Information Assurance and Cybersecurity
Graduate Certificate

Effective January 8, 2018
This graduate certificate is designed to prepare learners to manage a large organization’s enterprise security based on the 10 domains of the Certified Information Systems Security Professional (CISSP) certification from International Information Systems Security Certification Consortium, Inc. (ISC)². Learners focus on developing competencies associated with the CISSP certification from (ISC)² and gaining information security knowledge and experience through practice and interaction.

A University on Top of IT Industry Trends

With the emergence of globalization and outsourcing, the field of information technology poses new challenges to IT professionals who want to advance in their careers. Previously it was enough simply to stay focused on “hard” skills through IT certifications and training. Today, organizations are looking for IT professionals who also understand the business needs of the enterprise, the creative possibilities of technology, and how to integrate that technology into complex enterprise-wide systems. Capella is aware of these trends and continues to adjust its curricula to keep up with the needs of this rapidly changing, dynamic field.

The Capella Approach to IT Education

Capella has designed its programs around the strategic values of the emerging area of IT architecture. Our view is that by keeping the principles of IT architecture as educational guideposts, we can help prepare you to integrate the latest technologies into enterprise-wide business solutions that bring results to your organization. We build upon and expand your technical knowledge while teaching you how to assess, design, and implement value-added solutions.

Note: Certification and Certificates—There is an important distinction between the two terms. The School of Business and Technology offers a variety of graduate certificates. University-sponsored certificates represent an advanced course of study intended to enhance knowledge in a specific discipline. However, obtaining a university-awarded certificate is not equivalent to “certification.” The term certification refers to the official mandate awarded by a state board or professional organization to an individual for a specific professional practice.

This guide is intended to provide an overview of the program and is subject to change. Your enrollment counselor can provide updates, details, and Capella’s official University Catalog that specifies your program requirements.
Curriculum

- 5 required courses
- Total program credits: 20 quarter credits

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAS5010</td>
<td>Information Technology Security Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>IAS5015</td>
<td>Network Security Fundamentals and Cryptography</td>
<td>4</td>
</tr>
<tr>
<td>IAS5020</td>
<td>Information Security Regulatory and Legal Environment</td>
<td>4</td>
</tr>
<tr>
<td>IAS5025</td>
<td>Network and Operating System Defense</td>
<td>4</td>
</tr>
<tr>
<td>IAS5030</td>
<td>Identifying and Managing Risk</td>
<td>4</td>
</tr>
</tbody>
</table>

Course Descriptions

IAS5010  Information Technology Security Fundamentals

In this course, learners examine the technology life cycle and identify the security principles that apply throughout system and product lifecycles. Learners identify the basic and network components in an information technology system, how they interact, and their role in system operation. Learners explore the basic role and function of network devices including routers, switches, firewalls, VPNs, and intrusion detection, and the underlying protocols and controls that contribute to their operation. Learners demonstrate skill using network security tools including operating system installation and setup and network mapping through the use of hands-on activities.

IAS5015  Network Security Fundamentals and Cryptography

Learners apply foundational concepts of cyber-defense and information assurance to select the appropriate information security policies, procedures and controls. Learners assess specific points of vulnerability that are mitigated through the use of information security tools and policies. Finally, learners examine the mathematical theory behind cryptography and the range of information security controls and methods that use cryptography or encryption as a factor in how they function. Prerequisite(s): IAS5010 or ITEC5010.

IAS5020  Information Security Regulatory and Legal Environment

Learners apply cyber-defense and information assurance controls in context of the rules and guidelines that influence them and with an understanding of the security standards, responsibilities, rules, regulations, and issues that impact a particular organization. Learners identify laws and policies related to cyber-defense and how they relate to the storage and transmission of data. Learners also study basic concepts of audit, evidence collection, and chain of custody rules. Prerequisite(s): IAS5015.

IAS5025  Network and Operating System Defense

Learners identify the basic security issues in operating system (OS) design and implementation. Learners articulate the steps necessary for hardening the OS with respect to various applications and describe the various concepts in network defense. Finally, learners demonstrate network security defense techniques through hands-on activities. Prerequisite(s): IAS5015.

IAS5030  Identifying and Managing Risk

Learners identify common information security risk analysis methodologies, their characteristics, pros and cons, and applications by selecting an appropriate methodology to apply to a specific organization. Learners examine the qualities, characteristics, and motivation of hackers and cyber-criminals and their attacks on information assets, with an emphasis on malware. Learners also identify vulnerabilities in hardware, software, locations, and procedures that provide an opening to criminals and create risk to organizations that collect and store data. Learners demonstrate risk assessment techniques through hands on application of software vulnerability testing tools. Prerequisite(s): IAS5015.

