



Course Syllabus: CFJS 3420

Forensic Biology

Spring 2023

1.0 Course Information

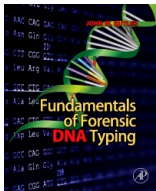
Location: DSC 205

Time: TR; 8:00 – 9:30am

Credit Hours: 2 Credits

Course Prerequisite(s): CJFS 3400

1.1 Required Texts/Items



Title: Fundamentals of Forensic DNA Typing, 1st Ed. 2009.


Authors: Butler.

ISBN: 9780123749994

2.0 Instructor and Contact Information

Instructor: Dr. Jamie Spaulding

Contact:  jspaulding02@hamline.edu

 (651) 523–2237

Office: GLC 219W

Office Hours: M, 12–2pm; R, 2:30–4pm

Note: I also maintain an open door policy, feel free to stop by my office.

3.0 Course Description

This course will explore the scientific fundamentals of forensic biology and biological evidence. The content will explore and investigate biological applications and advances in forensic identification technologies, including advantages and limitations of different approaches. Focus will be given to the isolation, quantification, amplification, and analysis of DNA.

3.1 Course Learning Objectives

Upon successful completion of this course, students will be able to:

1. Evaluate the origins of biological evidence analysis up into the modern DNA era.
2. Perform presumptive and confirmatory testing of unknown stains.
3. Isolate, quantify, and amplify DNA from samples.
4. Understand the fundamentals of electrophoresis of DNA fragments.
5. Interpret and report the results of DNA analysis.
6. Understand the statistical interpretation of DNA examination results.

3.2 Assessment of Learning Objectives

Throughout the course, coursework has been intentionally designed to measure the learning objectives of the course. The following table outlines the specific assignments which evaluate student achievement of each learning objective throughout the course.

Learning Outcomes	Specific Relevant Assessments
1	Assignment 1 & 5; Quiz 1
2	Assignment 5; Quizzes 2-5
3	Assignment 2 & 3; Quizzes 2-5
4	Quiz 5
5	Assignment 4
6	Assignment 4

4.0 Course Assessment

Assignment	Points Possible
Assignments (5 x 100 pts)	500
Quizzes (5 x 50 pts)	250
Final Exam	250
Total Points	1000 *
* Does not include bonus assignment	

Letter Grade Distribution:

			A	93-100%	≥930	A-	90-92%	900-929
B+	87-89%	870-899	B	83-86%	630-669	B-	80-82%	800-829
C+	77-79%	770-799	C	73-76%	630-669	C-	70-72%	700-729
D	67-69%	670-699	D	63-66%	630-669	D-	60-62%	600-629
F	<60%	≤599						

5.0 Course Policies

5.1 Grading

All work is due at the start of class on the date indicated in the schedule listed below. Work submitted after the due date will be docked 15% initially and an additional 10% every day thereafter, weekends included. Late work will not be accepted five (5) days after the deadline. Grades will be maintained in Canvas. Students are responsible for tracking their progress throughout the semester and notifying the instructor of any errors.

If at any point you feel that your work has not been properly graded, you may request a re-grade within one week of receiving the grade.

5.2 Attendance and Make-Up Policy

Consistent with Hamline University guidelines, students absent from regularly scheduled examinations because of authorized university activities or extenuating circumstances (major family situation, hospitalization or other serious issues, religious observance, *etc.*) will have the opportunity to take them at an alternate time. Please inform the instructor as soon as possible in such an event to arrange extensions prior to absence.

5.3 Participation

Students will be assessed on their ability to respond orally in real time to in-class questions and discussions. Students are expected to make informed and constructive contributions to the in-class discussions, and to maintain an environment that is respectful and inclusive. Differences of opinion are expected and welcome, but should be expressed in a courteous manner. Cell phones are not to be used unless instructed to do so. Talking during lectures will also reduce participation grades.

5.4 Technology/E-Mail Policy

It is the student's responsibility to ensure that their computer is functioning and have backed up important documents. A problem with technology is not an acceptable reason for missed or late work. Important notices and corrections of errors will be sent to the Hamline email distribution list for the class to provide the fastest dissemination of the information. The instructor will make every effort to respond within one day to emailed questions or concerns.

