KENT STATE UNIVERSITY
CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date | Curriculum Bulletin _____

Effective Date **Fall 2020** | Approved by EPC _____

Department **Information Technology**

College **AP - Applied and Technical Studies**

Degree **AAB - Associate of Applied Business**

Program Name **Cybersecurity** Program Banner Code

Concentration(s) Concentration(s) Banner Code(s)

Proposal **Establish program**

Description of proposal:

This proposal is to establish a major, Cybersecurity, in the AAB degree.

Does proposed revision change program's total credit hours? ☐ Yes ☐ No

Current total credit hours: Proposed total credit hours

Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need; audience; prerequisites; teacher education licensure):

No impact on other Associate degree programs. The focus of the existing Associate of Applied Business in Information Technology is on computer support. Supporting computer infrastructures relies on securing them. As the proposed AAB in Cybersecurity major will be designed to provide job opportunities and articulate into the existing Bachelor of Science in Information Technology (BSIT).

Units consulted (other departments, programs or campuses affected by this proposal):

Regional Campus Faculty Councils, CATS Curriculum Committee, EPC, Faculty Senate

REQUIRED ENDORSEMENTS

Will Walt III — 1/2020
Department Chair / School Director

Susan J. Stocker (Ashtabula) — 1/21/2020
Campus Dean (for Regional Campuses proposals)

Susan J. Stocker (CATS) — 1/21/2020
College Dean (or designee)

_____ — ___/___/___
Dean of Graduate Studies (for graduate proposals)

_____ — ___/___/___
Provost (or designee)

HIGHER LEARNING COMMISSION

FORM

New Programs

Substantive Change Application

Institution: City, State:

Name of person completing this application:

Title: Phone: Email:

Date Submitted:

The questions are designed to elicit brief, succinct, detailed information, rather than a narrative or references to extensive supporting documents. Do not attach other documents unless they are specifically requested in the questions and are germane to the request. The total submission should be no more than 10–12 pages on a single classification of change. (The page limit excludes attachments. However, the overall length, including attachments, should not exceed 200 pages.)

If the person completing this application is not the CEO, CAO or the ALO of the institution, it is understood that the person completing and submitting this application has consulted with and informed those individuals.

Please note: HLC plans to update the change forms annually, on or about September 1 of each year. However, if a change application form was accessed more than 90 days prior to filing, it is recommended that the institution visit http://www.hlcommission.org/change to ensure that there have been no changes to the application form in the intervening time.

Submit the completed application as a single PDF file on the following webpage: http://www.hlcommission.org/document_upload/.

Part 1: General Questions

1. **Requested Change(s).** Concisely describe the change for which the institution is seeking approval.

   Kent State University proposes establishing an Associate of Applied Business in Cybersecurity degree, to be offered fully online and hybrid online/on-ground at all the university's seven regional campuses in Northeast Ohio—Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas—and at Kent State's Regional Academic Center in Twinsburg, Ohio. The Trumbull Campus will be the admitting campus for first-time Kent State University applicants who are declaring the fully online program.

The proposed Cybersecurity degree would complement the existing Information Technology programs at Kent State University and respond to a national need for more graduates trained to provide a secure infrastructure.

The U.S. Bureau of Labor Statistics (BLS) projects cyber security jobs to increase 32 percent through 2028, which is much faster than the average for all occupations.[1]

According to some reports, the cybersecurity unemployment rate is zero and the number of job openings will more than triple over the next five years.[2]

The focus of the existing Associate of Applied Business (AAB) in Information Technology and Bachelor of Science in Information Technology (BSIT) degrees is on computer support. Supporting computer infrastructures relies on securing them. As the proposed AAB in Cybersecurity degree is designed to articulate into the existing Bachelor of Science in Information Technology (BSIT), it will provide students with a pathway from an associate to bachelor's degree in the field of cybersecurity. The BSIT has seven concentrations including Application Development, Applied Computer Security and Forensics, Database Design and Administration, Health Information Technology, Integrated Information Technology, Internet/Multimedia, and Networking.

Kent State has offered an associate degree in information technology for more than four decades on its regional campuses (and fully online since 2011). The AAB Cybersecurity will offer students another option in addition to the AAB in Information Technology for an entry-level degree that is focused on the extremely critical topic of cybersecurity.

2. **Is this application being submitted in conjunction with another application?**

☐ Yes

☒ No

3. **Classification of Change Request.**
Note: not every institutional change requires prior review and approval. Review the "Overview of HLC Policies and Procedures for Institutional Changes Requiring HLC Notification or Approval" to make certain that current HLC policy requires the institution to seek approval.

