Ohio | Board of Regents
University System of Ohio

John R. Kasich, Governor
John Carey, Chancellor

Directions for submitting a request for approval of undergraduate degrees/degree programs

University System of Ohio (USO) institutions requesting approval from the Chancellor of the Ohio Board of Regents to deliver undergraduate programs are required to complete and submit the enclosed proposal as part of the approval process. If the institution has not already done so, it must submit an Initial Inquiry to begin the review process. Questions about the Initial Inquiry or the proposal template may be submitted to Matt Exline, assistant director for program development and approval, at (614) 728-3095 or mexline@regents.state.oh.us. Once the initial inquiry is received, an institutional mentor will be assigned to the institution to assist in the development and review of the request.

Depending on the nature of the request, the institution may be asked to submit additional information in the form of a **supplement or supplements** (e.g., online course offerings, off-campus locations, flexible delivery schedules etc.). The institutional mentor will assist the institution in determining what forms are needed to complete the review the process.

If the request also requires the approval of the Higher Learning Commission of the North Central Association of Colleges and Schools (HLC), or if the institution also intends to pursue programmatic/specialized accreditation for the request, the institution may submit materials prepared for HLC or the programmatic/specialized accrediting body in lieu of submitting this proposal and any applicable supplement forms.

If the institution is submitting a request for an **educator preparation program**, additional information will be requested to complete the review.

The institutional mentor will provide directions for submitting the request. Electronic submission of all review materials is preferred. The proposal itself must remain a Microsoft Word document. Appendix items should be clearly labeled and may be submitted as Microsoft Office documents (e.g., Word or Excel) or as PDF documents. If the electronic documents are too numerous or too cumbersome to email, you may copy them to a CD or "flash drive" and then mail the CD or flash drive to our office.

25 South Front Street
Columbus, Ohio 43215

phone 614.466.6000
fax 614.466.5866
web **www.OhioHigherEd.org**

REQUEST FOR APPROVAL
SUBMITTED BY:

Wright State University

B.S. in Information Technology and Cybersecurity

(Insert date of submission)

REQUEST

Date of submission:

Name of institution: Wright State University

Degree/degree program title: B.S. in Information Technology and Cybersecurity

Primary institutional contact for the request

Name: Mateen Rizki
Title: Professor & Chair, Department of Computer Science and Engineering
Phone number: 937-775-5128
E-mail: mateen.rizki@wright.edu

Delivery sites:
Wright State University (Dayton campus) – 3640 Colonel Glenn Hwy, Dayton, OH 45345

Date that the request was approved by the institution's governing board (e.g. Board of Trustees, Board of Directors):

Proposed start date: Fall 2018

Institution's programs: *(e.g., associate, bachelor's, master's, doctorate)*
Associate, Bachelor's, Master's, Doctorate

Educator Preparation Programs:
Indicate the program request leads to educator preparation licenses or endorsements.

Licensure ***No***

Endorsement ***No***

SECTION 1: INTRODUCTION

1.1 *Provide a brief summary of the request that will serve as an introduction for the reviewers.*
There is a growing demand for students trained in computer technology within the Dayton region. Many employers are seeking students with skills related to information and computer security, systems administration, web development, and data analytics. These students are interested in integrating computer technology to support and protect complex computational systems and applying computer technology to solve computational problems. They are less interested in large scale software development and the underlying science of computation, and therefore do not require the same level of rigorous training in mathematics, theory of computation or algorithm analysis associated with a 4-year degree in computer science or computer engineering. Currently, similar degrees are available at the University of Cincinnati for full-time students and locally at the University of Dayton, a private school with much higher costs and more selective admission standards than Wright State University. The proposed Wright State BSITC will be designed to accommodate part-time, working students and facilitate 2+2 articulations with local community colleges and the Community College of the Air Force.

SECTION 2: ACCREDITATION

2.1 Regional accreditation

- *Original date of accreditation:* **07/26/1968**
- *Date of last review:* **2015-2016**
- *Date of next review:* **2025-2026**

2.2 Results of the last accreditation review

- Action with Interim Monitoring. IAC continued the accreditation of Wright State University with the next Reaffirmation of Accreditation in 2025-26. In conjunction with this action, IAC required the following interim monitoring.
    - Interim Report. An interim report due 6/30/17 on integrity in all operations, including auxiliary functions and development of a compliance program and establishment of a contracting organization. Institution must report findings/agreements of the ongoing Federal investigation as they emerge.
    - Interim Report. An interim report due 6/30/17 on documenting a credit hour policy that addresses all instructional modalities.

2.3 Notification of appropriate agencies

- Once the program has produced its first graduate, we will be eligible to request an evaluation for accreditation by the Engineering Technology Accreditation Commission (ETAC) of Accreditation Board for Engineering & Technology (ABET).

