

FSC 101: Forensic Science in Criminal Investigation – Introduction to Forensic Science



Syllabus

Semester, FSC 101 67 2

3 Credit Hours

Course Format: Online. Classes will be held virtually online in lecture and discussion format.

Course Website: www.cedarcrest.edu

Classroom Meeting Building and Room Number: NA – Online class

Classroom Meeting Days and Times: Modules will be available on each Sunday of the Semester. See schedule in this syllabus.

Instructor: Dr. Tom Brettell

Email: Tabrette@cedarcrest.edu

Phone: Ext. #3495

Office: Oberkotter 6

Office Hours: Tues., Thurs. & Fri. 11:00 AM-Noon, or by appointment.

Course Description:

Through online modules students will develop a fundamental appreciation of Biology, Chemistry and Physics and how each of these disciplines impact Forensic Science and Criminal Investigation. Students will learn how to use the scientific method and apply analytical data typical of the natural sciences to form proper conclusions in the analysis of physical evidence. Case studies will be discussed. There are no prerequisites specified for this course.

Purpose of Course:

The purpose of the course is to introduce the student to fundamental aspects of Forensic Science, its uses, concepts, and applications. The course aims to teach students how forensic scientists apply theories, and how they collect data and analyze results. This course is intended to engage students in the use of the scientific methods, techniques, and technologies involved in Forensic Science and Forensic Chemistry and to develop students' critical thinking skills by using Forensic Science to solve problems.

Obtaining Assistance. Do not hesitate to seek assistance concerning assignments or grading. The student should feel free to email the instructor at anytime or come meet with the instructor. If the student cannot make it to the instructor's scheduled office hours, then arrangements should be made to meet with the instructor at an alternative time at both the student's and the instructor's convenience. The Instructor is always willing to help at anytime, if my schedule permits. Feel free to stop by whenever I am in my office. To ensure of my availability for assistance, it would be best to schedule an appointment.

Cedar Crest Online:

This course will be an online classroom. You should have received an email prior to the start of the semester detailing how to access and utilize the resources that will be made available to you here. If you have not, please notify your professor or call the Technology Helpdesk.

To access your class through Cedar Crest Online:

Log into Cedar Crest Online from: <https://cedarcrest.instructure.com>

Your ID and password are the same as your campus network login ID and password.

Once logged on, your current courses will be available through Canvas.

Additional information and help is available on the Cedar Crest Canvas (Online) Login page including the following:

- [Computer Skills Required for Online Learning](#)
- [FAQ for New Students](#)
- [Which browsers work best in Cedar Crest Online?](#)
- [CANVAS Student Guides](#)

Technology Support Resources:

Please refer to the Information Technology Support Center website and the IT HelpDesk for Cedar Crest College computer, software, and other technology resources available to students.

The IT Support Center resources are available at the following website:

<https://cedarcrest.teamdynamix.com/TDClient/Home/>.

The IT HelpDesk is located at the Bridge of the Student Success Center on the main floor of Cressman Library (610-606-4635 and helpdesk@cedarcrest.edu).

Getting Ready for Your Online Course:

The student should consult the following links for assistance in preparing this online course:

- [What computer skills do I need to take an online class?](#)
- [How to request tutoring from Academic Services](#)
- [Tips for Student Success in an Online Course](#)

Online students must:

- Be a self-starter and have the maturity and motivation to work independently.
- Use time wisely, be organized, be self-directed, and be willing to use new modes of communication and learning.
- Be willing to put in the needed time, read the text carefully, and actively participate in online class activities.
- Check communication frequently, get all assignments in on time, and discuss any concerns and questions with the instructor.
- Have regular access to a computer that meets minimum requirements.
- Have basic computer skills and be able to navigate the Internet.

How an online class works:

- Confirm you have your username/password and know how to access the online class.
- Be sure to check in for the first time within 1-2 days of the start of a session/semester.
- Establish a regular routine for checking for course communication and to participate in course activities – students need to check in at least 3 times a week to the online class.
- Read this course syllabus and check for any special instructions from the instructor - be aware of any instructor expectations as well as any assignment/activity deadlines.
- Tour the online class to become familiar with where to find assignments and activities.
- Follow the assignments and associated deadlines as identified on the syllabus and/or special course instructions.
- If you have a question or concern, contact the instructor through established course communication. Please note: online courses are just as difficult - or more difficult - and may be more time consuming than traditional courses. Online courses typically require much more reading and writing than traditional classes.