New academic program(s):

☐ Certificate ☐ Bachelor's ☐ Diploma ☐ Master's/specialist

☒ Associate's ☐ Doctorate ☐ *Check if program is at a new degree level*

An institution submitting more than one change request should complete multiple applications, one for each type of change. The types of change requests include:

- Change in mission

[1] https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm
[2] https://cybersecurityventures.com/career-news/

- Change in student body
- Competency-based education (credit-based; direct assessment; hybrid) programs
- Consortial arrangement
- Contractual arrangement
- Substantially changing the clock or credit hours required for a program
- Change in academic calendar (e.g., quarters to semester) or change in credit allocation
- Teach-out plan if closing location provides total degree programs
- Distance or correspondence education
- New programs
- Certificate programs
- Branch campuses and additional locations

4. **Special conditions.** Indicate whether any of the conditions identified below fit the institution (Yes or No). If Yes, explain the situation in the space provided.

a) Is the institution, in its relations with other regional, specialized, or national accrediting agencies, currently under or recommended for a negative status or action (e.g., withdrawal, probation, sanction, warning, show-cause, etc.)?

b) Is the institution now undergoing or facing substantial monitoring, special review, or financial restrictions from the U.S. Department of Education or other federal or state government agencies?

c) Has the institution's senior leadership or board membership experienced substantial resignations or removals in the past year?

d) Is the institution experiencing financial difficulty through such conditions as a currently declared state of exigency, a deficit of 10% or more, a default or failure to make payroll during the past year, or consecutive deficits in the two most recent years?

e) Is the institution experiencing other pressures that might affect its ability to carry out the proposal (e.g., a collective bargaining dispute or a significant lawsuit)?

5. **Approvals.** Mark whether each type of approval is required prior to implementing the proposed change. If "Yes," attach documentation of the approval to the request. If "No," attach evidence that approval is not needed.

Internal (faculty, board) approvals	☐ Yes	☐ No	
System approvals	☐ Yes	☐ No	☐ Not Applicable
State approval	☐ Yes	☐ No	
Foreign country(ies) approvals	☐ Yes	☐ No	☐ Not Applicable

For Distance or Correspondence Education only:
Process in place to ascertain and secure state approval(s) as required ☐ Yes ☐ No

6. **Specialized Accreditation.** Complete this section only if specialized accreditation is required for licensure or practice in program(s) covered by this change application.

☐ The institution has already obtained the appropriate specialized accreditation. Attach a copy of the letter from the agency granting accreditation.

☐ The institution has begun the process of seeking or plans to seek specialized accreditation. Specify the name of the agency and the timeline for completing the process in the space below. (If approval is a multi-stage process, the institution should contact the HLC staff liaison to discuss the timeline before submitting this change application form.)

☐ The institution does not plan to seek specialized accreditation. Provide a rationale for not seeking this accreditation in the space below.

7. **Changes Requiring Visits.** This section is not for HLC-mandated visits such as additional location confirmation visits or campus evaluation visits.

Note: Complete this section only if the institution is already aware that the proposed change will need to be reviewed through a visit. The institution may submit Part 1 of the change request application to begin the process of scheduling a Change Visit or adding the proposed change to an already scheduled visit. The full application must be submitted at a later date. (If the institution is unsure whether a visit is required, leave this section blank and submit the full change application. HLC will advise the institution based on the information provided.)

a) Select the type of visit the institution is requesting:

☐ Request to schedule a Change Visit.

Change Visits typically are scheduled approximately four months from the date an institution submits its change request. The full change application and other required materials will be due to HLC and the peer review team eight weeks before the visit date. See http://www.hlcommission.org/change-visit for more information.

☐ Request to add a proposed change to an already scheduled visit. **Note:** Such requests must be submitted at least six months before the visit date.

Specify type of visit and date scheduled:

The institution's full change application should be submitted along with other materials required for the visit.

b) Provide URLs to the institution's Faculty/Staff Handbook and Catalog below. If the URLs are not available, please provide PDF versions of these documents when submitting other required materials prior to the visit.

Faculty/Staff Handbook URL:

Catalog URL:

Part 2: Topic-Specific Questions

An institution should submit a separate application for each requested program (unless the programs represent closely related disciplines). If more than one program is being requested in this application, please be sure to sufficiently address each program when answering the following questions, particularly in Sections A, D, E and F. Each proposed new program should be identified by using the *Classification of Instructional Programs* terminology (CIP codes). CIP codes are established by the U.S. Department of Education's National Center for Education Statistics as a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. More information is available at http://nces.ed.gov/ipeds/cipcode/.

Attach the "Substantive Change Application, Part 1: General Questions" as page one of your application. That completed form and your answers to the questions below will constitute your request for approval of a substantive change. This form will be the basis for review of this application.

Section A. Characteristics of the Change Requested

1. Identify the basic characteristics of the proposed educational program as indicated below:

a) The full name of the proposed program, the specific degree (if applicable) or the instructional level (if not a degree program), and the six-digit CIP code XX.XXXX of the program (CIP codes, program name, and additional description [optional])

The full name of the proposed program is the Associate of Applied Business degree in Cybersecurity. The CIP code that will be assigned is the following:

CIP 43.0404 Cybersecurity Defense Strategy/Policy: A program that focuses on the study of strategy, policy, and standards regarding the security of and operations in cyberspace. Includes instruction in incident response, information assurance, recovery policies, vulnerability reduction, deterrence, threat reduction, and resiliency.

b) Total credit hours (indicate whether semester or quarter) for completion of the program

