

ACADEMY PROGRAM GUIDE



2018

Academy Cybersecurity Certification Program

Program Overview



Introduction

The Merit Academy Program is the first of its kind in the nation, offering credentialed cybersecurity certification. This comes at a greatly reduced cost for institutions that have their own teaching or training staff. While the Academy program is used more often in a Higher Education platform, it is available to any organization. The duration of the course is at the sole discretion of the institution and is required to be greater than one week and less than six months in length. A Merit membership is required to offer the Academy Program.

Program Benefits & Key Features:

- Instructor portal includes: PowerPoint, lab guides, quiz and test generators, videos, study material and additional on-demand learning for students on pertinent topics
- Academy courses are accredited by the NSA, NIST, NICE, NICCS and the DOJ FBI
- Access to trainer and Merit staff best practices learning for students on pertinent topics
- Virtualized lab environment provides students and instructors with 24x7 access from anywhere in the world
- Full curriculum and instructor materials provided to the instructor
- Industry certified examination (upon institution approval) provided at no additional costs for all students and one re-take exam (optional) included
- Early access to instructor material and virtual lab environment
- While certificates do not comply with DOD 8570 credentialing, they are regarded as the best preparation courses to sit for those exams in the nation
- Virtualized lab environment allows participants to practice live attacks and network scans without fear of damaging your production network or compromising institutional servers

Member & Instructor Requirements

The following are requirements to participate and comply with cybersecurity credentialing and curriculum guidelines. Member or Instructor must:

- Hold the equivalent industry certification; obtain approval to proceed without certification from the program manager; or sit for the specific Mile2 exam (in most cases provided for free by Merit/Mile2)
- Disseminate all Mile2 Learning Portal and Cyber Range Lab login info to students
- Onboarding timeline is usually 3 months but can be accelerated for qualified instructors and institutions
- Be qualified and experienced in the specific learning area
- Instructors may omit or augment any of the curriculum to fit their practicum and learning objectives (with the understanding that significant modifications could impact participant success in passing the certification exam)
- Complete on-boarding for the Cyber Range and Mile2 infrastructure
- Provide bio, CV, resume and or relevant experience; submit these documents to cyberrangehubs@merit.edu / Attention: Sonya Goulet / Subject: Instructor Approval

Curriculum and Infrastructure Specifics

Students and instructors will: Receive turnkey instructor material, student material and labs.

CURRICULUM:

- Merit's cybersecurity training partner, Mile2, will provide the curriculum. The student will be required to register and set up an account on Mile2 in order to access their digital books, videos and exam.

CYBER LABS:

- The labs are conducted using a virtual lab environment hosted on and provided by the Merit Michigan Cyber Range. The account information will be emailed to the student after they have registered for an account to access the Personal Labs environment.
- To connect to the lab environment on the Merit Michigan Cyber Range, the student use the VMware Horizon Client. It is suggested that each student download the VMware Horizon Client to his or her laptop, so that the student can work with the labs between classes.

Merit specifies these laptop hardware requirements for connecting to the Merit/Michigan Cyber Range:

- x86- or x64-compatible 1.5 GHz CPU minimum or higher
- DVD drive (not a CD drive)
- 2 GigaByte RAM minimum with 4 GB or higher recommended
- Ethernet adapter (*A wired connection is recommended in class. Be sure to bring an Ethernet adapter if your laptop currently supports only wireless.*)
- 5 GigaByte available hard drive space
- Windows 7 or above is recommended, but most any modern operating system will work fine. IE 7 or above, Firefox (*most recent version recommended*) installed

VMWare Horizon Client access is issued by Merit.

[VMWare](#)

Tuition & Billing Guidelines

The Academy Program provides autonomy in the financial and tuition aspects of the Program. Merit charges a flat fee per student and allows the institution to stipulate their own tuition and fee schedule and collection of those corresponding fees.