SECTION 3: LEADERSHIP—INSTITUTION

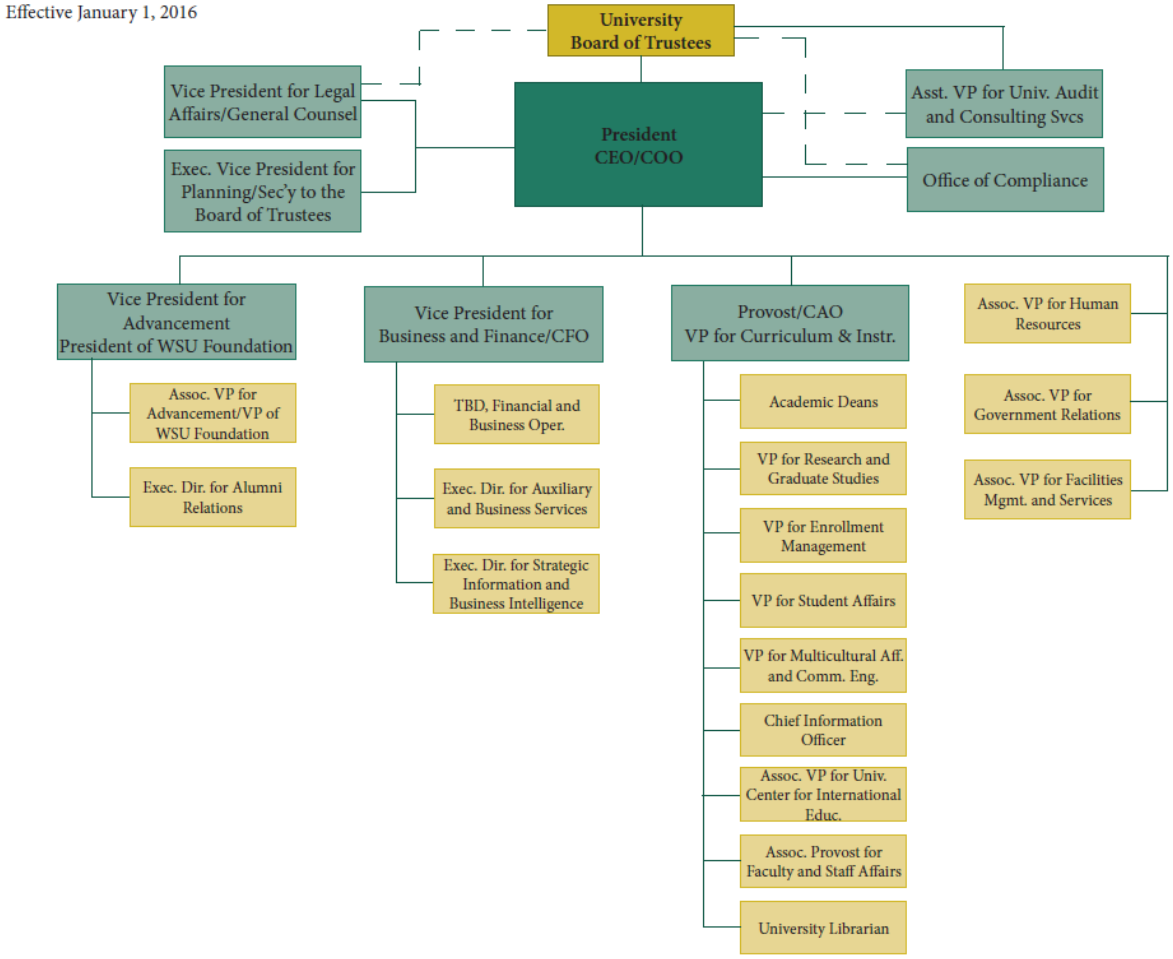
3.1 Mission statement

We transform the lives of our students and the communities we serve. We will:

- build a solid foundation for student success at all levels through high-quality, innovative programs;
- conduct scholarly research and creative endeavors that impact quality of life;

- engage in meaningful community service;
- drive the economic revitalization of our region and our state and empower all of our students, faculty, staff, and alumni to develop professionally, intellectually, and personally.

3.2 Organizational structure



SECTION 4: ACADEMIC LEADERSHIP—PROGRAM

4.1 Organizational structure

- The proposed BSITC program will be housed within the Department of Computer Science and Engineering in the College of Engineering & Computer Science. The department, comprised of 28 faculty and 6 staff, is led by a department chair who reports to the college dean, who then reports to the university provost.

- Dr. Mateen Rizki is professor and department chair for computer science and engineering. His responsibilities are primary administrative oversight for the department's teaching, research, and service activities, including the management of department faculty and staff.

- The Department of Computer Science and Engineering Undergraduate Studies Committee developed and will maintain this program. The committee is presently chaired by Dr. Junjie Zhang. The Undergraduate Studies Committee typically meets twice per month during the academic year. Appointments to this committee are determined by the department chair in consultation with the Department Steering Committee, at the start of each academic year.

4.2 Program development

- The BSITC program primarily aligns with the first and fourth bullets of the university mission, which speak to student success and economic revitalization of the region, respectively. By graduating students that are well prepared for employment in technical positions, we are promoting the career success of our students. Consistent with the university mission, we must maintain an innovative program. The field of computer technology and cyber security is evolving, and our faculty must continuously re-evaluate and update our programs to keep pace. The economic revitalization of the region is being driven by a transition of traditional manufacturing jobs to a greater emphasis on computer and information technology, a transformation in which the BSITC program can play a substantial role.

- The department conducted a brief needs assessment by surveying job postings in the Dayton area on a number of web sites. A variety of search criteria were used to intersect various job titles that would overlap with the skill set of proposed BSITC graduates. The results of these searches, by the number of search hits, is summarized in the table below.

Search Criteria	**monster.com**	**careerbuilder.com**	**indeed.com**
Information Systems	**1000+**	**300+**	**1973**
Information Security	330	57	962
Information Assurance	330	57	236
Information Specialist	57	24	233
Information Technology	1000+	300+	1271

WWW	**37**	**67**	**423**
Web Designer	34	51	197
Web Developer	323	68	119
Web Analyst	4	99	44
Web Analytics	40	6	37
Networking	**77**	**161**	**1575**
Network Architect	3	114	27
Network Analyst	10	75	69
Network Administrator	698	75	79
Network Engineer	75	46	154
Network Technician	1	28	113
Network Security	483	57	309
Computer Security	**950**	**671**	**1590**
Cybersecurity	450	36	288
Cybersecurity Analyst	58	56	64
Cybersecurity Engineer	394	57	115
Computer Systems	**1000+**	**1523**	**1527**
Computer Systems Analyst	46	94	119
Computer Sys Engineer	221	222	303
Computer Technician	66	9	382
Software	**1000+**	**75**	**1475**
Software Developer	687	108	275
Software Engineer	965	73	686

- The Department of Computer Science and Engineering discussed the proposed program with its External Advisory Board, which consists of 20 representatives from local industry, on 2 June 2017. The Advisor Board made a number of suggestions and noted the value of students obtaining such a degree for area employers. They were supportive of the proposed degree program.

- The program was developed to be consistent with the accreditation requirements of the Computing Accreditation Commission (CAC) - Information Technology program of ABET. Accreditation cannot be sought until the program produces its first alumni. Assuming a program start of Fall 2018, we would tentatively expect to have our first graduate in Spring 2022. In which case, we would seek an initial accreditation visit during the 2021-2022 academic year.

4.3 Collaboration with other Ohio institutions

- The University of Cincinnati offers a full-time and online version of an Information Technology degree. The proposed program will combine information technology and cybersecurity. The Wright State program targets working students who can attend mixture of evening classes and online classes.

- We will seek to establish articulation agreements with community colleges, and some initial discussions to that effect have taken place.

SECTION 5: STUDENT SERVICES

5.1 Admissions policies and procedures

- Domestic high school students will be granted admission to Wright State University upon fulfilling one of the following options.
  - Option 1
    - Complete the Ohio Core curriculum (or equivalent curriculum),
    - Achieve a minimum cumulative high school grade point average of 2.0, and
    - Achieve an ACT composite score of 15 or SAT score of 740 (combined critical reading and math)
  - Option 2
    - Complete the Ohio Core curriculum (or equivalent curriculum),,
    - Achieve a minimum cumulative high school grade point average of 2.5, and
    - Submit any ACT/SAT score
- To be admitted to the BSITCS major, students must complete 24 or more semester hours of college-level coursework with a 2.25 GPA or higher, and complete the following courses:
  - ENG 1100 (or any WSU Core First-Year Writing Course) with a C or higher
  - CS1180 or CS1160 or CEG2170 (introductory programming) with a C or higher
  - CEG 2350 with a C or higher
  - MTH 2240, MTH 2280, CS 2200 OR EGR 1010 with a C or higher
- Transfer credit is first evaluated by the University Registrar, and as appropriate is posted to the student's transcript. Posted courses are then evaluated as needed by the Undergraduate Studies Committee to determine applicability to a student's program of study. For a BS degree, a minimum of 30 semester hours must be earned at Wright State University. Credit can also be granted via College Credit Plus and Prior Learning Assessment. Prior learning assessment is a student-centered and faculty-driven process for awarding students college credit for demonstrated knowledge that was adopted in 2015. Credit may be awarded through three mechanisms: standardized exams, internally administered exams, and portfolio assessment. Standardized exams include the following.
  - Advanced Placement (AP) examinations
  - College Level Examination Program (CLEP)
  - DANTES Subject Standardized Tests (DSST)
  - Excelsior Collee Credit by Examinations (ECE)
  - International Baccalaureate (IB) examinations

  Course equivalencies for the standardized tests are determined by academic unit that offers the course, subject to Ohio Board of Regents requirements. Courses available for credit by standard examination, along with the required score to earn credit, are listed on the Prior Learning Assessment web site.

5.2 Student administrative services

- The current student administrative services (e.g., admissions, financial aid, registrar, etc.) are adequate to support the proposed program. We do not anticipate a need for additional student administrative services.

5.3 Student academic services

- The Department of Computer Science and Engineering and Wright State University are already staffed with full-time academic advisors that are adequate to support the program. The college and university also provide centers for student career services. The Office of Disability Services provides excellent support for students with additional needs. Tutoring and other services geared towards student success are available through department, college, and university resources. We do not anticipate a need for additional student academic services.

SECTION 6: CURRICULUM

6.1 Introduction

The B.S. in Information Technology and Cybersecurity prepares students for real-world problem solving, focusing on meeting the needs of organizations through the selection, creation, application, integration, and administration of computing technologies. Students will be educated on essential security knowledge in modern cyberspace addressing security issues across all layers including data, host, infrastructure, human and economics.

6.2 Program goals and objectives

The goal of the program is to prepare students for post-graduation employment in information technology and cybersecurity related fields. This will be achieved through the attainment of the following student outcomes, as specified by the Computing Accreditation Commission of ABET.

