



# **INSTRUCTIONAL PACKAGE**

## CRJ 229 BLOODSTAIN PATTERN ANALYSIS

Effective Term  
Fall 2024/Spring 2025/Summer 2025

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## Part I: Course Information

Effective Term: Fall 2024/Spring 2025/Summer 2025

COURSE PREFIX: CRJ 229

COURSE TITLE: Bloodstain Pattern Analysis

CONTACT HOURS:

CREDIT HOURS: 3 Hours

2 Lecture Hours

3 Lab Hours

5 Semester Hours

### **RATIONALE FOR THE COURSE:**

Bloodstain Pattern Analysis is designed to introduce the student to the importance of blood stain and patterns to the investigation of crimes involving violent human trauma. The student will be introduced to the accepted practices, procedures, and techniques for the collection and interpretation of bloodstain evidence. The student will also be exposed to the theoretical foundations and scientific principles, including formulas, properties of patterns, and flight characteristics, important to interpreting bloodstain pattern evidence, when present at crime scene involving violent trauma. The acceptable and established techniques photographing and collecting blood stain evidence will be explored through practical applications.

### **COURSE DESCRIPTION:**

This course is an introduction to the theoretical foundations and scientific principles of bloodstain pattern analysis in the investigation of crimes of violence, including the properties, flight characteristics and bloodstain patterns, documentation, and investigative significance of bloodstains.

### **PREREQUISITES/CO-REQUISITES:**

CRJ 101 – Introduction to Criminal Justice with a final grade of a “C” or better

CRJ 202 – Criminalistics with a final grade of “C” or “TC” or better

CRJ 201 – Fingerprint Science with a final grade of “C” or “TC” or better

\***Online/Hybrid** courses require students to complete the [Distance Learning Orientation Video](#) prior to enrolling in an online course.

### **REQUIRED MATERIALS:**

Please visit the [BOOKSTORE](#) online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

### **ADDITIONAL REQUIREMENTS:**

CRJ 229 - Bloodstain Pattern Analysis has no additional costs besides tuition and fees.

### **TECHNICAL REQUIREMENTS:**

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) used for course materials.

Access to myHGTC portal for student self-services.

College email access – this is the college's primary official form of communication.

### **STUDENT IDENTIFICATION VERIFICATION:**

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

### **CLASSROOM ETIQUETTE:**

All criminal justice students are expected to conduct themselves in a professional and courteous manner and toward all class members, whether online or in a traditional classroom setting. The standards of professional behavior will be enforced. Any violation associated with inappropriate behavior, including statements or remarks in class or emails, as well as postings or other communications, will be investigated and reported to Student Affairs for appropriate action. At the discretion of the professor of record, academic misconduct may be reported in writing as a violation of the Student Code of Conduct. Reporting inappropriate behavior or academic misconduct could result in disciplinary action, as described in College Catalog and Student Handbook (HGTC, 2024, p. 39). Please see the Instructor's Course Addendum for further information.

### **Originality Score:**

All writing, including but not limited to discussion responses, exam or test answers, and term papers, has an originality score. Therefore, any part of writing turned in for a graded requirement that is copied, cut and pasted, or quoted, whether correctly cited or NOT, or created whole or in part by an AI-writing generator will be subtracted from the overall word count, and a reduction in the overall points awarded. Any egregious, blatant, or continued submission of written work containing copied or cut and pasted passages will be considered plagiarism and reported as academic misconduct per the HGTC Catalog (2023-2024) p. 39.

**NETIQUETTE:** is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please

visit [Online Netiquette](#).

## Part II: Student Learning Outcomes

### COURSE LEARNING OUTCOMES and ASSESSMENTS\*:

#### Unit I Week 1

**Materials Covered:** Function and a Historical Perspective of Bloodstain Pattern Analysis

**Materials Covered:** Bloodstain Pattern Terminology

Read Chapter 1-2, pages 1- 36 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 1-2.