The degree program is 60 semester credit hours, comprising 38 hours of major requirements and 22 hours of general education/general elective requirements. Transfer students with appropriate information technology backgrounds will be able to apply their transfer courses toward the major requirements.

c) Normal or typical length of time for students to complete the program

Full-time new students will be able to complete the program in two years (four semesters).

d) Proposed initial date for implementation of the program

The proposed implementation is the fall 2020 semester.

e) Primary target audience for the program (e.g., full-time, part-time, traditional college age, working adults, transfer students, military personnel, or particular ethnic group)

Targeted audiences for the AAB Cybersecurity degree will be both full-time and part-time students, and include traditional freshmen, students with associate degrees, transfer students, working adults and students with information technology backgrounds. Students may complete the entire degree at Kent State University or transfer in technical courses from accredited institutions. The program utilizes online or on-ground course delivery methods in full and half-semester formats. In addition, students with advanced computer experience but no college-level credit will able to be placed into higher level major courses, with faculty approval, to earn college credit for lower level major coursework (through Kent State's retroactive credit policy). The goals of the program are to accommodate varied educational backgrounds, develop competencies needed for success in a variety of work settings and offer major courses in schedules attractive to traditional students and to time- and place-bound adults.

f) Projected life of the program (single cohort or ongoing)

The program will have ongoing admission.

g) Whether the program will be part of contractual or consortial arrangement

Not applicable.

2. Identify if the institution is requesting new stipulations for the proposed program and provide a rationale for this request.

Not applicable.

3. If the institution is planning any involvement by external organizations (other than accredited higher education institutions) in key operations as identified below, provide the information requested below and complete the Contractual Screening Form for each planned involvement. (Note that such involvement by a parent company or by one of its subsidiaries external to the institution in any of these operations should be reported.) If the screening form indicates contractual approval is required, complete the full contractual application and submit it in conjunction with the program application. If the screening form indicates no further action is required, attach the confirmation email from HLC.

Type of Involvement	Name(s) of External Organization(s)	Percent of Involvement
A. Recruitment and admission of students	Not applicable	Not applicable
B. Course placement and advising of students	Not applicable	Not applicable
C. Design and oversight of curriculum	Not applicable	Not applicable
D. Direct instruction and oversight	Not applicable	Not applicable
E. Other support for delivery of instruction	Not applicable	Not applicable

Section B. Institution's History With Programs

4. Does the institution currently offer a program at the same instructional level and with the same 4-digit CIP code (XX.XX) as the proposed program? If so, identify the program currently offered and whether it is a degree program. Will the proposed program replace the program currently offered?

   Currently, Kent State does not offer a bachelor's degree program in the same four-digit CIP series 43.04 (Secure Science and Technology).

5. Does the institution currently offer two or more programs at the same instructional level with the same 2-digit CIP code (XX.) as the proposed program? If so, identify the two such programs with the highest numbers of graduates during the past year, along with their numbers of graduates.

   Currently, Kent State does not offer a bachelor's degree program in the same two-digit CIP series 43 (Homeland Security, Law Enforcement, Firefighting, and related protected services).

Section C. Institutional Planning for Program Change

6. What impact might the proposed program have on challenges identified as part of or subsequent to the last HLC review and how has the institution addressed the challenges?

Not applicable.

7. Briefly describe the planning process for determining the need for this new program, including the role of faculty in the planning and approval process.

The decision to propose this program was reached after extensive consultations with appropriate faculty and curricular and administrative bodies on the university's regional campuses, in the College of Applied and Technical Studies (CATS) and at Kent State University overall. The proposed degree program was approved by the Information Technology Curriculum Committee. The committee is composed of all full-time faculty in in the discipline in the regional campus system.

The U.S. Bureau of Labor Statistics (BLS) projects cyber security jobs to increase 32 percent through 2028, which is much faster than the average for all occupations.[3]

According to some reports, the cybersecurity unemployment rate is zero and the number of job openings will more than triple over the next five years.[4]

In addition to be approved by the Information Technology Curriculum Committee, the proposal was approved by CATS Curriculum Committee, comprising faculty across the regional campuses; the Educational Policies Council, a subcommittee of the Faculty Senate; and the Faculty Senate.

8. What are the physical facilities and equipment needed to support the program? Indicate the impact that the proposed change will have on the physical resources and laboratories that currently accommodate existing programs and services, or identify new laboratory and preceptor needs.

No additional resources are needed to support the proposed degree as the faculty, courses, physical facilities and technology for the program are already in place to support the courses in the Associate of Applied Business degree in Information Technology and Bachelor of Science in Information Technology major. No new courses were created with the exception of four courses last year which can be used as electives in the AAB Information Technology and BSIT. If future program growth warrants it, additional program faculty may be needed.

9. What is the evidence that a market for the new program(s) exists? How has estimated program demand been factored into realistic enrollment projections? How has this evidence been used in planning and budgeting processes to develop a quality program that can be sustained?

Enrollment projections factor in the current demand shown in the BSIT Applied Cybersecurity and Forensics concentration. The numbers below begin with the concentration when the program was under the Bachelor of Technical and Applied Studies degree.

