100% financial credit</td>
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<tr>
<td>Sep 13*</td>
<td>Exam 1</td>
</tr>
<tr>
<td>Oct 18*</td>
<td>Exam 2</td>
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<tr>
<td>Oct 27</td>
<td>Last day to withdraw from full term classes and receive a grade of W (after this date students will earn a letter grade)</td>
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ACADEMIC INTEGRITY STATEMENT

All students at The University of Southern Mississippi are expected to demonstrate the highest levels of academic integrity in all that they do. Forms of academic dishonesty include (but are not limited to):

- Cheating (including copying from others’ work)
- Plagiarism (representing another person’s words or ideas as your own; failure to properly cite the source of your information, argument, or concepts)
- Falsification of documents
- Disclosure of test or other assignment content to another student
- Submission of the same paper or other assignment to more than one class without the explicit approval of all faculty members’ involved
- Unauthorized academic collaboration with others
- Conspiracy to engage in academic misconduct

Engaging in any of these behaviors or supporting others who do so will result in academic penalties and/or other sanctions. If a faculty member determines that a student has violated our Academic Integrity Policy, sanctions ranging from resubmission of work to course failure may occur, including the possibility of receiving a grade of “XF” for the course, which will be on the student’s transcript with the notation “Failure due to academic misconduct.” For more details, please see the University’s Academic Integrity Policy: https://www.usm.edu/institutional-policies/policy-acaf-pro-012 Note that repeated acts of academic misconduct will lead to expulsion from the University.

ACADEMIC SUPPORT RESOURCES

Please see the Student Success Website: http://www.usm.edu/success for information on where you can find tutoring and other academic assistance, as well as the location of key resources on campus.

ADA POLICY

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001
Voice Telephone: 601.266.5024 or 228.214.3232 Fax: 601.266.6035
Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1.800.582.2233 (TTY) or email ODA at oda@usm.edu.
MENTAL WELL-BEING STATEMENT
USM recognizes that students sometimes experience challenges that make learning difficult. If you find that life stressors such as anxiety, depression, relationship problems, difficulty concentrating, alcohol/drug problems, or other stressful experiences are interfering with your academic or personal success, consider contacting Student Counseling Services on campus at 601-266-4829. More information is also available at https://www.usm.edu/student-counseling-services. All students are eligible for free, confidential individual or group counseling services. In the event of emergency, please call 911 or contact the counselor on call at 601-606-HELP (4357).