(a) An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline

(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

(d) An ability to function effectively on teams to accomplish a common goal

(e) An understanding of professional, ethical, legal, security and social issues and responsibilities

(f) An ability to communicate effectively with a range of audiences

(g) An ability to analyze the local and global impact of computing on individuals, organizations, and society

(h) Recognition of the need for and an ability to engage in continuing professional development

(i) An ability to use current techniques, skills, and tools necessary for computing practice.

(j) An ability to use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, and web systems and technologies. [IT]

(k) An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems. [IT]

(l) An ability to effectively integrate IT-based solutions into the user environment. [IT]

(m) An understanding of best practices and standards and their application. [IT]

(n) An ability to assist in the creation of an effective project plan. [IT]

The program's coursework focuses on the fundamentals of networking, cybersecurity, programming, information management, web systems, system administration, system integration with advanced coursework to build on the fundamentals to provide depth.

This program will prepare students for careers in a variety of fields, including, but not limited to: computer system administration, network design and administration, web development, information and cybersecurity and computer support.

6.3 Course offerings/descriptions

Course (name/number)	CH	Major	Gen Ed	Elec	OTM, TAG Or CT[2] equivalent course	New/ Existing Course
Communications						
ENG 1100 Academic Writing	*3*		*X*		*X*	*Existing*
EGR 3350 Technical Communications for Engineers and Computer Scientists	*3*		*X*		*X*	*Existing*
Mathematics						
MTH 2240 or 2280 Calculus or EGR 1010 Intro Math for Engineering Applications or CS 2200 Discrete Structures & Algorithms	*4*		*X*		*X*	*Existing*
Global Traditions Courses						
CS 1000 Technology and Society	*3*		*X*		*X*	*Existing*
Additional course	*3*		*X*		*X*	*Existing*
Arts/Humanities Course	*3*		*X*		*X*	*Existing*
Social Science Courses (2)	*6*		*X*		*X*	*Existing*
Natural Science						
CS 1150 Intro to Computer Science	*4*		*X*		*X*	*Existing*
Additional course	*4*		*X*		*X*	*Existing*
Additional core courses						
STT 1600 Statistical Concepts	*3*		*X*		*X*	*Existing*
Additional course	*3*		*X*		*X*	*Existing*
CS 1180 Computer Science I or CS 1160 Intro to Computer Programming or CS 2170 Intro to C	*4*	*X*				*Existing*
CS 2800 Web Design Fundamentals	*3*	*X*				*Existing*
CS 3170 Mobile Application Development	*3*	*X*				*Existing*
CS 3700 Intro to Oracle/SQL Databases	*3*	*X*				*Existing*
CEG 2400 Introduction to PC Networking	*3*	*X*				*Existing*
CEG 2350 OS Concepts and usage	*3*	*X*				*Existing*

CEG 3120 Intro to Design of Information Tech Systems	*3*	*X*				*Existing*
CEG 3400 Intro to Cybersecurity	*3*	*X*				*Existing*
CEG 3410 Intro to Forensics Analysis	*3*	*X*				*New*
CEG 4424 Security Attacks and Defenses	*3*	*X*				*Existing*
CEG 4430 Computer Networks and Security	*3*	*X*				*Existing*
CEG 4980 Team Projects I	*3*	*X*				*Existing*
CEG 4981 team Projects II	*3*	*X*				*Existing*
Computer Science and Engineering Electives *Choose CS or CEG 2000, 3000 or 4000 level technical electives (At least 9 hours at 4000 level)*	*18*			*X*		*Existing*
General Electives *Any area of study approved by CSE Department*	*21*			*X*		*Existing*

ENG 1100 – Academic Writing and Reading
Introduces students to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 1100, ENG 1110, ENG 1130, or ENG 1140.

EGR 3350 – Technical Communications for Engineers and Computer Scientists
A modular approach to oral and written communication of complex technical information to an expert audience. Includes describing technical mechanisms and processes; designing and using tables, graphs, charts, and figures; producing technical proposals, progress reports, feasibility reports, and formal reports; and doing technical briefings.

MTH 2240 – Applied Calculus
Functions (including exponential and logarithmic functions), limits, derivatives and rates of change, applications of derivatives including graphing and optimization, and indefinite and definite integrals with applications. Credit will not be given for MTH 2240 for students who have already successfully completed MTH 2300.

MTH 2280 – Business Calculus
Functions, rates of change, limits, derivatives of algebraic functions, applications including maxima and minima, exponential and logarithmic functions, and indefinite and definite integrals with applications. Credit will not be given for MTH 2280 for students who have already successfully completed MTH 2300.

EGR 1010 - Introductory Mathematics for Engineering Applications
Math topics most heavily used in first and second-year engineering courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations. Integrated Writing course.

CS 1000 - Technology and Society
Examines and evaluates the consequences of technology on individuals, organizations and society to recognize its benefits, potential, and limitations. Explores current social, ethical, legal and philosophical topics to understand how the Digital Revolution impacts society.

CS 1150 – Introduction to Computer Science
Expose students to the scientific method as implemented in computer science. Topics include basic programming, web design, database, logic gates, algorithm development and fundamentals of networking. The course requires students to apply and extend the concepts in a laboratory setting.

