IT Networking – Information Systems and Technology
Bachelor of Applied Science Degree Program

Program Proposal

COVER SHEET
NEW DEGREE PROGRAM PROPOSAL

Program Information

Institution Name:	Tacoma Community College		
Degree:	**IT Networking – Information Systems and Technology**	CIP Code:	11.0103

Name(s) of the existing technical associate degree(s) that will serve as the foundation for this program:

Degree:	AAS Networking and Cyber Security	CIP Code:	11.0901	Year Began:	**1985**
Degree:		CIP Code:		Year Began:	
Degree:		CIP Code:		Year Begun	
Degree:		CIP Code:		Year Begun	

Planned Implementation Date (i.e. Fall 2014): **Fall 2020**

Proposal Criteria: *Please respond to all eight (8) areas listed in proposal criteria FORM D.*
Page Limit: 30 pages

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Chief Academic Officer Signature — Date

Contents

Introduction

Tacoma Community College (TCC) is proposing a Bachelor of Applied Science (BAS) Degree in IT Networking (ITN) with a specific focus on Information Systems and Technology (IST). This new offering will create a pathway for graduates from TCC's Networking and Cyber Security Associate of Applied Science Degree. The proposed degree will provide holistic education that will enable graduates to meet the needs of a broad scope of technical skills in high demand that area employers desperately need. The program will focus on security, networking, and databases with emphasis on highly desirable industry certifications, ethical behavior, diversity and equity, and soft skills. This Information Technology (IT) Bachelor Degree aspires to increase access and mitigate or remove the significant barriers faced by current graduates of applied associate degree programs when trying to pursue further education.

The widespread adoption of technology into every aspect of daily life has fueled the rapid and continued growth of a wide range of Information Technology careers. Many of these new positions require bachelor's degrees. Additionally, many current IT professionals require additional training to further their career and can accomplish this through the pursuit of a BAS Information Technology Networking – Information Systems and Technology (ITN-IST) from Tacoma Community College. Tacoma Community College currently has a robust Networking and Cyber Security (NCS) Associate's degree program on which to build a successful BAS ITN-IST.

Criteria 1: Curriculum Demonstrates Baccalaureate Level Rigor

TCC has worked to purposefully create curriculum that will build on the current abilities of the Networking and Cyber Security (NCS) Associate of Applied Science (AAS) degree holders entering the ITN-IST BAS program while introducing the higher level knowledge and skills required for networking, system administration and analysis, and database administration. The curriculum is designed so graduates of the ITN-IST BAS program will have the knowledge, skills and abilities necessary to begin to fill the large supply gap that Pierce County currently faces in IT Networking jobs.

Program Learning Outcomes and Assessment

TCC's ITN-IST BAS will impart the fundamentals of networking to include network administration, cloud computing, data security, project management, data science, and big data analytics all with a focus on ethical responsibilities in IT. TCC's ITN-IST BAS program is writing intensive with significant technical writing expectations sufficient for preparation for Master's programs.

All Program Level Outcomes also align with TCC's Degree Learning Outcomes. TCC has six measurable outcomes that all degree recipients are expected to meet.

- Core of Knowledge (COK): Demonstrate a basic knowledge of each of the distribution areas (Written Communication, Humanities, Quantitative Skills, Natural Sciences and Social Sciences; or, as applicable, specific Professional/Technical programs), integrate knowledge across disciplines, and apply this knowledge to academic, occupational, civic and personal endeavors.
- Communication (COM): Listen, speak, read, and write effectively and use nonverbal and technological means to make connections between self and others.
- Critical Thinking & Problem Solving (CRT): Compare, analyze, and evaluate information and ideas, and use sound thinking skills to solve problems.

- Information & Information Technology (IIT): Locate, evaluate, retrieve, and ethically use relevant and current information of appropriate authority for both academic and personal applications.
- Intercultural Collaboration & Diversity (ICD): Demonstrate successful application of an interdependent, diverse, and multicultural worldview through collaborative engagement.
- Responsibility & Ethics (RES): Demonstrate an understanding of what constitutes responsible and ethical behavior toward individuals, the community, and the environment.