Course Textbooks and Resources:

Required Materials: Students must comply with the Cedar Crests College computer and software requirement. Please see the website for further information (www.cedarcrest.edu).

Required Text: Saferstein, R. *Criminalistics: An Introduction to Forensic Science*, 12th Ed., Prentice Hall, 2018. ISBN-13: 978-0-13-447759-6.

The required readings are indicated next to each topic on this syllabus. Additional readings will be provided in the modules and are available through the virtual classroom provided by Cedar Crest College online (see below).

Additional Reading: Eckert, W. *Introduction to Forensic Sciences*, 2nd Ed., CRC Press, 1997.

Gaensslen, RE, Harris, HA, Lee, H. *Introduction to Forensic Science & Criminalistics*, McGraw-Hill, 2008. ISBN: 978-0-07-298848-2.

Houck, M, Siegel, J. *Fundamentals of Forensic Science*. 2nd Ed. Elsevier. 2010.

James, SH, Norby, JJ. *Forensic Science - An Introduction to Scientific and Investigative Techniques*, CRC Press / Taylor and Francis, 2003. ISBN: 0-8493-1246-9.

Course Student Learning Outcomes:

Completion of this course will help the student attain the following program outcomes:

1. Students will be introduced to a basic understanding and knowledge of the fundamentals of analytical, organic, inorganic, biological and forensic chemistry. **(Program Goal #1)**

Assessment: Quizzes, discussion assignments, examinations and final examination (specific questions)

2. Students will gain necessary theoretical and practical background in the areas of Forensic Science through reading, exercises, and case studies. **(Program Goal #1)**

Assessment: Quizzes, discussion assignments, examinations and final examination (specific questions)

3. Students will be able to apply problem-solving skills in both a qualitative and quantitative manner using fundamental chemical principles. **(Program Goal #8)**

Assessment: Quizzes, discussion assignments, examinations and final examination (specific questions)

4. Students will gain basic science skills through a Forensic Science context. **(Program Goal #1)**

Assessment: Quizzes, discussion assignments, examinations and final examination (specific questions)

Credit Hour Equivalency:

As a 3-credit online class, FSC-101 *Forensic Science in Criminal Investigation* satisfies the required hours of classroom instruction through the below course activities and assignments. These hours do not include preparatory or assessed assignments, such as reading the course literature or assignments that would be completed outside of an in-person course section.

Course Activities or Assignments	Equivalent Classroom Instructional Hours
Recorded lectures and readings for 12 modules (2.5 hours per module average)	30
Reading quizzes for 6 modules (15 minutes per quiz)	1.5
3 Exams (1 hour per exam)	3.0
Discussions for 5 modules (2.0 hour per module)	10.0
Total:	44.5 hrs.

Assessment of Student Learning Outcomes:

Students will be assessed by module quizzes, threaded discussions, three examinations and a final examination. The final grade will be based on the student's cumulative score divided by the total number of available points. The resulting percentage will be converted to a letter grade based on the scale below. Students will receive individual feedback on points lost on the discussions. Students will receive immediate feedback on quizzes and exams and be able to review both. Students can check their progress in the course by viewing their grade records via the course interface.

Your final grade will be based on the total points according to the following:

Date	Week	Module	Point Distribution					
			Quizzes	Exams	Discussions	Final Exam	Totals	
	1	1	15					
	2	2			10			
	3	3	15					
	4	4			10			
	5			100				
	6	5	15					
	7	6			10			
Spring Break								
	8	7	15					
	9	8			10			
	10			100				
	11	9	15					
	12	10			10			
	13	11	15					
	14	12						
	15			100				
			Pts.=	90	300	50	100	540
			% =	15%	50%	18%	17%	100%

Assignment Point Values		Final Grading Scale	
Module quizzes (6)	90	93 – 100%	A
Exams (3)	300	90 – 92.9%	A-
Class discussion participation (5)	50	87 – 89.9%	B+
Final Exam	100	84 – 86.9%	B
Total Points		540	80 – 83.9%
			B-
			77 – 79.9%
			C+
			73 – 76.9%
			C
			70 – 72.9%
			C-
			67 – 69.9%
			D+
			60 – 66.9%
			D
			Below 60%
			F

Course Assignment Descriptions:

Course Assignments:

Every other module has a discussion assignment worth 10 points. The discussion assignments are listed on the first page of each module. You should consider the assignment questions as you read through the module content.

