Eastern Illinois University
New/Revised Course Proposal Format
(Approved by CAA on 9/30/21 and CGS on 11/16/21)

Banner/Catalog Information (Coversheet)

1. __X__ New Course or _____ Revision of Existing Course

2. **Course prefix and number:** ___MIS 4960_____

3. **Short title:** ____Certified Ethical Hacking _____

4. **Long title:** _____ Certified Ethical Hacking _____

5. **Hours per week:** _2_ Class   _2_ Lab   _3_ Credit

6. **Terms:** ___ Fall   ___ Spring   ___ Summer   _X_ On demand

7. **Initial term**: _X_ Fall   ___ Spring   ___ Summer   Year: _2023_

8. **Catalog course description:** ___ Students study computer hacking concepts and develop ethical hacking skills including reconnaissance, scanning, enumeration, vulnerability assessment, and simulated attacks in a controlled environment, to devise and implement security measures. This course prepares students for the EC-Council's Certified Ethical Hacker exam (312-50). Students will use EC-Council's actual labs to learn and enhance their skills. Students may take MIS 4850 or MIS 4860 concurrently with this course._

9. **Course attributes: N/A**

   General education component: _____

   ___ Cultural diversity ___ Honors ___ Writing centered   ___ Writing intensive ___Writing active

   ___ Department Capstone as Senior Seminar

10. **Instructional delivery**
    Type of Course:

    __ Lecture   ___ Lab   _X_ Lecture/lab combined   ___ Independent study/research

    ___ Internship   ___ Performance   ___ Practicum/clinical ___ Other, specify: _____

    Mode(s) of Delivery:

    _X_ Face to Face   __ Online Synchronous _X_ Online Asynchronous   ___ Study Abroad

_X_ Hybrid, specify approximate amount of on-line and face-to-face instruction__ A maximum of 49% of the course will be online with the remainder face-to-face _

11. Course(s) to be deleted from the catalog once this course is approved:
___N/A_____

12. Equivalent course(s):
__N/A_____

    a. Are students allowed to take equivalent course(s) for credit? ___ Yes   _X_ No

13. Prerequisite(s): MIS 4850 (may be taken concurrently), or MIS 4860 (may be taken concurrently), or MIS 4700 with a C or better, or MIS 3200 with a C or better, or CIT 2853 with a C or better, or TEC 5313 for students enrolled in the MS in Cybersecurity degree program, or permission of the Chair, School of Business _

    a. Can prerequisite be taken concurrently? __ Yes   _X__ No

    b. Minimum grade required for the prerequisite course(s)? _No_

    c. Use Banner coding to enforce prerequisite course(s)? _X__ Yes   ___ No

    d. Who may waive prerequisite(s)?

      ___ No one   _X__ Chair   ___ Instructor   ___ Advisor   ___ Other (specify)

14. Co-requisite(s): _____

15. Enrollment restrictions

    a. Degrees, colleges, majors, levels, classes which <u>may</u> take the course: ___All_____

    b. Degrees, colleges, majors, levels, classes which may <u>not</u> take the course: ___None____

16. Repeat status: _X_ May not be repeated   __ May be repeated once with credit

17. Enter the limit, if any, on hours which may be applied to a major or minor: _3_

18. Grading methods: _X_ Standard   ___ CR/NC   __ Audit   ___ ABC/NC

19. Special grading provisions:

    ___ Grade for course will <u>not</u> count in a student's grade point average.

    ___ Grade for course will <u>not</u> count in hours toward graduation.

    ___ Grade for course will be removed from GPA if student already has credit for or is registered in: _____

___ Credit hours for course will be removed from student's hours toward graduation if student already has credit for or is registered in: _____

20. Additional costs to students:
Supplemental Materials or Software_____$125 (EC-Council CyberQ Labs Access) + $69 (CEH Exam Prep Access)_____

Course Fee ___No _X_Yes, Explain if yes__The cost of workshops and boot-camps for preparing for the CEH certification is between $2800 and $3000. Because EIU joined the EC-Council Academia partnership in 2020, EIU students enrolled in a course designed to prepare for one of the EC-Council's certifications can pay a discounted fee of $194.00 for accessing EC-Council's CyberQ Labs platform ($125) and EC-Council's CEH Exam Prep material ($69). The two are key for effective CEH certification preparation._

21. Community college transfer:

___ A community college course may be judged equivalent.

_X_ A community college may <u>not</u> be judged equivalent.

Note: Upper division credit (3000+) will <u>not</u> be granted for a community college course, even if the content is judged to be equivalent.

<u>Rationale, Justifications, and Assurances (Part I)</u>

1. ___Course is required for the major(s) of _____

___Course is required for the minor(s) of _____

___Course is required for the certificate program(s) of _____

_X_ Course is used as an elective for BAIS program

2. Rationale for proposal: The US Bureau of Labor Statistics lists cybersecurity among its fastest-growing career areas. With an expected 32% growth over the coming decade, Cybersecurity has over six times the growth rate for all jobs. This course prepares students with relevant knowledge and technical skills to seat for the EC-Council's Certified Ethical Hacker certification exam and meet the Cybersecurity job requirements of the US Department of Defense and all major US corporations.

