PRACTICAL ASPECTS OF COMPUTER SECURITY

The PACS undergraduate certificate will provide students with essential computer science concepts, basic security principles, and the tools and experience necessary for an entry-level position in IT-Security. This certificate provides a foundational knowledge in computer security principles, firewalls, malware, intrusion detection, physical security, wireless network security, mobile device security, social network security, and web application security.

The PACS undergraduate certificate is comprised of 4 courses (15 credit hours). All 15 credit hours are transferable into the College of Engineering and Computer Science's Computer & Information Science (CIS) or Cybersecurity and Information Assurance (CIA) B.S. degree program. This certificate is distinctly unique in that it creates a pathway for a student to receive a credential before transitioning into the degree program.

Any individual interested in advancing their knowledge in computer security principles, firewalls, malware, intrusion detection, physical security, wireless network security, mobile device security, social network security, and web application security will benefit from this program.

Data from the US Bureau of Labor Statistics indicates that job growth projections will increase 12% through the year 2022 for individuals with backgrounds in computer security. However, with the increase in cloud computing, this percentage has the potential to be even higher. As the utilization of information technology increases, there is also anticipated job growth in the healthcare industries. This growth, coupled with the impending federal government hiring regulations for military veterans, makes the job prospects extremely favorable for students who possess this credential.

Certificate Requirements

This 15 credit hour certificate is comprised of 3 required core CIS courses, along with an applications course in practical computer security.

Applicants should have completed a math course equivalent to Calculus 1 (MATH 115) or have received College Level Exam Program (CLEP) credit for Calculus 1. It is also possible to take Calculus 1 (MATH 115) concurrently with CIS 150. Students who have not completed the calculus prerequisite have the option to take the UM-Dearborn Math Placement Test and complete the required mathematic courses as part of the certificate program.

Code	Title	Credit Hours
CIS 150	Computer Science I	4
CIS 200	Computer Science II	4
CIS 275	Discrete Structures I	4
CIS 316	Prac. Comp. Sec.	3
Total Credit Hours		**15**