[3] https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm
[4] https://cybersecurityventures.com/career-news/

Growth of existing BSIT Applied Cybersecurity and Forensics concentration since implementation

Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
4	18	41	45	48	47	54	54	84

The need for technology support and secure environments is strong. The Bureau of Labor Statics projects employment for Information Security Analysts to grow 32 percent between 2018 and 2028, faster than the average for all occupations.

10. If the program request is approved, what future growth do you anticipate (e.g., in the next six months, three years) and how do you plan to manage this growth?

Program enrollment is expected to moderately increase each year for the next five years, with enrollment divided between full-time and part-time students. Any potential future program faculty hires will be dependent upon student enrollment.

11. How does this program fit into the current and expected financial picture of the institution? In particular, will the program be financially self-sufficient within three years? If not, when do you expect the program to be financially self-sufficient and how do you expect the program to operate until then?

Kent State University operates under a Responsibility Center Management-based (RCM) financial model, where business-type strategies are used to manage and evaluate new and existing programs. Under this model, costs and revenues are taken into consideration when making decisions about the viability of programs. The proposed AAB Cybersecurity degree will be no exception and will undergo the same scrutiny as other. This program would be utilizing several courses from other Information Technology programs that are already sustainable at both the associate and bachelor's degree level.

12. What controls are in place to ensure that the information presented to all constituencies in advertising, brochures, and other communications will be accurate?

The Office of the Provost ensures that only faculty- and university-approved program information is included in the University Catalog, degree audit, Explore Programs and Degrees website and student information system (for program admission and graduation). The Regional Campus system employs marketing staff who are responsible for ensuring consistency and accuracy of messages in promotional communications. In addition, Kent State's Division of University Communications and Marketing coordinates branding and consistency of all of the university's promotional materials.

Section D. Curriculum and Instructional Design

13. Please list all the courses that comprise the program and identify if the program will include any new courses. Include course descriptions and number of credit hours for each.

IT 11004 SURVEY OF INFORMATION TECHNOLOGY 3 Credit Hours
This overview course will provide an introduction to information technologies, career paths and professional certifications available.

IT 11005 INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY 3 Credit Hours
Survey of desktop and network OS essentials, including file and disk management, system tools utilization, resource sharing and introductory network concepts.

IT 11009 COMPUTER ASSEMBLY AND CONFIGURATION 4 Credit Hours
Covers disk operating system functions and features; hardware/software installation procedures; file and directories management; system configuration/optimization; backup procedures.

IT 13000 APPLIED SECURITY ESSENTIALS
Course covering a basic introduction to securing connected devices. Topics include computer security, Internet security, and mobile security.

IT 21002 NETWORK SETUP AND CONFIGURATION 4 Credit Hours
Introduces networking in LAN and WAN environments. Topics include network protocol, configuration, operation, setup, installation, administration, management and security.

IT 21007 INTERNET ETHICS AND POLICIES 3 Credit Hours
Covers the ethics, issues and policies regarding the Internet. It includes discussion/research on intellectual property/freedom, hacking, pornography, privacy, etc.

IT 21110 INTRODUCTION TO ROUTING AND SWITCHING 3 Credit Hours
Introduces internetworking concepts. Topics include networking standards, cabling, TCPIP, router configuration, LAN and WAN segments and other related topics.

IT 21200 ETHICAL HACKING 3 Credit Hours
Tools and techniques ethical hackers and security testers use to discover vulnerabilities and solutions to protect computer networks.

IT 21300 INTRODUCTION TO SECURITY INCIDENT MANAGEMENT *New Fall 2020*
Course covering an introduction to defending against cyber attackers.

IT 22000 SURVEY OF IT CYBERSECURITY *New Fall 2020*
Course introduces students to cybersecurity in information technology. Topics include authentication, encryption, enterprise computing, the role of users in security, data management and end-to-end security in networking.

IT 23000 INTRO TO OPERATING SYSTEM SECURITY *New Fall 2020*
Course introducing operating system security configurations, considerations, and best practices.

IT 24000 DEVELOPING AND IMPLEMENTING SECURITY POLICIES *New Fall 2020*
This course covers governance, legal considerations, and regulations related to information security policy development and implementation.

14. What are the requirements students must fulfill to complete the program successfully (including specific courses, course options, and any other requirements)?

Major Requirements		
IT 11004	Survey of Information Technology	3
IT 11005	Introduction to Operating Systems and Networking Technology	3
IT 11009	Computer Assembly and Configuration	4
IT 13000	Applied Security Essentials	3
IT 21002	Network Setup and Configuration	4
IT 21007	Cyber Ethics in Information Technology	3
IT 21110	Introduction to Routing and Switching	3
IT 21200	Ethical Hacking	3
IT 21300	Introduction to Security Incident Management	3
IT 22000	Survey of IT Cybersecurity	3
IT 23000	Intro to OS Security	3
IT 24000	Developing and Implementing Security Policies	3
Additional Requirements		
UC 10097	Destination Kent State: First Year Experience	1

Kent Core Composition	3
Kent Core Mathematics and Critical Reasoning	3
Kent Core Humanities and Fine Arts	3
Kent Core Social Sciences	3
Kent Core Basic Sciences	3
Information Technology (IT) Elective choose any IT course	6
Minimum Total Credit Hours:	60

15. For programs using prior learning credit, compressed time frames, online delivery, accelerated formats, or other approaches to learning, explain how the institution will ensure that student work and the levels of knowledge and competencies comparable to those required in traditional formats have been achieved.