3. Justifications for (answer N/A if not applicable)

<u>Similarity to other courses</u>: MIS 4860 – This class teaches students the fundamentals of Ethical Hacking and network defense. The proposed MIS 4960 goes steps further to arm students with the advanced knowledge and skills needed to seat for the EC-Council's CEH exam.
<u>Prerequisites</u>: The listed pre-requisites will prepare students for the class.
<u>Co-requisites</u>: N/A

Enrollment restrictions: N/A

Writing active, intensive, centered: N/A

Capstone as Senior Seminar: N/A

4. **General education assurances (answer N/A if not applicable)**

General education component: N/A

Curriculum: N/A

Instruction: N/A

Assessment: N/A

5. **Online/Hybrid delivery justification & assurances (answer N/A if not applicable)**

Online or hybrid delivery justification: This course may be offered in online or hybrid formats in order to make this class as accessible to a broad range of students. This approach is being used to assist in the recruitment and retention of students, as it allows for more flexibility in scheduling for working professionals. In addition, the course content focuses on understanding different perspectives and opinions of people with diverse backgrounds. As such, an online platform allows for a broader range of diverse students to enroll in the course, and therefore share their ideas with other classmates, allowing for richer discussions

Instruction: Lectures of the instructor will be recorded, in order to replicate the type of learning that occurs in a face-to-face class. Other course materials, such as the textbook, videos, readings and discussions will also be available online. Students will submit assignments and participate in discussion board posts online. All instructors will have completed OCDi (or equivalent) training.

Integrity: Students will take quizzes and exams through an online platform with a video monitoring system.

Interaction: At the discretion of the faculty, provisions and requirements would vary but generally will utilize Email, Web-Based Discussions, and Web-conferencing

Model Syllabus (Part II)

Please include the following information:

1. **Course number and title:** MIS 4960 – Certified Ethical Hacking
2. **Catalog description:** Students study computer hacking concepts and develop ethical hacking skills including reconnaissance, scanning, enumeration, vulnerability assessment, and simulated attacks in a controlled environment, to devise and implement security measures. This course prepares students for the EC-Council's Certified Ethical Hacker exam (312-50). Students will use EC-Council's actual labs to learn and enhance their skills. Students may take MIS 4850 or MIS 4860 concurrently with this course.
3. **Learning objectives:**
   1. Study and analyze cybersecurity threats, information security controls, relevant laws and standard procedures. (CT 5-6), (Graduate 1, 2)
   2. Conduct ethical hacking activities including reconnaissance, scanning, enumeration, risk assessment, and simulated attacks in a controlled environment. (CT 1-4), (Graduate 1, 2)

3. Identify computer systems' vulnerabilities and recommend solutions. (CT 1-4), (Graduate 1, 2)

4. **Course materials:**
   - Simpson, M. & Antil, N. *Hands-on Ethical Hacking & Network Defense*, Cengage Learning, 2022.
   - EC-Council CyberQ Labs & EC-Council Exam Prep, EC-Council USA, 2022

5. Weekly outline of content:

Week	Topic	Coverage
Week 1	Introduction to Ethical Hacking	2.5 hours of lab and lecture
Week 2	Footprinting and Reconnaissance	2.5 hours of lab and lecture
Week 3-4	Scanning Networks & Enumeration	5 hours of lab and lecture
Week 5	Enumeration	2.5 hours of lab and lecture
Week 6	Vulnerability Analysis & System Hacking	2.5 hours of lab and lecture
Week 7	Malware Threat, Sniffing, & Social Engineering	2.5 hours of lab and lecture
Week 8-9	Denial-of-Service and Session Hijacking	5 hours of lab and lecture
Week 10	Evading IDS, Firewalls, and Honeypots	2.5 hours of lab and lecture
Week 11	Hacking Web servers	2.5 hours of lab and lecture
Week 12	Hacking Web Applications & SQL Injection	2.5 hours of lab and lecture
Week 13	Hacking Wireless Networks & Mobile Platforms	2.5 hours of lab and lecture
Week 14	IoT and OT Hacking	2.5 hours of lab and lecture
Week 15	Cryptography	2.5 hours of lab and lecture
Week 16	Final Exam	
	Total	37.5 Hours plus final exam time

6.   Assignments and evaluation, including weights for final course grade. The grading components and weights may vary by the instructor, but are generally considered as follows:

Undergraduates:

Course Assessment	Percentages
Exams (2 including final exam)	40%
Lab Assignments (using EC-Council CyberQ Labs)	30%
Weekly Assignments (multiple choice questions, short projects, scenario-based problems)	30%
Total	**100%**

Graduates:

Course Assessment	Percentages
Exams (2 including final exam)	35%
Lab Assignments (using EC-Council CyberQ Labs)	25%
Weekly Assignments (multiple choice questions, short projects, scenario-based problems)	25%
Research project	15%
Total	**100%**

7. Grading scale.

Grading Scale:	%
A	90-100%

B	80-89%
C	70-79%
D	60-69%
F	< 60%

8. Correlation of learning objectives to assignments and evaluation.

The students' achievement of the stated course objectives will be assessed as follow:

Undergraduates:

Objectives	Exams (40%)	Lab assignments (30%)	Quizzes & short projects (30%)
1	X	X	
2	X	X	X
3	X	X	X

Graduates:

Objectives	Exams (35%)	Lab assignments (25%)	Quizzes & short projects (25%)	Research project (15%)
1	X	X		X
2	X	X	X	X
3	X	X	X	X

Date approved by the department or school: 12/5/2022
Date approved by SBUS graduate committee: 1/31/2023
Date approved by the college curriculum committee: 2/9/2023
Date approved by the Honors Council *(if this is an honors course):*
Date approved by CAA: CGS: