



Horry-Georgetown
Technical College

COURSE INSTRUCTIONAL PACKAGE

CRJ 229

BLOODSTAIN PATTERN ANALYSIS

Effective Term

Fall 2026/Spring 2027/Summer 2027

Part I: Course Information

Effective Term: Fall 2026/Spring 2027/Summer 2027

COURSE PREFIX: CRJ 229

COURSE TITLE: Bloodstain Pattern Analysis

CONTACT HOURS: 2 Lecture Hours

CREDIT HOURS: 3 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

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.

ATTENDANCE VERIFICATION:

The Add/Drop Period is the first 7 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format classes. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all 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

IDENTIFICATION VERIFICATION:

Students enrolled in online courses will be required to complete identity verification. Please refer to your Instructor's Course Information Sheet for information regarding this requirement.

STUDENT COURSE EVALUATIONS:

Each semester, students are provided with an opportunity to participate in course evaluation surveys. These evaluations offer crucial feedback to instructors and the College, leading to enhancement of educational quality. By completing these surveys, you play a key role in the ongoing improvement of teaching methods and course content, ensuring future students enjoy a better learning experience. Students are encouraged to complete these surveys as your active participation in this process reflects your dedication to your education and drives positive change.

CLASSROOM ETIQUETTE AND STUDENT RIGHTS AND RESPONSIBILITIES:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

To ensure a positive College experience, guidelines exist in numerous areas of campus life. The Student Code for The South Carolina Technical College System "The Student Code" (3-2-106.1) applies to all HGTC students. The Student Code sets forth rights and responsibilities of the individual student, identifies behaviors that are not consistent with the values of college communities, and describes the procedures that will be followed to adjudicate cases of alleged misconduct. Students are expected to conduct themselves in a civil manner, that is respectful of the rights of others, and that is compatible with the college's educational mission. Students are expected to comply with all of the college's duly established rules and regulations regarding student behavior while on campus; while participating in off-campus college sponsored activities; and while participating in off-campus clinical, field, internship, or in-service experiences. Students are expected to comply with all course requirements as specified by instructors in course syllabi and to meet the standards of acceptable classroom behavior set by instructors. For more information, login to your myHGTC account under "Student Rights and Responsibilities" card then select "Student Code of Conduct" or the "Student Catalog and Handbook."

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 2024-2025

Assessment(s): Bloodstain Pattern Analysis Exercise 5 Dropbox Page 8 of 14

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

****Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates.***

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%
<u>Final Project</u>	<u>20%</u>
	100%

****Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.***

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.

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, and Is also negatively impact academic progression and financial aid status.

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 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, refer to your Instructor's Course Information Sheet for any required on-site meeting times. In online courses, attendance is fulfilled through the submission of academic work. Please be aware that instructors may require exams to be proctored either online or at an approved testing site. If you

choose to use a testing center other than those provided by HGTC, that center may charge a fee for its services.

Part V: Student Resources



THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

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

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

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

STUDENT INFORMATION CENTER – TECH Central:



TECH Central offers all students the following **free** resources:

1. Getting around HGTC: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. In-person and remote assistance are available for Desire2Learn, Student Portal, Degree Works, and Office 365.
3. 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. Visit the [Tech Central website](#) for more information. Live Chat and Center locations are posted on the website. You may also call (843) 349-5199.

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 have

librarians and staff who can aid with research, computers to support academic research and related school-work, and individual/group study rooms. Printing is available as well at each location. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in HGTC courses may occur during regularly scheduled class time or online, with or without proctoring. Tests may be delivered in the following formats:

- Digitally through D2L
- In writing on paper
- Through a publisher platform (note: some publisher platforms carry an associated fee)

Tests may include time limits and may require proctoring depending on the course.

When proctoring is required and is not provided by the course instructor in the classroom, students may complete their test face-to-face at an [HGTC Testing Center](#) or another approved testing site, or online using HGTC's online proctoring provider. For more information about available proctoring options, visit the [Online Testing](#) section of the HGTC Testing Center webpage.

Students testing at an HGTC Testing Center should note the following:

- **Appointments must be scheduled at least 24 hours in advance.**
- **A physical, government-issued photo ID is required to test.**

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. Students seeking accommodations are encouraged to visit HGTC's [Accessibility and Disability Service webpage](#) for detailed information.

It is the student's responsibility to self-identify as needing accommodations and to

provide appropriate documentation. Once documentation is submitted, the student will participate in an interactive process with Accessibility and Disability Services staff to determine reasonable accommodations. Students may begin the accommodations process at any time; however, accommodations are **not retroactive** and will only be applied from the point at which they are approved. Students must contact the office **each semester** to renew their accommodations.

For assistance, please contact the Accessibility and Disability Services team at disabilityservices@hgtc.edu or 843-796-8818 (call or text).

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 or visit the website the [Counseling Services webpage](#).

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Our sincere commitment to both effective business management and equitable treatment of our employees requires that we present this Policy Statement as an embodiment of that commitment to the fullest.

Discrimination is conduct that includes unjust or prejudicial treatment based upon an individual's age, race, color, sex, religion, national origin, disability, and genetic information or any other protected classes deemed unlawful under State or Federal law that excludes an individual from participation in, denies the individual the benefits of, treats the individual differently, or otherwise adversely affects a term or condition of a person's working or learning environment. This includes failing to provide reasonable accommodation, consistent with state and federal law, to persons with disabilities.

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Jen Riddei, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 HWY 501 E, PO Box 261966, 843-

349-5218, Jenifer.Riddei@hgtc.edu.

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, and Section 504 & Title II Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 HWY 501 E, PO Box 261966-6066, 843-349-5228, Melissa.Batten@hgtc.edu.

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 and 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.

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 sexual harassment, 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).

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Jen Riddei, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 HWY 501 E, PO Box 261966, 843-349-5218, Jenifer.Riddei@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* that can be found [here](#).