STT 1600 - Statistical Concepts
Fundamentals of statistics, including descriptive statistics, probability, confidence intervals, and testing hypotheses, as well as the basics of Chi-square tests, regression and correlation, and analysis of variance. This course has a one hour per week lab that uses Excel software.

CS 1180/L – Computer Science I
Basic concepts of programming and programming languages. Structured programming, stepwise refinement, and object-oriented development. Integrated Writing course.

CS 1160/L – Introduction to Computer Programming
Fundamentals of computer programming. No prior knowledge of programming is assumed. The concepts covered will be applied to the Python programming language.

CEG 2170/L – Introduction to C Programming for Scientists and Engineers
Basic engineering problem solving using the C programming language. Topics include loops, selection, input/output, files, functions, arrays, complex variables, pointers, structures, and dynamic memory. Students will learn how to approach solving problems in engineering and science; how to develop algorithms, using advanced techniques such as recursion, searching, sorting and linked lists, to solve those problems; and how to implement those algorithms in the C language.

CS 2800 – Web Development I
Introduction to basic web design and development using HTML and CSS. Topics include page structure, responsive design, and use of multimedia. Client-side programming using scripting languages such as JavaScript and jQuery will be introduced.

CS 3170 – Mobile Application Development
Focuses on projects to progressively demonstrate concepts and practical approaches to developing software for mobile devices focusing on iOS devices including any of iPhone, iPod Touch, or iPad. The course covers application design, Apple's core technologies, animation, image processing, video processing, audio, 3D graphics, and built in sensors.

CS 3700 – Introduction to Oracle/SQL Databases
Relational client server database design and access techniques. Includes building database tables, writing SQL and PL/SQL statements and programs and developing user interfaces using forms and reports.

CEG 2400 – Introduction to PC Networking
Introduces networking technologies including infrastructure and architectures, standards, protocols and directory services, administration, security and management. Integrated lecture and lab.

CEG 2350/L – Operating System Concepts and Usage

Provides introduction to Linux and Windows operating systems and system administration. Covers files and directories, ownership and sharing, programs and processes, system calls, libraries, dynamic linking, command line shells, scripting, regular expressions and secure network protocols.

CEG 3120 - Introduction to the Design of Information Technology Systems
Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia.

CEG 3400 – Introduction to Cyber Security
Focuses on educating students with essential security knowledge in modern cyber space. Covers security issues across all layers of cyber space, including data, host, infrastructure, human, and economics.

CEG 3410 – Introduction to Digital Forensics
Students build a body of knowledge in digital forensics in both computers and networks by incrementally seeking answers to fundamental questions including i) where to collect digital materials, ii) how to collect them, iii) how to interpret and use them, and iii) how to actively design new mechanisms to facilitate forensics. Students will develop practical skills by using various forensics analysis tools.

CEG 4424 - Security Attacks and Defenses
Introduction to attacks and their defenses. Reconnaissance, penetration, denial of service, and covert channels. Topics include privilege escalation, hijacking, trusted booting, packet filtration, protocol scrubbing and honeypots.

CEG 4430 - Cyber Network Security
Focus on security vulnerabilities, threats, attacks, and mitigation solutions in the context of cyber networks. Topics include network traffic analysis, basic cryptography, protocol vulnerabilities, application vulnerabilities, secure networking protocols, malicious logics, firewalls, as well as the design and evaluation of intrusion detection systems.

CEG 4980 - Team Projects I
A summative computer engineering team design project building upon previous engineering, science, mathematics, and communication course work focusing on professional practice in computer science and engineering. Must enroll in CEG 4981 in the following term.

CEG 4981 - Team Projects II
CEG 4981 is a continuation of CEG 4980 and must be taken in the term immediately following CEG 4980. Project groups maintain their composition and project from CEG 4980.

6.4 Program Sequence

Term One, Fall	Credit Hours	Pre-Requisites
CS1160 or CS 1180 or CEG 2170 – Intro to Programing	4	DEV 0970, MTH 1280
ENG1100 Academic Writing & Reading*	3	

Term Two, Spring	Credit Hours	Pre-Requisites
CS2800 Web Design Fundamentals	3	CS1180 or CS1160 or CEG2170
MTH2240 Applied Calc or MTH2280 Bus Calc or EGR 1010 or CS 2200	4	MTH1280 or MTH1350 or Level 40

CS 1150 Intro to Computer Science(Natural Science)	4	
CS1030 Survey of CS & CEG	1	
WSU Core	3	
Total Hours	**15**	

EGR1900 Intro to Co-Op and Internship	1	Recommended
CEG2350 OS Concepts & Usage	4	CS1180 or CS1160 or CEG2170
CS1000 Tech & Society	3	WSU Core Global Traditions
Total Hours	**15**	

Term Three, Fall	Credit Hours	Pre-Requisites
STT 1600 - Statistical Concepts	4	DEV 0970
CEG 3400-Intro to Cyber Sec	3	CS 1160, CS 1180 or CEG 2170
CEG2400 Intro to PC Network	3	CS1180 or CS1160 or CEG2170 or CS1150
WSU Core	3	
EGR3350 Tech Com	3	ENG1100
Total Hours	**16**	

Term Four, Spring	Credit Hours	Pre-Requisites
CEG3120 Intro to Design Tech	3	CS 1180
Natural Science	4	See list on back
CS3700 Intro to Oracle or SQL Databases	3	CS1180 or CS1160 or CEG2170
WSU Core	3	
General Elective	1	
Total Hours	**14**	