Lead information technology faculty assess and evaluate the program overall for both online and on-ground students following existing practices. Various outcomes such as writing and communication effectiveness, technical skills and ethical decision-making are used to assess the program's goals and objectives. The data on these metrics are summarized in a program assessment report each year and submitted to Kent State's Office of Accreditation, Assessment and Learning. Data from the program assessment are shared with the Information Technology Curriculum Committee during the yearly reporting cycle. The curriculum committee is composed of all full-time Information Technology faculty.

Section E. Institutional Staffing, Faculty, and Student Support

16. How many and what types of faculty (full-time or part-time) will be employed in the program? Why is the number and type of faculty sufficient to support the program? How many, if any, new faculty will be hired for the program?

There are 10 full-time faculty supporting the existing program on all regional campuses, who teach both on-ground and online courses. The number of part-time faculty (adjuncts) varies each semester depending on need. Presently, there are approximately 15 adjuncts teaching on the seven campuses and Regional Academic Center. One additional full-time position is in the process of being filled.

17. What will the impact of the new initiative be on faculty workload?

The new initiative will have no impact on faculty workload as several of the courses are currently offered in existing programs. Additional faculty may be hired based on program need.

18. Provide a brief attachment that inventories each faculty member employed to teach in the program, including names of existing personnel, a description of each faculty member's academic qualifications, their prior instructional responsibility and other experiences relevant to the courses they will teach in the program in question, each faculty member's course load in the new program, and the course work each teaches in other programs currently offered. (Note: Do not attach full CVs for each faculty member; rather, the requested information should be summarized in one paragraph for each faculty member.)

See Appendix A.

19. For graduate programs, document scholarship and research capability of each faculty member; for doctoral programs, document faculty experience in directing student research.

Not applicable.

20. What library and information resources—general as well as specific to the program(s)—and staffing and services are in place to support the initiative? If the proposed new program is at the graduate level, document discipline-specific refereed journals and primary source materials.

Each Kent State campus has a full-time librarian on staff. The Kent State University Libraries provide on-ground and online access to thousands of journals, books and databases to students across all eight campuses, as well as access to OhioLink, which provides students access to library materials and electronic research databases from 120 academic libraries in Ohio. In addition, Kent State also maintains a license with Safari Books, a digital library of more than 30,000 online technical texts.

Section F. Evaluation

21. Describe the process for monitoring, evaluating and improving the overall effectiveness and quality of the program, and articulate program-level learning outcomes and objectives.

Lead information technology lead faculty assess and evaluate the program following the existing practices. Various outcomes such as writing and communication effectiveness, technical skills and ethical decision-making are used to assess the goals and objectives listed below. The data on these metrics are summarized in a program assessment report each year and submitted to Kent State's Office of Accreditation, Assessment and Learning.

22. Describe the process for assessing and improving student learning, including student persistence and completion, in the new program.

Kent State University offers many support services to students through a variety of offices, including advising, tutoring, career, counseling, accessibility and technical support. Students meet with professional academic advisors to review progress using the university's degree audit (Graduate Planning System), and with faculty advisors to discuss research and career goals. Faculty issue evaluation grades for first- and second-year courses between weeks four to seven in the semester to provide feedback to students and allow them time to make adjustments in their studies.

ADDENDUM TO HIGHER LEARNING COMMISSION SUBSTANTIVE CHANGE APPLICATION TO ESTABLISH A NEW UNDERGRADUATE DEGREE PROGRAM

Proposed Major: Cybersecurity

Proposed Degree: Associate of Applied Business

Administrating College: College of Applied and Technical Studies

Administrating Department:

Provide the title of the lead administrator for the proposed program and a brief description of the individual's duties and responsibilities.

Associate Professors William C. Ward III and Ruth A. Watson (Trumbull Campus) will be co-lead faculty for the Associate of Applied Business in Cybersecurity degree in the College of Applied and Technical Studies. Both have a minimum of 25 years of higher education experience. They have served as co-lead for many years for the program at the associate and bachelor's degree level; both have developed online courses and teach online courses every semester. Responsibilities for co-leads include, but are not limited to, deciding curricular actions; developing and implementing program requirements; conducting meetings with program faculty; and undertaking program reviews, reporting, credit by exams, adjunct teaching approvals and course substitutions.

Indicate whether any institutions of higher education offer the proposed program within a 30-mile radius of the campus(es) at which the proposed program will be offered. If so, list the institutions that offer the proposed program and provide a rationale for offering an additional program at this campus.

