PH.D. IN DIGITAL AND CYBER FORENSIC SCIENCE

The Doctor of Philosophy in Digital and Cyber Forensic Science is designed to produce students of the digital forensics and cyber-security realms with the technical skills, critical thinking ability, problem-solving skills, and advanced, discipline-specific knowledge to allow them to advance into leadership positions in business and industry as well as academia. This is accomplished by demonstrating the ability to perform independent and collaborative original research, the successful completion of academic coursework, hands-on experience in the laboratory, and collaboration with digital forensics and cyber-security agencies, institutes, and partners. The program will provide students with the theoretical, conceptual, methodological, and computational skills needed to understand the role of digital and cyber forensic science in post technological societies.The program will allow students to explore the potential for forensically sound digital data capture and analysis and to develop new tools and methods for handling digital and cyber forensic evidence. In doing so, this program has, as its primary focus, research into the computational and scientific basis for forensic and cyber technologies.

The Ph.D. in Digital and Cyber Forensic Science is a full-time, on campus program. Admission to the program requires devoting a significant amount of time to the program. Students are admitted as part of an annual cohort and have a fixed program of study in the first two years of the program.

Applicants seeking admission to the doctoral program in forensic science must submit the following directly to the Office of Graduate Admissions:

- Graduate Admissions Application (http://www.shsu.edu/admissions/apply-texas.html)
- Application Fee (http://www.shsu.edu/dept/graduate-studies/application-fee.html)
- Bachelor's degree conferred by a regionally accredited institution in computer science, digital forensics, or a closely related field
- Official transcript(s) from degree granting institution(s)
- Official transcripts from all colleges/universities attended
- GPA of 3.5 or higher
- Program Application (https://cs.shsu.edu/programs/DCFS+PhD.+Application3_.pdf)
- Personal statement (https://cs.shsu.edu/programs/DCFS+PhD.+Application3_.pdf), not to exceed 1000 words
- Three letters of recommendation. A minimum of two letters must be from faculty who are sufficiently acquainted with the student to comment on potential for success in the doctoral program
- Current resume or vita
- Official GRE (http://www.ets.org/gre/) scores. A minimum GRE score of 300 is required for acceptance into the program. The GRE score is calculated as Verbal * 0.5 + Quantitative * 1.5
- In some instances, a personal interview may be requested.

The program requires the completion of a minimum of eighty-five hours of graduate credit, as prescribed in the degree plan.

Students must register full-time and maintain a 3.0 grade point average in all courses. In order to advance to candidacy, students must have successfully completed forty-six graduate credit hours of coursework and internship, submit a portfolio for review, and pass Comprehensive Examinations. Once the doctoral program committee determines that the portfolio, proposal, and comprehensive examinations are satisfactory, the student may enroll in dissertation credits.

A minimum of fifteen hours of dissertation credits are required, and students must maintain continuous enrollment in DFSC 8370 Dissertation until they graduate. Students must complete and defend a doctoral dissertation, which is the product of original scholarly research and is of sufficient publishable quality to represent a meaningful contribution to knowledge in the field of digital and cyber forensic science.

The Ph.D. in Digital and Cyber Forensic Science requires the completion of 85 credit hours beyond the bachelor's degree. Students complete:

Code	Title	Hours
Requirements		
Core Coursework		52
Dissertation Research		15
Electives		12
Internship		6
Total Hours		85

The curriculum is designed to deliver an essential core curriculum in digital and cyber forensic science, together with specialized electives and intensive research in the area of interest. Students are expected to fulfill the requirements during four to five years of full-time study.

Code	Title	Hours
Ph.D. in Digital and Cyber Forensic Science		
DFSC 5316	File System Forensics	3

DFSC 6410	Cyber Forensics Principles	4
DFSC 7106	Seminar in Digital Forensics [1]	4
DFSC 7300	E-Discovery	3
DFSC 7320	Ethics for Digital Forensics	3
DFSC 7330	DF Laboratory Management	3
DFSC 7340	DF Tools & Techniques	3
DFSC 7350	Operating System Forensics	3
DFSC 7352	Network Forensic Analysis	3
DFSC 7356	Mobile Device Forensics	3
DFSC 7358	Live System & Memory Forensics	3
DFSC 7360	DF Research Methods	3
DFSC 7362	Computational Forensics	3
DFSC 7364	Scientific Communications	3
DFSC 7600	Internship	6
FORS 5226	Law And Forensic Sciences	2
FORS 5337	Fundamentals of Criminalistics	3
STAT 7365	Stat Mthd For Decision Making	3
Electives		
Select 4 of the following:		12
COSC 5310	Cryptography & Steganography	
DFSC 6310	Cyber Warfare & Terrorism	
DFSC 7341	DF Infrastructure	
DFSC 7351	Cloud Computing Forensics	
DFSC 7353	RAID & Remote System Forensics	
DFSC 7355	Intrusion Forensic Analysis	
DFSC 7357	Malware Forensic Analysis	
DFSC 7359	Social Network Forensics	
DFSC 7365	Commercial Tool Verification	
DFSC 8370	Dissertation [2]	15
Total Hours		85

[1]   DFSC 7106 must be taken for a total of four credit hours.

[2]   Once enrolled in DFSC 8370 (http://catalog.shsu.edu/archives/2020-2021/search/?P=DFSC%208370), students must enroll in this course every semester until graduation.

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The Ph.D. in Digital and Cyber Forensic Science is designed to provide graduates with the following marketable skills:

- Ability to solve complex cybersecurity-related problems.
- Ability to apply theoretical principles to the development of digital forensics tools and techniques
- Post-secondary teaching capability.
- Technical communication ability.
- Strong research-oriented capabilities.