The courses in this program may require live web conferencing activities and/or learner audio/video recordings. Learners who require assistive technology or alternative communication methods to participate in these activities should contact Disability Services to request accommodations.
Financial Aid

Capella University offers assistance to learners who qualify and would like to secure educational funding to help finance their academic program. A number of options are available, given the diverse needs and backgrounds of prospective learners. Options include:

- Federal Direct Stafford Loan Program
- Federal Direct PLUS Loan Program
- Non-federal loans through preferred lenders and financial institutions
- Capella scholarships
- External scholarships
- Veterans’ educational benefits and U.S. armed forces discounts
- Corporate and higher education alliances
- Employer tuition reimbursement

Regarding loan programs, interest rates for Stafford student loans are low compared to other types of consumer loans, and repayment can be deferred until after graduation. In compliance with federal and state laws, Capella University has established policies for all learners regarding satisfactory academic progress, which is necessary for financial aid eligibility.
Academic Leadership

Rhonda Capron, EdD
Dean
Dr. Rhonda Capron is an accomplished leader with remarkable business acumen, extensive academic experience and professional relevance within the confluence of today’s transformative marketplace. She brings a unique blend of background and experience to Capella as a seasoned executive and higher education leader with more than 15 years of experience successfully leading strategic initiatives and operations within high-tech businesses. She also has 10 years in higher education, including extensive, hands-on experience teaching; faculty and staff leadership; academic programming; curriculum development; and strategic planning. Dr. Capron joined Capella in 2016. She was previously the academic dean of the School of Business at University of Phoenix. Prior to that position, she held a number of academic leadership roles at William Jessup University in Rocklin, California. In addition she has an extensive background in both the business sector and the military. Rhonda was vice president of support services and software as a service at Oracle Corporation, and she served as the deputy director for operations within the Departments of Army and Energy.

Bill Dafnis, PhD
Associate Dean
Dr. Bill Dafnis is the associate dean of technology in Capella University’s School of Business and Technology and faculty chair for undergraduate technology. Bill joined Capella in 2014 to serve as faculty chair in the ABET-accredited BS in IT program. Prior to joining Capella, Bill served in faculty and academic leadership roles at other academic institutions. Preceding his academic career, Bill traversed a distinguished 20-year profession with the Chicago-based media conglomerate Tribune Company in leadership roles inclusive of information technology, project management, and operations management. Bill holds a PhD in Information Systems from Nova Southeastern University, Master of Science in Information Technology with a security focus from Carnegie Mellon University, Master of Business Administration from Lake Forest College, and Bachelor of Arts from the University of Illinois and is certified as a Project Management Professional (PMP). His research interests include the intersection of disruptive change and innovation planning, cloud computing economic models, business process modeling, project management, and information security.

Melissa Zgola, MS
Faculty Chair
Melissa Zgola joined Capella University in 2007 as an adjunct faculty member for the School of Technology and became a core faculty member in 2008, teaching courses in networking technology and software architecture. In 2012, she was named faculty chair for the Bachelor of Science in Information Technology program in the School of Business and Technology and served in that role until 2014 when she became faculty chair for the Master of Science in Information Systems and Technology Management and the MS in Analytics programs. Prior to joining Capella, Melissa spent several years as an online facilitator, instructor, and program director with The Art Institute Online, the Pittsburgh Technical Institute and ITT Technical Institute. She also served as an engineering technician for the Department of Labor, and senior system analyst for the University of Pittsburgh. She holds a BA in Psychology, and an MA in Counseling from West Virginia University, and an MS in Information Science from the University of Pittsburgh.
Move Forward with Capella University

**WORKING SCHOLARS**
Capella provides an online, flexible learning environment for working adults who are also determined scholars. That connection between academic and professional work infuses the entire Capella experience—from the faculty we recruit to the course projects you complete. The theories discussed in the courseroom are designed to develop working knowledge for everyday situations.

**AN ACCREDITED UNIVERSITY**
Our accreditation* is an assurance to students, employers, and the public that Capella University meets established standards for quality of faculty, curriculum, and learner services. It is also an important factor in the ability to transfer credits among higher education institutions. Regional accreditation, the type held by Capella, is the most common type for major public, state, and private institutions in the United States.

**VALUING YOUR KNOWLEDGE AND EXPERIENCE**
Adults bring a wealth of experience and learning to their education. Capella courses are designed to bring out your perspectives just as you gain from others’ ideas. Your knowledge can also be worth time and money: An enrollment counselor can help you estimate how much of your prior learning may apply toward your Capella degree program.

*ACCREDITATION
Capella University is accredited by the Higher Learning Commission.

HIGHER LEARNING COMMISSION
https://www.hlcommission.org
800.621.7440

© 2018 Capella University. All rights reserved.

Important Information about the educational debt, earnings, and completion rates of students who attended this program: http://capellaresults.com/assets/includes/gainfulemployment/cta/GE/GE15/certs/PB_Cert_Tech_IAS_gedt.html.