Course Quizzes:

Every other module has a timed quiz. The quiz consists of 15 questions. The questions are either multiple choice or true/false. Please choose only one answer. You will have 15 minutes to complete the quiz so please answer all of the questions. Any unanswered question will be marked incorrect and the point total for that question deducted from your grade. **It is unacceptable and a violation of the Cedar Crest College Honor Philosophy to copy or take screen shots of the quizzes or exams.**

Course Exams:

There are 3 exams and a final exam that are timed. Each exam consists of 50 questions. The questions are either multiple choice or true/false, similar to the quizzes. Please choose only one answer. You will have one hour to complete the exam so please answer all of the questions. Any unanswered question will be marked incorrect and the point total for that question deducted from your grade. **It is unacceptable and a violation of the Cedar Crest College Honor Philosophy to copy or take screen shots of the quizzes or exams.**

Assignment Deadlines and Important Course Dates:

Students are evaluated continuously throughout the semester and graded according to their performance in the course module assignments and quizzes. All modules have a timed quiz and discussions that must be completed by the assignment deadline for the corresponding module. The course has three examinations and a final examination. The exams are timed and similar to the quizzes only longer in length.

All written assignments must be completed in your own words. Cutting and pasting from the Internet is not acceptable and **may be considered to be plagiarism**. Failure to complete an assignment in your own words may result in you receiving a score of zero for the written assignment.

For courses that have timed quizzes: if you lose your Internet connection during your quiz and scores are not recorded simply contact the IT helpdesk for help. It is very helpful to make sure you are connected to the Internet when taking the quizzes and especially the exams.

When sending course assignments via email (when directed to do so), include your name and please make sure your assignments are labeled clearly. Assignments should be submitted using the assignment drop box. Assignment feedback will also be provided via the assignment drop box, so students should check back to the drop box feature in the appropriate module to receive feedback and the assignment grade. Always keep a copy of your course assignments in case you need to resend it. Also you may want it for revision purposes later.

For assignment deadlines- see each module. Assignments not submitted by the deadline will be given no credit. In fairness to the instructor who must grade the required course work, and to the other students, late work will not be accepted. Due dates will be assigned by the instructor for the various assignments. If an assignment is late, a grade of zero will be given for that assignment. The Instructor may allow exceptions to this policy if the lateness is justified.

Class Attendance Policy:

Students taking an online class will login as requested by the instructor. At a minimum, students should log into the class three times a week. Students should be aware that your instructor may administratively withdraw a student for nonattendance or impose other consequences for failure to meet this login requirement. The instructor may also impose additional login requirements (see each module for directions).

As of July 2011, to comply with new requirements for students receiving Federal financial aid, **students must check into the class within the first two days of class and must engage in at least one substantial activity** (e.g., sending a course communication to the instructor, participating in a discussion and/or completing a quiz) each week of the class. This minimum level of participation only satisfies the Federal regulation and does not supersede the additional requirements that may be set by the instructor of the course.

Tutoring and Academic Support Resources:

The Student Success Center, located on the main floor of Cressman Library, offers writing and tutoring resources to all Cedar Crest students with the goals of assisting students in achieving academic success and becoming effective, independent learners. Smarthinking, on-line tutoring service, is also available to all Cedar Crest students. For information about all available tutoring services and scheduling information, please refer to the Tutoring and Support Resources page on MyCedarCrest, located under the “Academic Services” page in the “Current Students” Section: my.cedarcrest.edu/ICS/Current_Students/Academic_Services/Tutoring_Support_Resources.jnz.

The Student Success Center may also be contacted at 610-606-4628 or advising@cedarcrest.edu.

Cedar Crest College Honor Philosophy:

The Cedar Crest College Honor Philosophy states that students shall uphold community standards for academic and social behavior to preserve a learning environment dedicated to personal and academic excellence. It is based upon the principle that, as a self-governing body, students have the ability to create an atmosphere of trust and support. Within this environment, individuals are empowered to make their own decisions, develop personal regard for the system under which they live, and achieve a sense of integrity and judgment that will guide them through life.

Cedar Crest College Diversity Statement:

Founded under the mission to expand women’s access to higher-education, Cedar Crest College values difference in a diverse, inclusive, and equitable learning environment. The College is committed to educational excellence, leadership, and civic engagement in a pluralistic society. We thus embrace an inclusive community that brings together students, faculty, and staff of different racial and multi-racial, ethnic and multi-ethnic, gender and sexually diverse, religious and nonreligious, economic, and national identities and ages. Our educational mission includes students who have been historically underrepresented in higher education, such as students of color, first-generation college students, international students, students of varying ability or disability, and other identities.