All computing majors share common elements including the goal to produce the number of graduates necessary to fill the great demand for high tech skills in the multiple sub-disciplines of computing. These programs are typically designed by program faculty based on input from local advisory boards, business partners, and others resulting in unique and viable programs across institutions. Cybersecurity is a necessary component of the Information Technology sub-discipline which focuses on supporting end users in a variety of settings for a wide spectrum of computing needs including software and hardware. The Joint Task Force on Cybersecurity Education[1] defines the cybersecurity discipline as: "A computing-based discipline involving technology, people, information, and processes to enable assured operations in the context of adversaries. It involves the creation, operation, analysis, and testing of secure computer systems. It is an interdisciplinary course of study, including aspects of law, policy, human factors, ethics, and risk management." The programs at these institutions have a long history of serving the unique needs within their communities. The diversities are reflected in the cybersecurity programs. (Note to Therese – I wasn't sure how many are within the 30 miles)

Stark State College offers an Associate of Applied Science Cyber Security and Computer Forensics Technology degree. Coursework includes IT security, cyber forensics, security investigation and penetration studies, A+ Certification, network technology, Linux administration, forensic accounting, cryptography, biometric applications, white collar crime, communication, English, computer applications, college algebra, and cultural diversity.

Lakeland Community College has an Associate of Applied Business in Cybersecurity degree. Coursework includes network technology, computer forensics, Cisco networking and security, English, information

[1] http://cybered.acm.org/

technology, computer science, college algebra, criminal justice, programming logic, Linux administration, principles of management, introduction to business, Python programming, security investigation and penetration studies, selected arts and humanities, and natural science courses.

Cuyahoga Community College has an Associate of Applied Business in Information Technology, Cybersecurity. Coursework includes project management, information technology concepts for programmers, communication, scripting fundamentals for cybersecurity, networking fundamentals, mathematics, Cisco networking technologies, English, Linux administration, business communication, programming logic, and network administration.

Lorain County Community College has an Associate of Applied Science in Cyber and Information Security. Coursework includes operating system interfaces, quantitative reasoning, ethics, psychology, biology, cyber-forensics, network integration, cyber defense methods, cyber-crime and law, English, Cisco, A+ Certification, python scripting and programming, and IT security.

The proposed Cybersecurity degree will offer an additional avenue of higher education in a major with strong potential for employment and will be a natural pathway to the existing Applied Computer Security and Forensics concentration within the Bachelor of Science in Information Technology (BSIT) degree. Topics include risk identification, security testing and monitoring, and enterprise risk management, networking, hardware and operating systems including A+ Certification, Cisco networking technologies, cyber defense methods, cyber ethics, incident management, and developing and implementing security policies.

CATALOG COPY

Description of Program:
Describe the program as you would to a prospective student.
The Associate of Applied Business in Cybersecurity degree provides students with an applied approach to information security concepts. With an ever-growing threat to sensitive and critical data in the field of information technology, understanding the impact of security issues on businesses and individuals is critical. The degree program gives students the tools they need to address current security issues including risk identification, security testing and monitoring, and enterprise risk management. Because the degree is built upon a solid knowledgebase, additional topics include networking, hardware and operating systems, Cisco networking technologies, cyber defense methods, cyber ethics, incident management, and developing and implementing security policies.

Fully Offered At:

- Online
- Ashtabula Campus
- East Liverpool Campus
- Geauga Campus
- Salem Campus
- Stark Campus
- Trumbull Campus
- Tuscarawas Campus
- Regional Academic Center in Twinsburg

Admission Requirements:
If program does <u>not</u> have additional admission criteria above and beyond the minimum to be admitted to a Kent State associate or bachelor's degree, write "standard admission criteria for the degree." If program

has additional admission criteria (e.g., audition, 3.0 high school GPA, 2.75 overall GPA for transfer students), list those requirements.

Standard admission criteria for the associate degree.

Program Learning Outcomes:
List the specific knowledge and skills directly related to the program's discipline that you expect students to acquire as part of their educational experience in the program. The outcomes must be observable and measureable, rather than what students "know," "think," "understand, "appreciate," etc.

Graduates of this program will be able to:

1. Demonstrate core competency in cybersecurity-related topics
2. Describe the scope of the information security field and its impact on information technology
3. Identify and analyze security risks to determine potential impacts
4. Demonstrate ability to develop plans to mitigate security risks
5. Identify professional, legal, and ethical behavior

Program Requirements:
Adjust the table to the proposed curriculum, including the Kent Core and general elective requirements.