Term Five, Fall	Credit Hours	Pre-Requisites
CEG 3410 Intro to Forensics Analysis	3	CEG 2350
CS 3170 Mobile Apps	3	CEG 2350
General Elective	3	
CS or CEG Tech Elective 2000/3000 level	3	
WSU Core	3	
Total Hours	**15**	

Term Six, Spring	Credit Hours	Pre-Requisites
CEG 4424 - Security Attacks and Defenses	3	CEG 3400
CS or CEG Tech Elective 2000/ 3000 level	3	
WSU Core	3	
CS or CEG Tech Elective 2000/3000 level	3	
General Elective	3	
Total Hours	**15**	

Term Seven, Fall	Credit Hours	Pre-Requisites
CEG 4980 - Team Project 1	3	(EGR 3350 or ENG 2140) and CEG 3410
CEG 4430 Cyber Network Security	3	CEG 3400
CS or CEG Tech Elective 4000 level	3	
General Elective	6	
Total Hours	**15**	

Term Eight, Spring	Credit Hours	Pre-Requisites
CEG 4981 -Team Projects 2	3	CEG 4980
CS or CEG Tech Electives 4000 level	3	
CS or CEG Tech Electives 4000 level	3	
General Elective	6	
Total Hours	**15**	

6.5 Alternative delivery options (please check all that apply):

☐ More than 50% of the program will be offered using a fully online delivery model
☐ More than 50% of the program will be offered using a hybrid/blended delivery model
☐ More than 50% of the program will be offered using a flexible or accelerated delivery model

For the purposes of this document, the following definitions are used:

- *an **online course** is one in which most (80+%) of the content is delivered online, typically without face-to-face meetings;*
- *a **hybrid/blended course** is one that blends online and face-to-face delivery, with substantial content delivered online;*
- *a **flexible or accelerated program** includes courses that do not meet during the institution's regular academic term as well as courses that meet during the regular academic term but are offered in a substantially different manner than a fixed number of meeting times per week for all the weeks of the term.*

6.5 Off-site program components (please check all that apply):

☐ Co-op/Internship/Externship
☐ Field Placement
☐ Student Teaching
☐ Clinical Practicum
☐ Other

SECTION 7: ASSESSMENT AND EVALUATION

7.1 Program assessment

- For undergraduate programs in the Department of Computer Science and Engineering, the continuous improvement process, which includes program assessment, evaluation, and actions, is under the charge of the Undergraduate Studies Committee, which is chaired by the faculty member elected as Director of Undergraduate Studies. Consistent with ABET best practices, student outcomes in support of each program are assessed annually. Outcomes are assessed by collecting student performance indicators from student work (e.g., quiz/exam problems, projects, lab reports) within classes required by the program that impact those outcomes or that have relevant course prerequisites.
- Per the assessment cycle, data for marker courses are collected every semester using Pilot. That data is then evaluated by the Undergraduate Studies Committee annually, and any curricular actions are implemented as needed. All actions of the Undergraduate Studies Committee documented online and available to the full faculty for review. Major curricular changes are brought to the full faculty for a final vote.

7.2 Measuring student success

- During their academic program, individual student performance is tracked through the normal system of course grades. The University employs full-time, academic advisors that meets with students on a regular basis to monitor and review their progress through their program of study. The Academic Advisor meets with students on probation before registration each semester.
- At the conclusion of each student's program, an exit interview is conducted by Department Chair to get feedback on their complete academic experience and to collect information on any career plans that they may have. The results of student exit interviews are shared with the Undergraduate Studies Committee for their review.

SECTION 8: FACULTY

8.1 Faculty appointment policies

- Tenure-track faculty may be designated assistant professor, associate professor, or professor. The university's promotion and tenure process and the department's bylaws establish criteria of accomplishment in areas of teaching, research, and service to earn promotion to successive ranks and for the awarding of tenure. The department bylaws are included as an appendix.
- Non-tenure track faculty may be designated as instructor, lecturer, or senior lecturer. These designations are differentiated by the amount of teaching experience and to a lesser degree service contribution.
- The Department of Computer Science and Engineering also employs adjunct faculty on an as needed basis.
- All tenure-track faculty hold a terminal degree in Computer Science, Computer Engineering or a related field. Non-tenure track faculty and adjuncts must hold a degree at least one level higher than the level at which they are teaching. However, exceptions can be made for members of the instructors or members of the professional community whose work experience gives them unique experience in their area of instruction. Such exceptions must be approved by the department chair and dean.
- The standard teaching load for full-time, tenure-track faculty members is 4 courses per academic year, generally 2 courses per semester. This comprises 2/3 of a faculty member's workload during the academic year, with the remaining 1/3 reserved for service, research, and scholarly activities. Faculty members that are particularly active in service to the department, for example serving as director of our graduate program or director of undergraduate studies and accreditation, are given reduced teaching loads. Faculty members also have the freedom to buy out of courses through external funding, as department teaching needs permit. Faculty members that are measured to be less active in research and service may be assigned 1-2 additional courses per year to teach.
- The teaching load for full-time, non-tenure-track faculty members is 24 credit hours per year with minimal service expectations. If a non-tenure-track faculty member chooses to engage in "significant service" – including committee work, outreach activities, student advising, etc. – the standard teaching load in engineering is 6 or 7 courses per year, depending on whether the majority of the courses are 3 or 4 credit hours each, respectively.
- We do not expect to need to hire any additional faculty to establish the proposed program.