6.0 Academic Honesty

Students in the Department of Criminal Justice and Forensic Science are held to the most stringent professional code of ethics; violations can seriously jeopardize future employment prospects. The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. While I do not expect to encounter cheating or plagiarism this semester, it is important that you know the consequences. Cheating, plagiarism, or other forms of academic dishonesty are not tolerated. *Failing to cite a source correctly in writing is plagiarism!* Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own, can result in disciplinary action. The Academic Honor Code Statement of Purpose reads as follows:

6.1 Academic Honor Code Statement of Purpose

Every member of the Hamline University community – students, faculty, administrators, and staff – is responsible for upholding the highest standards of academic integrity at all times. The assumption that academic work is an honest reflection of one's knowledge and skills is fundamental to the integrity of Hamline University and to the value of a Hamline diploma. If students at an institution of higher education develop a reputation for receiving grades based on honest work, GPAs and academic degrees held by all students from that institution are valued more highly. The faculty subscribe to standards of academic honesty in their research and teaching. Every person in the University is responsible for adhering to the principles of the Academic Honor Code.

6.2 Violations and Sanctions

Violations of the Academic Honor Code will be dealt with seriously. If a student is accused of engaging in academic dishonesty in a class, the faculty member may decide on a sanction for the student (e.g., assign a failing grade for an exam or the course). The student will be informed of the alleged violation, the evidence upon which the allegation is based, and the sanction to be imposed. The faculty member will file a violation form with the Office of the Dean where the course is housed, which will maintain a permanent record of reported student violations. Students may appeal to the Chair of the Department in which the class is housed. Should a student be dissatisfied with the decision of the Department Chair, the student may appeal to the appropriate academic Dean. The decision from that office will be final. Sanctions for students found to have engaged in academic dishonesty may include:

- Failing or receiving a lower grade on an exam, paper, or assignment
- Failing or receiving a lower grade for a course
- Academic suspension or expulsion

Please refer to the [Academic Honor Code](#) and [Student Conduct Code](#) online for the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions and further details.

7.0 Social Justice Statement

Hamline University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran's status, religion, sexual orientation, color, or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration. See the [Wesley Center website](#) for further details.

8.0 Special Accommodations

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with [Steve Anderson](#); Director of Disability Resources (651-523-2740, West Hall 108) as soon as possible to discuss accommodations. Please see the [Disability Resources website](#) for further details. If you have already arranged accommodations through Disability Resources, please ensure submission of your accommodation letter within the first two weeks of class. Accommodations will only be provided after the letter is submitted to me and with sufficient lead-time for me to arrange testing or other accommodations. Although I will receive the letter electronically, I expect you to initiate a conversation with me about the accommodations.

9.0 Adverse Weather Statement

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible (1 hour before class starts) via email to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I may make allowances relative to required attendance policies, as well as any scheduled activities.

10.0 Tentative Course Outline

Please note that this schedule is subject to change at the discretion of the instructor.

Week	Date	Content/Material	Assigned Readings
1	1/24	Course Intro; Overview of Forensic Biology	Ch. 1
	1/26	History of Biological Evidence and DNA	Ch. 3; Arnaud, 2017
2	1/31	Overview of Genetics	Ch. 2
	2/2	Evidence & Presumptive Testing Assignment #1 Due Quiz #1 Due	Ch. 4
3	2/7	Extraction of DNA	Ch. 5
	2/9	Quantitation of DNA Quiz #2 Due	Ch. 6
4	2/14	Amplification of DNA (PCR) Assignment #2 Due Quiz #3 Due	Ch. 7
	2/16	Capillary Electrophoresis	Ch. 9
5	2/21	Interpretation of DNA Quiz #4 Due	Ch. 10
	2/23	Interpretation/RMP/LR Assignment #3 Due	Ch. 11 & Appendix III
6	2/28	DNA Mixtures/CPI & CPE Quiz #5 Due	Ch. 14
	3/2	DNA Mixtures II	Press, 2019
7	3/7	Work Session	
	3/9	Final Exam Assignment #4 Due Assignment #5 Due Bonus Assignment Due	