CYBR-103 – Scripting for Cybersecurity

Technology

Effective Term & Year: Fall 2027
Course Outline Review Date: 2032-03-01

Program Area: Information Technology

Description:

This course introduces students to scripting techniques used in modern cybersecurity operations and automation. Students develop practical skills in creating, troubleshooting, and implementing security-focused scripts using common scripting languages and operating system interactions. Through hands-on labs and real-world scenarios, learners apply scripting to automate network security tasks, support incident response and digital forensics investigations, and perform basic web application security testing. The course emphasizes automation, efficiency, and secure scripting practices used in cybersecurity environments.

Program Information:

This course is required for the first year of the Cybersecurity Operations program.

Delivery Methods: Hybrid – On-campus (Face-to-Face) and Online

Credit Type: College of the Rockies Credits

Credits: 3

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	30
Seminar/Tutorials	
Laboratory/Studio	30

Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	60

Course Requisites:

Prior Learning and Recognition: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, work-based assessment or a combination of assessments that is appropriate to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columbia or elsewhere should go to the College of the Rockies Enrollment Service office.

Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Please see the instructor's syllabus or check COTR's online text calculator
https://textbook.cotr.bc.ca/
for a complete list of the currently required textbooks.

Learning Outcomes:

Upon successful completion of this course, students will be able to:

- develop and troubleshoot cybersecurity scripts using common scripting languages and

operating system interactions to support secure automation practices;
- apply scripting techniques to automate network security monitoring, system administration, and cybersecurity operational tasks;
- implement scripting solutions that support incident response, digital forensics investigations, and the generation of investigative reports and timelines;
- analyze and automate basic web application security testing processes to identify vulnerabilities and improve system security;
- apply secure scripting practices, debugging techniques, and error handling methods to improve the reliability and effectiveness of cybersecurity scripts; and
- evaluate scripting solutions and automation workflows used in cybersecurity operations to improve efficiency, scalability, and security management.

Course Topics:

- Scripting Fundamentals for Cybersecurity
- Python, PowerShell, and Bash Scripting Basics
- Operating System Interaction and Automation
- Network Security Automation with Scripts
- Log Analysis and Security Monitoring Automation
- Incident Response and Digital Forensics Scripting
- Web Application Security Testing Automation
- Secure Coding and Script Troubleshooting
- Security Automation Workflows and Best Practices
- Introduction to SOAR and Security Automation Tools

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face) and Online, or Hybrid

Assessment Type	% of Total Grade
Assignments (x2)	40%
Midterm	20%
Progress Milestone	10%
Final Exam	30%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F

>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

Evaluation Notes: A grade of “D” grants credit, but may not be sufficient as a prerequisite for sequential courses.

Evaluation Notes Comments:

Please see the instructor’s syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a “0” on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.