Major Requirements (courses count in major GPA)		
Course	**Title**	**Credits**
IT 11004	Survey of Information Technology	3
IT 11005	Introduction to Operating Systems and Networking Technology	3
IT 11009	Computer Assembly and Configuration	4
IT 13000	Applied Security Essentials	3
IT 21002	Network Setup and Configuration	4
IT 21007	Cyber Ethics in Information Technology	3
IT 21110	Introduction to Routing and Switching	3
IT 21200	Ethical Hacking	3
IT 21300	Introduction to Security Incident Management (New Course)	3
IT 22000	Survey of Information Technology Cybersecurity (New Course)	3
IT 23000	Intro to Operating System Security (New Course)	3
IT 24000	Developing and Implementing Security Policies (New Course)	3
Additional Requirements (courses do not count in major GPA)		
Course	**Title**	**Credits**
UC 10097	Destination Kent State: First Year Experience	1
Kent Core Composition		3
Kent Core Mathematics and Critical Reasoning		3
Kent Core Humanities and Fine Arts (minimum one course from each)		3
Kent Core Social Sciences		3
Kent Core Basic Sciences		3
Information Technology (IT) Elective choose any IT course		6
	Minimum Total Credit Hours:	60

Graduation Requirements:
Minimum Major GPA: 2.000
Minimum Overall GPA: 2.000
Additional Graduation Requirements: *(i.e., minimum grade in specific courses, passage of specific exam)*

Roadmap

Adjust the table to the proposed curriculum, including the Kent Core and general elective requirements.

Semester One		
Course	**Title**	**16 Credits**
IT 11004	Survey of Information Technology	3
IT 11005	Introduction to Operating Systems and Networking Technology	3
UC 10097	Destination Kent State: First Year Experience	1
Information Technology Elective		3
Kent Core Requirement		3
Kent Core Requirement		3
Semester Two		
Course	**Title**	**14 Credits**
IT 11009	Computer Assembly and Configuration	4
IT 13000	Applied Security Essentials	3
IT 21002	Network Setup and Configuration	4
Kent Core Requirement		3
Semester Three		
Course	**Title**	**15 Credits**
IT 21110	Introduction to Routing and Switching	3
IT 21200	Ethical Hacking	3
IT 21300	Introduction to Security Incident Management	3
Kent Core Requirement		3
Semester Four		
Course	**Title**	**15 Credits**
IT 22000	Survey of Information Technology Cybersecurity	3
IT 23000	Intro to Operating System Security	3
IT 24000	Developing and Implementing Security Policies	3
Information Technology Elective		3
Kent Core Requirement		3

Kent State University

Fiscal Impact Statement

	Year 1	Year 2	Year 3	Year 4
I. Projected Enrollment				
Headcount full-time	15	22	35	59
Headcount part-time	10	15	23	40
Full-time equivalent (FTE) enrollment	19	28	44	75
II. Projected Program Income				
Tuition	$118,006	$173,992	$273,416	$466,050
Expected state subsidy	$ 46,208	$ 68,096	$107,008	$182,400
Externally funded stipends, as applicable	$ -	$ -	$ -	$ -
Other Income	$ -	$ -	$ -	$ -
Total Projected Program Income	**$164,214**	**$242,088**	**$380,424**	**$648,450**
III. Program Expenses				
New personnel:				
- Instruction				
Full-time: (include #)	$ -	$ -	$ -	$ -
Part-time: (include #)	$ -	$ -	$ -	$ -
-Non-instruction				
Full-time: (include #)	$ -	$ -		
Part-time: (include #)	$ -	$ -	$ -	$ -
Current personnel:				
- Instruction				
Full-time: 12.5%/AY of 1 TT; 10%/AY of 1 NTT; 20%/AY of 1 NTT	$ 31,138	$ 31,760	$ 32,396	$ 33,044
Part-time: (include #)	$ -	$ -	$ -	$ -
-Non-instruction				
Full-time: (include #)	$ -	$ -	$ -	$ -
Part-time: (include #)	$ -	$ -	$ -	$ -
Benefits for all personnel	$ 11,708	$ 11,942	$ 12,181	$ 12,425
New facilities/building/space renovation (describe in narrative below)	$ -	$ -	$ -	$ -
Scholarship/stipend support	$ -	$ -	$ -	$ -
Additional library resources	$ -	$ -	$ -	$ -
Additonal technology or equipment needs	$ -	$ -	$ -	$ -
Other expenses (see below)	$ -	$ -	$ -	$ -
Total Projected Program Expenses	**$ 42,846**	**$ 43,702**	**$ 44,577**	**$ 45,469**
Projected Program Net	**$121,368**	**$198,386**	**$335,847**	**$602,981**

Other Expenses				
Allocation of expenses covered by general fee	$ -	$ -	$ -	$ -
RCM overhead - estimated at 50%	$ -	$ -	$ -	$ -
RCM tuition allocation to other colleges	$ -	$ -	$ -	$ -
Professional development	$ -	$ -	$ -	$ -
Supplies (office, computer software, duplication, printing)	$ -	$ -	$ -	$ -
Telephone, network, and lines	$ -	$ -	$ -	$ -
Other info and communication pool	$ -	$ -	$ -	$ -
Total Other Expenses	**$ -**	**$ -**	**$ -**	**$ -**

BUDGET NARRATIVE:

[This section is for describing facilities, scholarship/stipend support, library resources, additional technology, etc., if applicable.]

Faculty listed below will teach the courses in the major requirements.