INSTITUTION:

- Determines tuition or course pricing
- Determines the amount of credits for a course, if credits are offered
 - For credit hour questions or best practices, contact cyberrangesupport@merit.edu, attention: Sonya Goulet
- Maintains discretion in course naming and description to fit their program and place it in any focus desired (*i.e. business, engineering or political science*)
- May offer courses for credit, not for credit or for professional development

- May use financial aid, scholarships, veterans' benefits or any other funding mechanisms used in tuition collection
- May deliver the course via any method they choose, for example on-site or distance learning
- Will be charged a flat fee per student pricing billed to the institution:
 - o \$1,000 for 4-year institutions
 - o \$750 for Community Colleges, K-12 and smaller institutions
 - o \$150 lab fee per student when labs are present
 - Lab fees may be charged to students or absorbed by the institution
 - Merit will bill you a flat fee per student with the lab fee included, where applicable
- Will be billed by Merit once the student count is final and only for students who login and access the environment
- Incurs no penalties for cancellations, Merit follows the institution's cancellation policy

Available Courses

Below is a list of current course offerings through Merit. Courses continue to expand at the request of our membership running this program. For a tailored list of Academy course descriptions, visit <https://www.merit.edu/pwp-self-funded-cyber-range->

PASSWORD:

"CyberHubSelfFunded16" For a complete outline, visit Mile2.com and select the appropriate course.

CISSO - Certified Information Systems Security Officer

Fee: \$1,000 or \$750 per student and this includes the certification exam, often used as the final exam.

The CISSO is internationally regarded as the most complete and comprehensive prep course to sit for the CISSP and includes instruction for all of the eight domains associated with proper Information Security Management. Where applicable, students may also receive proprietary study material for the CISSP exam in conjunction with the Mile2 curriculum. This course is theoretical and does not contain labs. Most members place this in the Information Security or MIS platform but that is at the member's discretion.

CPEH - Certified Professional Ethical Hacker

Fee: \$750 + \$150 lab fee per student – this includes the certification exam, often used as the final exam.

The CPEH training presents information on the latest exploit techniques, vulnerabilities and defenses. This class also enhances the business skills needed to identify protection opportunities, justify testing activities and optimize security controls appropriate to the business needs in order to reduce business risk. This course was developed based on principles and methods used by malicious hackers, but its focus is professional penetration testing and securing information assets. The course provides in-depth labs that focus on open source and commercial based tools, and on industry best practices. These hands-on labs emulate real world hacking scenarios. The labs equip the candidate to assess an organization's security posture, help implement controls to better secure network infrastructure.

CPTE - Certified Penetration Testing Engineer

Fee: \$1,000 + \$150 lab fee = 1,150 or \$750 + \$150 lab fee per student – this includes the certification exam, often used as the final exam.

This course is the introductory training in the line of penetration testing courses and certifications. The course helps students gain a foundational knowledge of vulnerability assessments, penetration testing and report writing. Students will learn the process of penetration testing with an emphasis on the business skills needed to identify protection opportunities, justify testing activities and optimize security controls appropriate with organizational needs to reduce risk.

The course provides in-depth labs that focus on both open source and commercial based tools with industry best practices. These hands-on labs emulate real world hacking scenarios and equip the candidate to assess your company's security posture, help implement controls to better secure network infrastructure.

CSWAE – Secure Web Application Engineer

Fee: \$1,000 + \$150 lab fee = 1,150 or \$750 + \$150 lab fee per student – this includes the certification exam, often used as the final exam.

This course provides students with the knowledge and processes needed to identify and defend against security vulnerabilities in software applications. This course provides the aspiring developer or experienced developer with a thorough and broad understanding of secure application concepts, principles and standards. The student will be able to design, develop and test web applications that will provide reliable web services that meet functional business requirements and satisfy compliance and assurance needs. Students will put theory to practice by completing real world labs that include testing applications for software vulnerabilities, identifying weaknesses in design through architecture risks analysis and threat modeling and conducting secure code reviews. This course was developed in conjunction with leading OWASP experts and industry demand in web applications.

CNFE – Certified Network Forensics Examiner

Fee: \$1,000 + \$150 lab fee or \$750 + \$150 lab fee per student – this includes the certification exam, often used as the final exam.

This course empowers the student to put together a more complete report using evidence from reconstructed and recovered network transactions. Students learn principles of network forensics analysis and how to apply them by using common tools to recognize traffic patterns associated with suspicious network behavior and subsequently perform network repair procedures.

