



Marshall University Syllabus
College of Science
Forensic Science Graduate Program

Course

FSC 608 Forensic Toxicology

Course Description

An in-depth analysis of both clinical and forensic aspects of toxicology from the viewpoint of the forensic and medical examiner's toxicology laboratories.

Credits

3 Graduate Credits

Prerequisites

FSC 622

Term/Year

Fall 2024

Class Meeting Days/Times

Mondays and Wednesdays from 1 – 2:30 PM

Location

[Specify the class location, e.g. the campus, building, and room.]

Academic Calendar

For beginning, ending, and add/drop dates, see the [Marshall University Academic Calendar](https://www.marshall.edu/academic-calendar/) (URL: <https://www.marshall.edu/academic-calendar/>).

Instructor

Lauren Richards Waugh, Ph.D.

Contact Information

- Office: Forensic Science Center WW200EE
- Office Hours: Monday through Thursday 10 AM to 12 PM – Please try to email and make an appointment just so if I have a meeting or an issue pop up, I can work with you to be sure to get to you as quickly as possible.

- Office Phone: 304-691-8940
- Marshall Email: Richards18@marshall.edu

Health and Safety Information

All members of the Marshall University community are expected to always observe health and safety protocols. This includes general health and safety protocols as well as specific protocols that might emerge in response to community and campus health conditions.

Campus Carry Policy

University Policy, UPGA-12 (Campus Carry Policy) derives its authority from West Virginia State law, including the Campus Self-defense Act (W. Va. Code § 18B-4-5b). It pertains to the exercise of Concealed Carry on Marshall University's campus, except in designated areas, by individuals with a valid permit to Conceal Carry.

Individuals who choose to Conceal Carry are responsible for knowing and understanding all applicable federal, state, and local laws and Marshall University Board of Governors Rules, University Policies, and Administrative Procedures. University Policy, UPGA-12 applies to areas of campus and buildings that are directly under the possession or control of Marshall University.

Concealed Handguns are not observable to others and must be holstered and concealed on the body of the permit holder or in a personal carrier, such as a backpack, purse, or other bag that remains under the exclusive and uninterrupted control of the permit holder. This includes wearing the personal carrier with a strap, carrying or holding the personal carrier, or setting the personal carrier next to or within your immediate reach at all times. If your participation in class activities impedes your ability to maintain constant control of your Handgun, please make alternate arrangements prior to coming to class.

Faculty Office

NOTICE: University Policy, UPGA-12 (Campus Carry Policy) defines Sole Occupancy Offices as areas that may restrict Concealed Carry. Please be aware that my office is a Sole Occupancy Office and this statement serves as notice that concealed weapons or handguns are not permitted in my office. If you plan to attend a meeting in my office or to drop by my office, secure your weapon or handgun appropriately before you arrive.

Required and/or Recommended Texts and Materials

Recommended/Optional Texts and Materials

Levine, *Principles of Forensic Toxicology Fifth Edition*

Clarke, *Analytical Forensic Toxicology 2nd Edition*

Course Student Learning Outcomes

Upon successful completion of the course, students should be able to:

- Identify the mechanisms of drug uptake, elimination, and metabolism in the body
- Analyze the action of various classes of drugs in the body
- Describe the analysis of drugs, their metabolites, and other toxic substances in the body, both pre and post-mortem
- Discuss problems and challenges of forensic toxicology as related through case histories
- Understand the Code of Ethics and professional responsibilities as outlined by the American Board of Forensic Toxicology (ABFT)
- Understand the quality assurance guidelines as outlined by ABFT

Course Requirements/Due Dates

You will be given access to lectures and handouts the first week of class through Teams. You may bring a laptop and take notes directly into the PPT file during lectures. You are expected to have read any assigned reading materials and applicable chapter(s) in the text prior to class. All cell phones and other devices should be silenced and put away during lecture. **Playing computer games and/or texting during lectures is considered rude behavior towards the lecturer and may be detrimental to your grade!**

There will be three exams throughout the semester. They will be spaced as evenly as possible throughout the semester. If we get behind in covering the material listed in the syllabus, the exam will cover on through what has been discussed. You are expected to read all material and notes relevant to the lectures prior to class. Exam questions are primarily short answer and may be cumulative. Objectives provided for each lecture are aimed toward helping you to prepare for exams. I attempt to cover all material in objectives, but exam questions are not limited to only the lecture objectives. All material presented in class is testable.

Additionally, there will be graded homework assignments

Grading Policy

Exams may only be missed for an excused absence.

Exam/Assignment	Point Value
Exam 1	100
Exam 2	100
Exam 3	100
Homework assignments	90
Attendance/Participation	10
Course Total	400

Points Earned	Grade
360-400	A
320-350	B
280-319	C
240-279	D
239 and b	F

Attendance/Participation Policy

Attendance is Mandatory: Students enrolled in the Forensic Science Program are expected to attend all classes, laboratories, seminars, internship sessions, and presentations offered by guest speakers. Should you need to miss classes due to COVID-19, appropriate accommodations will be provided.