8.2 Program faculty

- *Provide the number of existing faculty members available to teach in the proposed program.*

  Full-time: 29
  Less than full-time: 5

- *Provide an estimate of the number of faculty members to be added during the first two years of program operation.*

  Full-time: 0
  Less than full-time: 0

8.3 Expectations for professional development/scholarship

- The Department of Computer Science Engineering bylaws (Appendix 3) set forth criteria for promotion and tenure based on teaching, research, and service activities. For promotion to associate professor with tenure, there are requirements placed on classroom instruction, graduate student advising, publishing of scholarly works, and awarding of external grants. The Collective Bargaining Agreement for Non-Tenure Eligible faculty (Appendix 5) specifies the process for promotion, which is based on the number of years of exemplary teaching performance and subsequent service contributions.

8.4 Faculty matrix (teaching core courses)

Name of Instructor	Rank or Title	Full-Time or Part-Time	Degree Titles, Institution, Year Include the Discipline/Field as Listed on the Diploma	Years of Teaching Experience In the Discipline/ Field	Additional Expertise in the Discipline/ Field (e.g., licenses, certifications, if applicable)	Title of the Course(s) This Individual Will Teach in the Proposed Program Include the course prefix and number	Number of Courses this Individual will Teach Per Year at <u>All</u> Campus Locations
Karen Meyer	Senior Lecturer	FT	M.Sc. Information Science, John Hopkins University, 1991	26	ODTUG – Oracle Database Technical Users Group	CS 1150 Intro. to Computer Science CS 3700 Intro. to Oracle/SQL Databases	6
Rick Volker	Instructor	FT	M.Sc. Computer Science, University of Colorado, 1984	16	N/A	CS 1160 Intro. to Computer Programming	6
Michelle Cheatham	Assistant Professor	FT	Ph.D. Computer Science, Wright State University, 2014	3	N/A	CS 1180 Intro. to Computer Science	4
Derek Doran	Assistant Professor	FT	Ph.D. Computer Science and Engineering, University of Connecticut, 2014	3	N/A	CS 2200 Discrete Structures and their Algorithms	4
Ardeshir Goshtasby	Professor	FT	Ph.D. Computer Science, Michigan State University, 1983	28	N/A	CEG 2170 Intro. to C Programming	4
Vanessa Starkey	Lecturer	FT	M.Sc. Computer Science, Wright State University, 1197	24	N/A	CS 2800 Web Design Fundamentals	6

Erik Buck	Lecturer	FT	B.Sc. Computer Science, University of Dayton, 1991	4	Six Sigma Green Belt	CS 3170 Mobile Application Development CEG 2350 OS Concepts and Usage CEG 4980/4981 Team projects	6
Prabhaker Mateti	Associate Professor	FT	Ph.D. Computer Science, University of Illinois, 1976	29	N/A	CS 3170 Mobile Application Development CEG 2350 OS Concepts and Usage CEG 4980/4981 Team projects	4
Jerry Hensley	Adjunct Instructor	PT	M.Sc. Information Systems, Wright State University, 2015	16	N/A	CEG 2400 Intro. to PC Networking	1
Vance Saunders	Instructor	FT	M.Sc. Computer Science, Wright State University, 1989	3	N/A	CEG 3400 Intro. to Cybersecurity CEG 4424 Security Attacks and Defense	4
Adam Bryant	Assistant Professor	FT	Ph.D. Computer Science, Air Force Institute of Technology, 2012	3	N/A	CEG 3410 Intro to Forensics Analysis	4
Roberto Sanchez	Adjunct Instructor	PT	M.Sc. Computer Science, Air Force Institute of Technology , 2004	3	N/A	CEG 3120 Intro. to Design of Information Systems	1
Junjie Zhang	Assistant Professor	FT	Ph.D. Computer Science, Georgia Institute of Technology, 2012	5	N/A	CEG 4430 Computer Networks and Security	4
Bin Wang	Professor	FT	Ph.D. Electrical Engineering, Ohio State University	17	N/A	CEG 4430 Computer Networks and Security	4
Brandy Foster	Instructor	FT	M.A. English, Wright State University, 2007	4	CAEL Certified	CS 1000 Technology and Society	9

						EGR 3350 Technical Communication CEG 4980/4981 Team Projects	
Thomas Wischgoll	Professor	FT	Ph.D. Computer Science, University of Kaiserslautern, 2002	12	N/A	CEG 4980/4981 Team Projects	4

SECTION 9: LIBRARY RESOURCES AND INFORMATION LITERACY

9.1 Library resources

- The Department of Computer Science and Engineering is in frequent communication with the engineering librarian, Phil Flynn. Through his support the department receives adequate support for its teaching and research missions, both through electronic media and hardcopy. These resources will be adequate for the proposed program as well.

- The University Libraries are the scholarly information center for Wright State University. In support of the University's mission of educational excellence, the Libraries collect, organize, preserve, and facilitate access to scholarly resources in all formats; support teaching, learning, and research in an intellectually open environment; and provide instruction in the use of traditional and new information resources and technologies. In addition, the University Libraries are members of OhioLINK, which provides access to a significant array of online resources as well as over 48 million library items in academic libraries and research institutions throughout the state. Students and faculty can request books and other materials online from OhioLINK libraries and receive them for checkout within three to four days.