Students will put theory to practice by completing real world labs that simulate real-world scenarios, which cover investigation and recovery of data in network, physical interception, traffic acquisition, analysis, wireless attacks and SNORT. The course focuses on the centralizing and investigating of logging systems as well as network devices.

FAQ

Do Academy Program courses require an academic, for-credit, structure?

No, you have complete control on how you offer courses and where you place them in your institution. This program should fit with the goals and objectives of your department and is not incumbent on input from Merit. However, many of our institutions offer courses for credit and non-credit at the same time.

Do instructors need to have the corresponding Mile2 Certification before teaching courses?

Merit recognizes that your institution has a long history of obtaining qualified instructors and offering curriculum. In that light, our credentialing guidelines have been set to best protect the integrity of the offerings, while making access available to your instructors as seamless as possible on your part. During the review process, Merit staff will analyze the credentials and experience of the instructor and often-similar certifications and experience qualify instructors to begin teaching.

Example: Professor X has 10 years teaching your MIS 520 - Information Security Management Course and has a PHD and a CISSP. Professor X would be qualified to teach the course based on your guidelines and his certification would pass to allow entry in the program. We require instructors using the program to take and pass the Mile2 CISSO exam and obtain the credentialing before teaching the course. This exam is provided at no cost.

Can I bypass the on-boarding process?

No, Merit is concerned about quality control in the Academy Program and does need to maintain some on-boarding policies to ensure that instructors feel comfortable with the training format. We understand that a faculty member who has been teaching for 15-20 years and has a Ph.D. may not feel they require a validation or assessment of their teaching ability, nor is this our aim in the on-boarding process. Rather, through one conversation or a series of conversations with the Michigan Cyber Range team, we will walk instructors through the training environment and confirm they are assured of being able to deal with technical aspects and particulars associated with teaching on the Cyber Range.

Do we have an option to exclude the certification test for students?

Yes. Once the curriculum is provided to the instructor and the students, the learning objectives and requirements are set 100% by you. You may omit the exam or require it as a final. However, all students will have access to it in their portal, regardless of the institutions policy, as it is included with the student fee.

Where can I find detailed course outlines?

Please refer to the Outreach Toolkit website or the Mile2.com website.

Can you expand on the process to approve instructors?

As long as the instructor meets your requirements and has the equivalent experience, we will provide early access to their instructor portal, during that time and before the start of the class they will be required to pass the Mile2 Certification with 70% or better. This exam is pre-loaded in the portal and free re-takes are available. Prior to the start of class, we require your instructor to have an onboarding meeting with our Program Manager. If you are uncertain as to whether an individual is qualified, Merit will require that individual to teach selected material back to a staff member and provide you with clarity. This option is not required for staff who meet your requirements and have the relevant experience.

What vendors do you use?

Merit partners with Mile2 for the Academy course curriculum and labs. The lab content is hosted on the Michigan Cyber Range with no gateway to the internet but publicly accessible 24X7 (through a view client) from anywhere in the world at low bandwidth.

Is there Latitude to change the course outlines?

This content is universally accepted and current, However the course delivery mechanism and content are at your sole discretion. Be advised that major alterations to course material could affect student's ability to pass the certification exam (if applicable) and may affect the integrity of your institution's course.

What are the top 3-5 certifications that have the highest demand nationwide?

DOD certs of CISSP, CEH, and Security+ are the tests crippling the military and defense industries. Those prep courses are CISSO and CPEH and CPTC, which is found here: www.mile2.com.

What current universities are using these courses for credit at their colleges?

Wayne State University and Bowling Green University. We have been authorized by them to use as a referral source.

Are there any plans to integrate with Canvas LMS using and LTI?

No, there are no plans.

Can these courses be delivered online in 7 or 8-week courses and would you consider these 3 credit hour courses (the standard credits at a University for a full college course)?

As long as the course is delivered longer than one week, each course can be delivered for the duration of your preferred academic model. The length of time should be based on the experience and technical acumen of the students.

What is the cancellation policy?

Merit honors each university's cancellation policy.

How many academic departments are teaching the courses?

Courses are offered wherever best fits the institution and helps increase curriculum acceptance. Members currently offer these courses in the following focus areas: master's level, undergraduate, associate's degree. Additionally, we see curriculum being offered in the following schools of: computer science, business, engineering, political science, criminal justice and life sciences.