#### Chapter 1

**Student Outcome:** Explain and Describe the Function of Bloodstain Pattern Analysis

**Student Outcome:** Examine the Historical Perspective of Bloodstain Pattern Evidence

**Student Outcome:** Examine the Modern Works in Bloodstain Pattern Analysis

**Student Outcome:** Examine and Describe the General Terms Relating to Bloodstain Pattern Analysis

#### Chapter 2

**Student Outcome:** Examine and Describe the General Terms Relating to Bloodstain Pattern Analysis

**Assessment(s):** Bloodstain Pattern Analysis Quiz 1

**Assessment(s):** Bloodstain Pattern Analysis Exercise 1  
Dropbox

#### Unit II Week 2

**Materials Covered:** Bloodstain Classification

Read Chapter 3-4, pages 37- 110 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 3-4.

### Chapter 3

**Student Outcome:** Examines and defines Classification vs. Overall Opinion

**Student Outcome:** Examines and defines Classification vs. Definition

**Student Outcome:** Examines, defines, and describes the Taxonomic Classification System for Bloodstains

**Student Outcome:** Describes the Spatter Family of Bloodstains

**Student Outcome:** Describes the Non-Spatter Family of Bloodstains

**Student Outcome:** Examines Complex Bloodstain Patterns

**Student Outcome:** Examines Altered Bloodstains

**Student Outcome:** Describes the Practical Application of Taxonomy

**Student Outcome:** Examines how to apply decision Map to Bloodstain Patterns, and other Classification Systems

### Chapter 4

**Student Outcome:** Examines and describes the Scientific Method

**Student Outcome:** Describes how the Scientific Methodology is applied to Bloodstain Analysis

**Student Outcome:** Describes how the Scientific Methodology is applied to Different Environments **Assessment(s):** Bloodstain Pattern Analysis Exercise 2

**Assessment(s):** Bloodstain Pattern Analysis Quiz 2  
Quiz

### Unit III Week 3

**Materials Covered:** The Medium of Blood

Read Chapter 5, pages 111- 148 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 5-6.

### Chapter 5

**Student Outcome:** Examine and describe Spatter Droplet Dynamics

**Student Outcome:** Examine and describe Spatter Droplet Dynamics on Impact

**Student Outcome:** Examine and describe Blood behavior when exposed to different Mechanisms

## Chapter 6

**Student Outcome:** Examining and describing the importance of Blood Cells and Plasma

**Student Outcome:** Examining and describing Coagulation and Hemostasis

**Student Outcome:** Examining and describing the Circulatory System

**Student Outcome:** Describing Non-Traumatic Causes of Bleeding

**Student Outcome:** Examining and describing Traumatic Pathology

**Assessment(s):** Bloodstain Pattern Analysis Exercise 3  
Dropbox.

**Assessment(s):** Bloodstain Pattern Analysis Exam 1  
Quiz

## Unit IV Week 4

**Materials Covered:** Determining Motion and Directionality

**Materials Covered:** Determining the Point of Convergence and the Area of Origin

Read Chapter 7-8, pages 149- 197 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 7-8.

## Chapter 7

**Student Outcome:** Examining and defining the General Sequence of Events

**Student Outcome:** Describing Blood Droplet Directionality

**Student Outcome:** Identify Blood Trail Motion

**Student Outcome:** Determine the motion of Wipe and Swipe Patterns

**Student Outcome:** Define Repetitive Pattern Transfer

## Chapter 8

**Student Outcome:** Identify well-formed Stains in Blood Patterns

**Student Outcome:** Identify the Directionality of a Stain

**Student Outcome:** Identify the Point of Convergence for a Bloodstain Pattern

**Student Outcome:** Identify Impact Angles for Stains

**Student Outcome:** Define the area of Origin

**Student Outcome:** Examine the Area of Origin through the Tangent Method, Three-Dimensional

Evaluation, and Automated Efficiency or Precision

**Student Outcome:** Define the limitation in an Area of Origin Evaluation

**Assessment(s):** Bloodstain Pattern Analysis Exercise 4

Dropbox

**Assessment(s):** Bloodstain Pattern Analysis Quiz 3

Quiz

## Unit V Week 5

**Materials Covered:** Evaluating Impact Spatter Bloodstains

**Materials Covered:** Understanding and Applying Characteristic Patterns of Blood

Read Chapter 9-10, pages 199- 259 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 9-10.