Instructor	Terminal Degree	Course Taught or Proposed
Carolyn Carvalho, Senior Lecturer, NTT	MTec, Technology, Kent State University, 2007	11004, 11005, 11009, 13000, 21002, 21007, 21110, 21200, 22000, 23000 done
Shawn Golden, Assistant Professor, NTT	Ph.D., Educational Psychology, Kent State University, 2014	11004, 21007
Susan Hoffman, Assistant Professor, TT	MBA, Business Management, Wheeling Jesuit University, 1982	21007
Shelley Marshall, Associate Lecturer, NTT	MTec, Technology, Kent State University, 2008	11000, 11009, 21002, 21110, 21200, 22000, 24000 done
Judith Paternite, Professor, NTT	PhD, Educational Psychology, Kent State University, 2016	11004, 21007 done
Robert Remedio, Assistant Professor, TT	MS, Math & Computer Education, Youngstown State University, 1978	
Ruth Watson, Associate Professor, TT	PHD, Educational Psychology, Kent State University, 2004	13000, 21002, 21300, 23000
Jonathan VanFossen, Lecturer, NTT	MTec, Technology, Kent State University, 2009	11005, 11009, 21002, 21110, 21200 done
William Ward, Associate Professor, TT	MA, Technology, Kent State University, 1997; MBA, Systems Management, Baldwin Wallace, 1988	11004, 21007
Anthony Zampino, Associate Lecturer, NTT	MTec, Technology, Kent State University, 2003	11005, 11009

[Associate of Applied Business in Cybersecurity]
Student Learning Outcomes – Major Course Mapping

Major Course ID and Title	Student Learning Outcome 1: Demonstrate core competency in cybersecurity-related topics			Student Learning Outcome 2: Describe the scope of the information security field and its impact on information technology			Student Learning Outcome 3: Identify and analyze security risks to determine potential impacts		
	Introduced	Reinforced	Mastered	Introduced	Reinforced	Mastered	Introduced	Reinforced	Mastered
11004 Survey of Information Technology	✓			✓			✓		
11005 Introduction to Operating Systems and Networking Technology	✓						✓		
11009 Computer Assembly and Configuration		✓	✓				✓	✓	
13000 Applied Security Essentials	✓			✓	✓		✓		
21002 Network Setup and Configuration		✓	✓					✓	✓
21007 Cyber Ethics in Information Technology					✓		✓		
21110 Introduction to Routing and Switching		✓	✓				✓	✓	
21200 Ethical Hacking		✓	✓		✓	✓		✓	✓
21300 Introduction to Security Incident Management (New Course)		✓	✓		✓	✓		✓	✓
22000 Survey of Information Technology Cybersecurity (New Course)		✓	✓		✓	✓		✓	✓
23000 Intro to Operating System Security (New Course)		✓	✓		✓	✓		✓	✓
24000 Developing and Implementing Security Policies (New Course)		✓	✓		✓	✓		✓	✓

Major Course ID and Title	Student Learning Outcome 4: Demonstrate ability to develop plans to mitigate security risks			Student Learning Outcome 5: Identify professional, legal, and ethical behavior		
	Introduced	Reinforced	Mastered	Introduced	Reinforced	Mastered
11004 Survey of Information Technology				✓		
11005 Introduction to Operating Systems and Networking Technology					✓	
11009 Computer Assembly and Configuration					✓	
13000 Applied Security Essentials	✓			✓		
21002 Network Setup and Configuration	✓	✓				
21007 Cyber Ethics in Information Technology					✓	✓
21110 Introduction to Routing and Switching	✓	✓		✓		
21200 Ethical Hacking		✓	✓		✓	✓
21300 Introduction to Security Incident Management (New Course)		✓	✓	✓	✓	
22000 Survey of Information Technology Cybersecurity (New Course)		✓	✓	✓	✓	
23000 Intro to Operating System Security (New Course)		✓	✓	✓	✓	
24000 Developing and Implementing Security Policies (New Course)		✓	✓	✓	✓	

Summary of Program Assessment Plan

1. PROGRAM MISSION
   Explain the mission of the program.

2. STUDENT LEARNING OUTCOMES:

   Student Learning Outcome 1:

      Method of Assessment:

      Achievement Target:

   Student Learning Outcome 2:

      Method of Assessment:

      Achievement Target

   Student Learning Outcome 3:

         Method of Assessment:

         Achievement Target:

EXAMPLE

Student Learning Outcome 2:

Become proficient regarding the programs, policies and technology required to attain organizational goals related to HR.

Method of Assessment: This learning outcome is assessed in required course MIS 44499 Human Resource Business Consulting and Project. This course provides students with the opportunity to solve problems for business enterprises in the local community through project development. The course instructor assesses students' both written and orally presented projects. In addition, representatives from the business enterprises for which the students provided project reports also critique and assess project outcomes and student proficiency.

Achievement Target: Students should demonstrate conceptual and practical competence by the end of the course. A minimum 70 percent of the students must earn a B grade or better in the course for the learning objective to be met.

3. ASSESSMENT RESULTS:
   Describe how assessment results will be used for future program improvement (how and by whom results are reviewed and analyzed and how resulting plan of action will be implemented).