Excused Absences: The professor must be notified of absences. Formal documentation is required for Excused Absences which may involve physician statements excusing the student from class, obituaries, or professional travel documentation. No exams, labs, or other formal exercises will be made up without an Excused Absence. With an Excused Absence, the student may be asked to take an exam BEFORE the scheduled date. Examples of Excused Absences include

- Personal Medical Emergency – Formal documentation is required from a licensed physician or appropriate healthcare provider
- Death in the Immediate Family – Documentation required
- Forensic Professional Travel – Documentation required. Marshall University Forensic Science Program, Marshall University, the West Virginia Policy Board for Higher Education are not liable for accidents or injuries incurred during trips within or out of the state.

Punctuality: On time arrival is expected of all students. A **point deduction of 20 points** will be made if a lack of punctuality is persistent (>3 times for the semester).

University Policies

By enrolling in this course, you agree to the University Policies. Please read the full text of each policy (listed below) by going to [MU Academic Affairs: University Policies](https://www.marshall.edu/academic-affairs/policies/). (URL: <https://www.marshall.edu/academic-affairs/policies/>)

- Academic Dishonesty Policy
- Academic Dismissal Policy
- Academic Forgiveness Policy
- Academic Probation and Suspension Policy
- Affirmative Action Policy
- Pre-Finals Week Policy
- D/F Repeat Rule
- Excused Absence Policy for Undergraduates
- Inclement Weather Policy
- Sexual Harassment Policy- Title IX prohibits the harassment of students based on sex, which includes pregnancy, childbirth, and related conditions. This includes that students will not be penalized for taking medically necessary leave related to pregnancy, childbirth, or related conditions. Marshall's Title IX Office may be contacted at TitleIX@marshall.edu
- Students with Disabilities (Policies and Procedures)
- University Computing Services Acceptable Use Policy

Course Schedule

Class Schedule (Subject to change)		
Monday, August 19	Dr. Gary Rankin	History and Properties of Toxicants
Wednesday, August 21	Dr. Gary Rankin	Absorption and Distribution (Clarke 2, Levine 7)
Monday, August 26	Dr. Gary Rankin	Biotransformation and Excretion (Clarke 2)
Wednesday, August 28	Dr. Monica Valentovic	Pharmacokinetics (Clark 2, Levine 7)
Monday, September 2	Labor Day	NO CLASS
Wednesday, September 4 - TIME CHANGE to 3-4:30	Dr. Monica Valentovic	Iron/Benzodiazepines/anticonvulsants (Levine 11, 17)
Monday, September 9	Dr. Monica Valentovic	Opiates/Marijuana/Stimulants (Levine 12 -
Wednesday, September 11	Dr. Monica Valentovic	Stimulants/Hallucinogens (Levine 15, 16)
Monday, September 16	Dr. Monica Valentovic	Alcohols/Inhalants (Levine 10, 21)
Wednesday, September 18	Dr. Lauren Waugh	Intro to forensic toxicology (Clarke 1, 5, 6) and samples
Monday, September 23	EXAM 1	Dr. Rankin and Dr. Valentovic Materials
Wednesday, September 25	Dr. Lauren Waugh	Samples used in Forensic Toxicology (Clarke 13)
Monday, September 30	Dr. Lauren Waugh	Continued: Samples used in Forensic Toxicology (Clarke 6 and 13)
Wednesday, October 2	Dr. Lauren Waugh	Immunoassay analysis (Clarke 16, Levine 11)
Monday, October 7	Dr. Lauren Waugh	Liquid-liquid extraction (Clarke 14, Levine 9)
Wednesday, October 9	Dr. Lauren Waugh	Solid Phase Extraction (Clarke 14, Levine 9)
Monday, October 14	Dr. Lauren Waugh	LC/MS/MS for Toxicology (Clarke 20)
Wednesday, October 16	Dr. Lauren Waugh	Catch-up class
Monday, October 21	Dr. Lauren Waugh	Exam 2
Wednesday, October 23	Dr. Lauren Waugh	Analysis of CO and CN (Levine 30)
Monday, October 28	Dr. Lauren Waugh	Analysis of Toxic Metals (Levine 22, Clarke 4)
Wednesday, October 30	Dr. Lauren Waugh	Chemical Weapons and Terrorism (handouts)
Monday, November 4	Dr. Lauren Waugh	Ethanol – Part 1 (Clarke 11)
Wednesday, November 6	Dr. Lauren Waugh	Ethanol - Part 2
Monday, November 11	Dr. Lauren Waugh	Impairment & Human Performance Toxicology- Part 1 (Levine 2, Clarke 11)
Wednesday, November 13	Dr. Lauren Waugh	Impairment & Human Performance - Part 2
Monday, November 18	Dr. Lauren Waugh	Postmortem Toxicology (Levine 3, Clarke 7)
Wednesday, November 20	Dr. Lauren Waugh	Cases/Testimony
Monday, November 25	NO CLASS	Thanksgiving Break
Wednesday, November 27	NO CLASS	Thanksgiving Break
Monday, December 2	Dr. Lauren Waugh	Cases/Testimony
Wednesday, December 4	Dr. Lauren Waugh	Catch-up class
Monday, December 9	NO CLASS	Finals Week
Wednesday, December 11	FINAL EXAM	REGULAR CLASS TIME