## Chapter 9

**Student Outcome:** Understand the Concept of Preponderant Stain Size

**Student Outcome:** Examine Impact Droplet Size

**Student Outcome:** Examine and describe Pattern Configuration and Dispersion in Impacts

**Student Outcome:** Examine Spatter Patterns Resulting from Gunshots

**Student Outcome:** Examine and identify Expecterated Blood

**Student Outcome:** Identify Fly Spots

## Chapter 10

**Student Outcome:** Examine, describe, and apply Characteristics to the Spatter Family of Bloodstain Patterns

**Student Outcome:** Examine, describe, and apply Characteristics to the Non-Spatter Family of Bloodstain Patterns

**Student Outcome:** Examine, describe, and apply Characteristics of Complex Bloodstain Patterns

**Assessment(s):** Bloodstain Pattern Analysis Exercise 5 Dropbox

**Assessment(s):** Bloodstain Pattern Analysis Quiz 4

## Unit VI Week 6

**Materials Covered:** Bloodstained Clothing Issues

**Materials Covered:** Presumptive Testing and the Enhancement of Blood

Read Chapter 11-12, pages 261- 295 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 11-12.

### Chapter 11

**Student Outcome:** Examine and apply proper clothing documentation practices and procedures  
**Student Outcome:** Examine and describe issues associated with poor collection and documentation procedures

**Student Outcome:** Examine and describe contact from spatter on fabric

**Student Outcome:** Examine and describe directionality and impact angle issues associated with fabric

**Student Outcome:** Examine pattern transfer issues and clothing documentation processes

### Chapter 12

**Student Outcome:** Examine and describe and use Presumptive tests for blood

**Student Outcome:** Examine and describe the different reagents used, the formulations of the tests, which reagent to use, and testing considerations.

**Student Outcome:** Examine and describe how to search and enhance latent blood

**Student Outcome:** Examine safety considerations

**Student Outcome:** Examine and describe the proper photo-documentation, interpretation, and confirmation of blood and bloodstains

**Assessment(s):** Bloodstain Pattern Analysis Exercise 6 Dropbox

**Assessment(s):** Bloodstain Pattern Analysis Quiz 5  
Quiz



## Unit VII Week 7

**Materials Covered:** Documenting Bloodstains

Read Chapter 13, pages 297- 317 Bloodstain Pattern Analysis (Gardner)

Review MS Power Point Presentations - Chapter 13.

### Chapter 13

**Student Outcome:** Examine and describe the proper methods to document bloodstains to include photography, scene and pattern sketching, and report writing

**Student Outcome:** Examine and describe some of the crime scene reconstruction and analysis methods

**Student Outcome:** Examine the procedures to presenting evidence in court

**Assessment(s):** Bloodstain Pattern Analysis Final Project  
Dropbox

**Assessment(s):** Final Exam

## Part III: Grading and Assessment

### EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS\*:

Students' performance will be assessed, and the weight associated with the various measures/artifacts are listed below.

#### EVALUATION\*

Tests and Quizzes (7)	40%
Practical Assignments (6)	40%
Final Project	<u>20%</u>
	100%

#### GRADING SYSTEM:

Please note the College adheres to a 10 point grading scale A = 100 – 90, B = 89- 80, C = 79 – 70, D = 69 – 60, F = 59 and below. You must have your Dean's approval if changes in the scale are made.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of

that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

## Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

**For online and hybrid courses**, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

## Part V: Student Resources



### THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring, contact the SSTC at [ssc@hgtc.edu](mailto:ssc@hgtc.edu) or self-schedule in the Penji iOS/Android app or at [www.penjiapp.com](http://www.penjiapp.com). Email [ssc@hgtc.edu](mailto:ssc@hgtc.edu) or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the [Online Resource Center](#) to

access on-demand resources.



### **STUDENT INFORMATION CENTER: TECH Central**

TECH Central offers to all students the following free resources:

1. **Getting around HGTC:** General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the [Online Resource Center \(ORC\)](#) including Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.
4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.



### **HGTC LIBRARY:**

Each campus location has a library where HGTC students, faculty, and staff may check out materials with their HGTC ID. All three HGTC campus libraries are equipped with computers to support academic research and related school work; printing is available as well. Visit the [Library](#) website for more information or call (843) 349-5268.

