Program-Level Assessment Plan

SAINT LOUIS UNIVERSITY.

Program: Cybersecurity	Degree Level (e.g., UG or GR certificate, UG major, master's program, doctoral program): Master's Program
Department: SPS Graduate Programs	College/School: Professional Studies
Date (Month/Year): June 2021	Primary Assessment Contact: Matt Grawitch

Note: Each cell in the table below will expand as needed to accommodate your responses.

#	Student Learning Outcomes	Curriculum Mapping	Assessment Methods	
	What do the program faculty expect all students to know or be able to do as a result of completing this program? Note: These should be measurable and manageable in number (typically 4-6 are sufficient).	In which courses will faculty intentionally work to foster some level of student development toward achievement of the outcome? Please clarify the level at which student development is expected in each course (e.g., introduced, developed, reinforced, achieved, etc.).	**Artifacts of Student Learning (What)** 1. What artifacts of student learning will be used to determine if students have achieved this outcome? 2. In which courses will these artifacts be collected?	**Evaluation Process (How)** 1. What process will be used to evaluate the artifacts, and by whom? 2. What tools(s) (e.g., a rubric) will be used in the process? Note: Please include any rubrics as part of the submitted plan documents.
1	Graduates will be able to apply program-specific knowledge to address practical problems using an ethical, evidence-based framework.	I: ORLD 5050, CYBR 5000 D: CYBR 5210, CYBR 5230 E: CYBR 5963	1. An assessment survey will be completed by each instructor at end of course in which this program learning outcome exists. This survey will inquire about: A) Specific artifact(s) used to demonstrate achievement, B) Strengths/weakness in student performance towards this outcome, C) Number of students who achieved/partially achieved/not achieved the outcome, D) Suggestions on potential changes to the curriculum/pedagogies/artifacts/assessment methods. 2. Masters applied research projects completed in CYBR 5963 will be evaluated by the Program Director at the end of the	Every other year, typically in the spring. The program Director in cooperation with the full-time and adjunct faculty will analyze assessment data and make changes to pedagogy and/or curriculum. Program Directors will follow up on action items from the previous year to determine impact and possible refinements or enhancements moving forward.

		research project using a three-point rubric. Comments and recommendations will be recorded.	
2	Graduates will be able to utilize argumentation skills appropriate for a given problem or context.	I: ORLD 5050, CYBR 5000 D: CYBR 5220, CYBR 5240 E: CYBR 5963	1. An assessment survey will be completed by each instructor at end of course in which this program learning outcome exists. This survey will inquire about: A) Specific artifact(s) used to demonstrate achievement, B) Strengths/weakness in student performance towards this outcome, C) Number of students who achieved/partially achieved/not achieved the outcome, D) Suggestions on potential changes to the curriculum/pedagogies/artifacts/assessment methods. 2. Exit survey completed by students at end of degree. 3. Masters applied research projects completed in CYBR 5963 will be evaluated by the Program Director at the end of the research project using a three-point rubric. Comments and recommendations will be recorded.	Every other year, typically in the spring. The program Director in cooperation with the full-time and adjunct faculty will analyze assessment data and make changes to pedagogy and/or curriculum. Program Directors will follow up on action items from the previous year to determine impact and possible refinements or enhancements moving forward.
3	Graduates will be able to apply cybersecurity-relevant network and data management systems principles to protect various assets.	I: CYBR 5010 D: CYBR 5020, CYBR 5030, CYBR 5210, CYBR 5220 E: CYBR 5963	1. An assessment survey will be completed by each instructor at end of course in which this program learning outcome exists. This survey will inquire about: A) Specific artifact(s) used to demonstrate achievement, B) Strengths/weakness in student performance towards this outcome, C) Number of students who achieved/partially achieved/not achieved the outcome, D) Suggestions on potential changes to the curriculum/pedagogies/artifacts/assessment	Every other year, typically in the spring. The program Director in cooperation with the full-time and adjunct faculty will analyze assessment data and make changes to pedagogy and/or curriculum. Program Directors will follow up on action items from the previous year to determine impact and possible refinements or enhancements moving forward.

			methods.	
			2. Exit survey completed by students at end of degree.	
			3. Masters applied research projects completed in CYBR 5963 will be evaluated by the Program Director at the end of the research project using a three-point rubric. Comments and recommendations will be recorded.	
4	Graduates will be able to apply information security principles to analyze, detect and mitigate vulnerabilities and prevent intrusions.	I: CYBR 5010 D: AA 5221, CYBR 5020, CYBR 5030, CYBR 5230, CYBR 5240 E: CYBR 5963	1. An assessment survey will be completed by each instructor at end of course in which this program learning outcome exists. This survey will inquire about: A) Specific artifact(s) used to demonstrate achievement, B) Strengths/weakness in student performance towards this outcome, C) Number of students who achieved/partially achieved/not achieved the outcome, D) Suggestions on potential changes to the curriculum/pedagogies/artifacts/assessment methods. 2. Exit survey completed by students at end of degree. 3. Masters applied research projects completed in CYBR 5963 will be evaluated by the Program Director at the end of the research project using a three-point rubric. Comments and recommendations will be recorded.	Every other year, typically in the spring. The program Director in cooperation with the full-time and adjunct faculty will analyze assessment data and make changes to pedagogy and/or curriculum. Program Directors will follow up on action items from the previous year to determine impact and possible refinements or enhancements moving forward.

Master of Science Cybersecurity
Program Level Student Learning Objectives
Fall 2021

	1. Assess evidence to draw reasoned, ethical conclusions.	2. Utilize effective discipline-specific argumentation skills.	3. Graduates will be able to apply cybersecurity-relevant network and data management systems principles to protect various assets.	4. Graduates will be able to apply information security principles to analyze, detect and mitigate vulnerabilities and prevent intrusions.
SPS Graduate Core (12 Credits)				
ORLD 5050 Ethical, Evidence-Based Decision Making	I	I		
AA 5221 Applied Analytics and Methods I				D
Cyber Core (15 Credits)				
CYBR 5000 Cybersecurity Principles	I	I		
CYBR 5010 Networking Concepts			I	I
CYBR 5020 Data Administration			D	D
CYBR 5030 Cyber Threats and Defense			D	D
CYBR 5961-5963 Cybersecurity Master's Research Project (MRP)	E	E	E	E
Cyber Electives (9 Credits)				
CYBR 5210 Digital Investigations	D		D	
CYBR 5220 Incident Response and Mitigation		D	D	
CYBR 5230 Intrusion Detection and Analysis	D			D
CYBR 5240 Cloud Security		D		D

Use of Assessment Data

1. How and when will analyzed data be used by program faculty to make changes in pedagogy, curriculum design, and/or assessment practices?

   Annually, usually in the spring. Data will be collected from all instructors of courses that introduce or reinforce learning outcomes (as a way of identifying specific ways to enhance the program curriculum), but overall assessment will be conducted based on the MRPs.

2. How and when will the program faculty evaluate the impact of assessment-informed changes made in previous years?

   Every two years, when the same SLOs are assessed, follow up on changes will be made via comparison of instructor data across those years.

Additional Questions

1. On what schedule/cycle will program faculty assess each of the program's student learning outcomes? (Please note: It is <u>not recommended</u> to try to assess every outcome every year.)

	SLO1	SLO2	SLO3	SLO4
Even Years	X	X		
Odd Years			X	X

2. Describe how, and the extent to which, program faculty contributed to the development of this plan.

   There are not any existing program faculty, except for one. Program faculty will be consulted as they become more involved in the program.

IMPORTANT: Please remember to submit any rubrics or other assessment tools along with this plan.