Classroom Protocol:

Cedar Crest College maintains a classroom and learning environment dedicated to scholarly, artistic, and professional inquiry. The College's community of learning is founded upon the intellectual freedom of students and faculty in pursuit of knowledge and understanding. Such an environment depends upon the insights of the liberal-arts disciplines, as well as a respect for the global diversity of viewpoints and cultural backgrounds.

The college expects students to conduct themselves in a manner that best realizes their own and other students' education, as consistent with the Cedar Crest College Honor Code. Appropriate classroom behavior includes, but is not limited to, the expectations for students: to attend and be prepared for all classes, to arrive and leave on time, to treat the faculty members and other students with respect, to refrain from any activities within the classroom that do not directly pertain to the business of the class, to use language that is respectful and non-abusive, and to otherwise refrain from any behavior that disrupts or jeopardizes the learning environment as determined by the instructor and departmental guidelines, as appropriate to the educational goals of the learning environment.

Online discussion is an extension of the classroom and subject to appropriate classroom behavior and is included in the Cedar Crest College honor and plagiarism philosophy. See comments under *Class Group Discussion Guidelines* below.

Academic Integrity:

Academic integrity and ethical behavior provide the foundations of the Cedar Crest scholarly community and the basis for our learning environment. Cedar Crest College expects students to set a high standard for themselves to be personally and intellectually honest and to ensure that other students do the same. This standard applies to all academic work (oral, written or visual) completed as part of a Cedar Crest education.

Cedar Crest College reserves the right to define, in its sole discretion, what constitutes academic misconduct. Examples of academic misconduct include, but are not limited to, cheating, plagiarism, collusion, falsification, sabotage, and impersonation. This list is not exhaustive, and other acts in violation of the Cedar Crest Honor Code or academic standards of integrity may be deemed academic misconduct by an instructor or by the college.

Students who violate these standards are subject to sanctions imposed by the course instructor, department chair, the Provost's office, or the Board of Trustees. Students in this course who breach the Academic Standards of Integrity may face the following sanctions: redo an assignment, the reduction in grade for an exercise, a zero for the exercise, a grade of F in the course, and/or suspension or expulsion from the forensic science program or college. The instructor reserves the right to impose sanction at his discretion based on the severity of the offense.

Plagiarism is regarded as a failure to comply with the college honor code. If it is determined that a student has used the work of another person and has not cited that person in APA style as the source of the idea(s), a grade of "0" will be earned for that assignment.

When an instructor determines that a student has engaged in academic misconduct, the instructor is obligated to report the incident to the Provost's office. Reports are recorded in the Provost's office, which will notify the student of their receipt and the College's policies regarding academic misconduct. For more information, please refer to the Student Handbook, Section IV: Community Standards for Academic Conduct.

VeriCite Citation Verification/Plagiarism Detection:

Cedar Crest College uses a citation verification service (VeriCite, www.vericite.com) to help teach proper citation techniques and to ensure the integrity of written academic work. By enrolling in this course, students agree to the submission of their written assignments to such a citation verification service, the use of which is subject to the Terms of Use posted on the provider's website. Written work submitted to a citation verification service will become part of its database for the purposes of future citation verification.

Resources for Students with Disabilities:

Cedar Crest College is committed to ensuring students with disabilities are welcomed as a part of our diverse community and that they have equal access to participate in all programs and services offered by the College, in accordance with the Americans with Disabilities Act (ADA) and Section 504 of the National Rehabilitation Act. If you have a disability and require accommodations to access any portion of the design, instruction, or experiences that comprise this course or any other campus activity, please contact Disability Resources (610-606-4628; advising@cedarcrest.edu; Student Success Center in Cressman Library) to set up an appointment to discuss your need for accommodations. Please note that accommodations are not retroactive and may require advance notice to implement. Please refer to the Disability Resources page on MyCedarCrest for more information (https://www.cedarcrest.edu/ada_file.shtm).

Accommodations will not be provided unless the instructor receives an official Cedar Crest College Accommodations Letter. If you are already receiving accommodations, please remember to have a confidential conversation (in person, via email, or phone call) with your instructor to discuss the approved accommodations you intend to use for this course and how they may be implemented.

Dates for Drop/Withdraw:

Please note the deadline to drop this course is (Date) and the deadline to withdraw from this course is (Date).

Student Complaints and Due Process:

If students wish to file a complaint regarding the course and/or the instructor, they should consult either the Cedar Crest College Student Handbook for the protocol on student complaints.

Makeup Policy:

Make up assignments are not usually given, but may be at the discretion of the course instructor after evaluation of the circumstances leading to the request.

Grade Changes:

Grades will be changed only when a grading error has been made. If you think an error has been made, you should email the instructor as soon as possible. Your entire assignment will then be re-graded.

Revision and Notes:

As you go through the semester, keep copies of important emails, discussions and assignments. You may use these copies for review later as these will be purged from the course at the end of the semester.

Recommend you make a copy of the course modules since this will be the only access you will get to these materials. Copies of course content will not be available once the course is removed from your account.

Class Schedule:

Class “begins” with Monday of the week listed. Lecture notes for the week, case study and assignments will be available to you by going to the Learning Module for the Day of that week. Assignments are due by 11:59 PM on Monday of the following week unless otherwise specified in the module assignment. Watch for due date reminders and announcements online on the course site. Brief descriptions of assignments appear here and details will be provided. You may have access to more than one module at a time during the semester. This enables you to plan and work ahead without being able to complete the entire course too rapidly.

NOTE: Changes to the content of the course syllabus are at the discretion of the instructor. Students will be notified of any changes to the syllabus.

Date	Week #	Module #	Major Topic	Required Reading	Assignment & Quiz Due Date
	1	1	Introduction to Forensic Science	Ch. 1 www.aafs.org	
	2	2	The Crime Scene	Ch. 2	
	3	3	Physical Evidence	Ch. 3	
	4	4	Forensic Pathology	Ch. 5	
	5		Exam # 1		
	6	5	Physical Properties: Glass and Soil	Ch. 10 & 14	
	7	6	Fingerprints	Ch. 6	
	Spring Break				
	8	7	Document Examination	Ch. 18	
	9	8	Controlled Substance Analysis	Ch. 12 www.swgdrug.org	
	10		Exam # 2		
	11	9	Hairs, Fibers & Paint	Ch. 11 & 14 www.asteetrace.org	
	12	10	Forensic Serology	Ch. 15	
	13	11	Forensic DNA Analysis	Ch. 16	
	14	12	Forensic Toxicology	Ch. 13	
	15		Exam # 3		
	Final Examination Available				

Communication:

Attendance- Students must participate in the class discussions, and are required to visit the course at least 3 days a week for important updates and announcements.

Class Participation – Students are expected to constructively join in the threaded discussions, with appropriate preparation; to post interesting and relevant information on the class message board, and to interact professionally with their classmates.

Email and Discussion - Communication is a central part of the course. Please take advantage of email whenever you have a question about the course content, assignments, quizzes, or anything else related to the course. The goal is to provide all of our students with the best opportunity to learn and to be available to answer your questions. Please never hesitate to contact your course instructor if you have questions.

Email – Cedar Crest College e-mail, not the discussion, should always be used to contact the faculty or staff if you have a problem of a personal nature.

Obtaining Assistance - Do not hesitate to seek assistance concerning assignments or grading. If you are having technical problems with the course content (downloads, etc.) or you are unable to access your course interface, please contact the helpdesk or instructor directly, and please do not spend hours trying to get something to work as this will only lead to frustration. You do not want to be offline for any length of time. If you are experiencing difficulty with your access to course email then please email your course instructor directly via regular email. In that email, make sure you give your name and the name of your course. Please respond to all emails from your instructor. If you have a question about your grade, a quiz or assignment question, please email your instructor.

Threaded Discussions - You will be asked to participate in course-threaded discussions throughout the course. Do not post content related questions and assignment materials there unless specifically asked to do so. Please ask questions any time; your instructor is here to help you. It is VERY important that you read all the course announcements that have been posted. This site will be used to post important information relating to content or quiz changes, deadlines etc. Since postings can accumulate quickly, it is best to login each day to stay on top of these postings or you may miss important information. Please make sure you do not post assignments that are supposed to be submitted to the assignment drop box. If you accidentally do, email your instructor as soon as you can and it will be deleted for you.

Class Group Discussion Guidelines - Participation in discussion during the online “Class Discussion” is required in the course. Please keep subject matter related to course subject. When you are “talking” to someone in particular, please begin your statement with that person’s name, followed by a colon. For example, to ask Jane Doe a question, your statement may look something like the following: “Jane: What does a flat tire and a bad attitude have in common?”... Jane may reply to Tom, “Tom: you won’t go far with either...” No profanity or bullying will be tolerated. If profanity, bullying or any other type of harassment takes place, you will be automatically prohibited from entering any course discussions in the future.

Important Dates: Drop Dates and other important dates – consult the CCC Academic Calendar on the Cedar Crest website www.cedarcrest.edu