  The University Libraries' website (http://www.libraries.wright.edu) provides online access to a wide variety of information resources including electronic books and journals, research databases, media, and selected internet resources. Required course readings, called "Course Reserves," are also on the Libraries website which is available 24 hours a day, seven days a week, from campus computer labs, residence halls, and off-campus locations.

  Librarians are available during most open hours to assist users in accessing and using resources. The Paul Laurence Dunbar Library also houses the STAC (Student Technology Assistance Center). In the STAC, students can use new information technologies and multimedia to create original academic and creative works, such as presentations, web pages, videos, podcasts, etc.

  The subject librarian for engineering is Phil Flynn who fosters relationships between the library and the engineering departments. He works with faculty members in several different roles:
  - Collection Development – Work with faculty to develop the book, journal, and media collections.
  - Reference – Assist with citation verification and database searches, building subject bibliographies, and establishing professional alerts.

- Instruction – Work with faculty to create library assignments, library/literature guides, workshops, demonstrations, and other activities that lead to student success.

Engineering students and faculty are served by several important digital collections: Electronic Journal Center (including Science Direct and Springer Link content), ACM Digital Library SPIE Digital Library, and IEEExplore Digital Library. Digital book collections include the Electronic Book Center (Springer, Academic Press, and other STEMM publishers), NetLibrary, and Safari Online. The Libraries integrate references from citation databases, such as Compendex and the Web of Science, to e-content collections through the OhioLINK Find-It link resolver. The Libraries support faculty research by purchasing individual articles when the material is not available through other sources. Faculty, staff and students may also request book purchases. Methods include marking publishers' catalogs, advertisements, submitting e-mail requests, and completing the Libraries web form.

- We do not anticipate needing any additional library resources for the program.

9.2 Information literacy

- During the program's first-year learning community course (CS 1010), a host of topics related to the university environment are covered, including library resources.

SECTION 10: BUDGET, RESOURCES, AND FACILITIES

10.1 Resources and facilities

- Extensive classroom spaces are available within the Russ Engineering Center and across campus. With the opening of the new Student Success Center, multiple scale-up format classrooms are now available. The department also has well-outfitted laboratories in support of existing computer science and computer engineering courses that can be used to support the new program as well. Any minor additions to laboratory resources will be drawn from existing technology fees on an annual basis.
- We do not anticipate needing any new classroom or laboratory facilities to offer this program.

10.2 Budget/financial planning

Complete the table on the following page to describe the financial plan/budget for the first four years of program operation.

Fiscal Impact Statement for New Degree Programs

	Year 1	Year 2	Year 3	Year 4
I. Projected Enrollment				
Head-count full time	5	15	25	35
Head-count part time	5	15	25	35
Full Time Equivalent (FTE) enrollment	7.5	22.5	37.5	52.5
II. Projected Program Income				
Tuition (paid by student or sponsor -- $4,365 per semester)	$ 65,475	$ 196,425	$ 327,375	$ 458,325
Expected state subsidy	$ -	$ -	$	$
Externally funded stipends, as applicable	$ -	$ -	$ -	$ -
Other income (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Total Projected Program Income	$ 65,475	$ 196,425	$ 327,375	$ 458,325
III. Program Expenses				
New Personnel • Instruction (technical, professional and general education) Full ____ Part Time ____ • Non-instruction (indicate role(s) in narrative section below) Full ____ Part time ____	$ -	$ -	$ -	$ -
New facilities/building/space renovation (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Scholarship/stipend support (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Additional library resources (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Additional technology or equipment needs (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Other expenses (if applicable, describe in narrative section below)	$ -	$ -	$ -	$ -
Total Projected Expense	$ -	$ -	$ -	$ -

Budget Narrative:

(Use narrative to provide additional information as needed based on responses above.)

APPENDICES

Please list the appendix items submitted as part of the request in the table provided below. Please list the items in the order that they are referred to in the text.

Please note that the institution is required, at a minimum, to submit the following the items as part of the review:

Results of recent accreditation reviews
Organizational Chart
Faculty/student handbooks (or link)
Course syllabi
Faculty CVs
Current catalog (or link)

Other items as directed in the supplemental forms (if submitted)

Appendix Name	Description
Appendix 1	Notification of 2015-2016 HLC Accreditation
Appendix 2	Syllabi of required courses required by the BSITC program
Appendix 3	Bylaws define criteria for promotion and tenure in computer science and engineering
Appendix 4	Collective bargaining agreement that specifies the P&T process for tenure eligible faculty
Appendix 5	Collective bargaining agreement that specifies the promotion process for non-tenure eligible faculty
Appendix 6	CVs of faculty teaching required engineering and computer science courses

Commitment to Program Delivery

Provide a statement of the institution's intent to support the program and assurances that, if the institution decides in the future to close the program, the institution will provide the necessary resources/means for matriculated students to complete their degree.

Verification and Signature

(Insert name of the institution) verifies that the information in the application is truthful and accurate.

Signature of the Chief Presiding Officer or the Chief Academic Officer

(Insert name and title of the chief presiding or chief academic officer)