### **STUDENT TESTING:**

Testing in an **online/hybrid** course and in **make-up exam** situations may be accomplished in a variety of ways:

- Test administered within D2L.
- Test administered in writing on paper.
- Test administered through Publisher Platforms (which may have a fee associated with the usage)

Furthermore, tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the [Online Testing](#) section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your

course.

**DISABILITY SERVICES:**

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's [Accessibility and Disability Service webpage](#). The Accessibility and Disability Services staff will review documentation of the student's disability and, in a confidential setting with the student, engage in an interactive process to develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided. Students will need to reach out to the Accessibility and Disability Services staff each semester to renew their accommodations.

**COUNSELING SERVICES:**

HGTC Counseling Services strives to optimize student success through managing personal and academic concerns that may interfere with achieving educational goals. Staff are available to every student for assistance and guidance on personal matters, academic concerns and other areas of concern. HGTC offers free in-person and telehealth counseling services to students. For more information about counseling services, please reach out to [counseling@hgtc.edu](mailto:counseling@hgtc.edu) or visit the website the [Counseling Services webpage](#).

**STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:**

Horry-Georgetown Technical College shall not discriminate in employment or personnel decisions or in student admissions or in student decisions, or in all other segments of the College community on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation, in the educational programs and activities which it operates, and the college is prohibited from discrimination in such manner by applicable laws. Practices and requirements for nondiscrimination extend to the enrollment of students in programs and activities of the College and employment by the College.

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Tamatha Sells, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5218, [tamatha.sells@hgtc.edu](mailto:tamatha.sells@hgtc.edu) or to the US Department of Education Office of Civil Rights. (Telephone: 800-421-3481/Email: [OCR@ed.gov](mailto:OCR@ed.gov)).

Other employee and applicant inquiries concerning the federal laws and their

application to the College may be directed to Jacquelyne Snyder, Vice President, Human Resources and Employee Relations & the College's Affirmative Action/Equal Opportunity Officer, Horry-Georgetown Technical College, Building 200C, Room 205B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5212, [jacquelyne.snyder@hgtc.edu](mailto:jacquelyne.snyder@hgtc.edu).

Other student and prospective student inquiries concerning the federal laws and their application to the College or any student decision may be directed to Dr. Melissa Batten, Vice President, Student Affairs, Section 504 & Title II Coordinator Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5228, [melissa.batten@hgtc.edu](mailto:melissa.batten@hgtc.edu).

### **TITLE IX REQUIREMENTS:**

Title IX of the Education Amendments of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination.

HGTC prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking and will provide students, faculty, and staff with necessary information regarding prevention, policies, procedures, and resources.

Any student, or other member of the college community, who believes that they have been a victim of sexual harassment, domestic violence, dating violence, sexual assault, or stalking may file a report with the college's Title IX Coordinator or campus law enforcement\*.

\*Faculty and Staff are required to report these incidents to the Title IX Coordinator when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

For more information, contact Tamatha Sells, Title IX Coordinator, Conway Campus, Building 1100C, Room 107B, 843-349-5218, [tamatha.sells@hgtc.edu](mailto:tamatha.sells@hgtc.edu).

### **PREGNANCY ACCOMMODATIONS**

Under Title IX, colleges must not exclude a pregnant student from participating in any part of an educational program. Horry-Georgetown Technical College is committed to ensuring that pregnant students receive reasonable accommodations to ensure access to our educational programs.

Students should advise the Title IX Coordinator of a potential need for accommodations as soon as they know they are pregnant. It is extremely important that communication between student, instructors, and the Title IX Coordinator begin as soon as possible. Each situation is unique and

will be addressed individually.

Title IX accommodations DO NOT apply to Financial Aid. Financial Aid regulations do not give the College any discretion in terms of Financial Aid eligibility.

Certain educational programs may have strict certification requirements or requirements mandated by outside regulatory agencies. Therefore, in some programs, the application of Title IX accommodations may be limited.

To request pregnancy accommodations, please complete the [\*\*Pregnancy Intake Form\*\*](#).