Upon successful completion of the ITN-IST BAS degree program students should be able to:

1. Evaluate, implement and demonstrate effective communication across all levels of the organization and to diverse audiences.***COM/COK***
2. Formulate an understanding of the value of diversity and community as it relates to technology fields with attention to the dynamics of power and privilege. ***ICD/RES***
3. Design policies that support data integrity, confidentiality, availability, and security within the organizational structure.RES
4. Improve ethical behaviors, innovation and critical thinking, teamwork, and technical proficiency commensurate with duties of an information technology professional. ***IIT/RES***
5. Analyze, evaluate, and implement comprehensive project plans by applying analytical tools, information systems and emerging technologies to improve business processes and eliminate security vulnerabilities.***CRT/COK***
6. Recommend acceptable resolutions to ethical issues and dilemmas to improve desired organizational outcomes. ***COK/RES***
7. Investigate and recommend solutions to security threats.***CRT/IIT***

1.2 Program evaluation Criteria and Process

The evaluation of TCC's ITN-IST BAS program will take place on a number of different fronts. (See Table 1)

Table 1. Program Evaluation and Criteria Process

Assessment Tool	Metric(s) Being Measured	Timeline
Curriculum Committee	Course, Program, and Degree Learning Outcomes	At course creation, course revision, and every 5 years
eLearning Instructional Design	Online course construction.	At course creation and major course revision, upon request
Course Surveys	Student perspective on course/curriculum	Quarterly to Yearly
Graduate Surveys	Graduate Satisfaction, impact on employment	Yearly

Employer Surveys	Employer Satisfaction	Yearly
Advisory Committee	Effectiveness of program and curriculum relevancy.	Bi-annually
Outcomes Review	Program Learning Outcomes	Yearly
Program Reviews	Gaps and Gains	Yearly
BAS Steering Committee	College-wide impact	Quarterly

Curriculum Committee

Courses, certificates, and degrees at Tacoma Community College all align with three sets of outcomes: 1) Course Learning Outcomes (CLOs), 2) Program Learning Outcomes (PLOs), 3) Degree Learning Outcomes (DLOs). The CLOs are aligned with the PLOs and then PLOs are aligned to the DLOs. (See Figure 1)

Figure 1 Outcome Alignment

To ensure the alignment of these three levels of outcomes, all new courses, degrees and certificates are vetted by the Curriculum Committee. Current courses go through the Curriculum Alignment Process (CAP) with the Curriculum Committee every five years to ensure the outcomes are still aligned and appropriate. As an advisory council to the Provost and Vice President for Academic Affairs, the Curriculum Committee reviews, evaluates, and recommends action on all matters related to the curriculum of the college.

The proposed curriculum, admission requirements, plan for pathways into Master's programs, and the plan for college impact for the ITN-IST BAS have been reviewed through TCC's Curriculum Committee at the December 2018 meeting. The ITN-IST BAS was recommended for approval by TCC's Curriculum Committee during the December 2018 meeting for submission of a Program Proposal to the State Board of Community and Technical Colleges (SBCTC). This recommendation for approval has been forwarded to the Provost and Vice President for Academic Affairs for action pending approval of the courses by the State Board of Community and Technical Colleges (SBCTC) and the Northwest Commission on Colleges and Universities (NWCCU). After the initial approval of all courses, any updates to credits, outcomes, prerequisites, or alignment with PLOs will be submitted to Curriculum Committee for recommendation of approval. Every course in the ITN-IST BAS program will be reviewed by the

Curriculum Committee every five years through the CAP (curriculum assessment program) process to ensure continued alignment and relevance.

The ITN-IST BAS degree was submitted through TCC's Curriculum Committee to ensure 1) degree alignment with TCC's Degree Learning Outcomes and 2) course sequencing is logical and appropriate. The ITN-IST BAS degree will return to Curriculum Committee for review if any changes are made to the degree. Every five years the degree will be reviewed by the Curriculum Committee through the CAP process to ensure continued alignment and relevance.

Course Surveys

Students are provided with the opportunity to review courses on a quarterly basis. End of course surveys are the student's chance to provide anonymous feedback to the instructor/program about aspects of the course that they felt worked well and areas for suggested improvement. The student course surveys collect both quantitative and qualitative information. End of course surveys are Likert scale surveys that also provide the opportunity for students to provide detailed comment on each question. (See Appendix C).

Graduate Survey

It is the practice of professional technical programs at TCC to send graduate surveys six to nine months after graduation to assess a student's experience with the course content and how their degree completion has impacted their employment. Graduate surveys are anonymous surveys that collect both quantitative and qualitative information. Surveys ask Likert Scale questions with the opportunity to provide further information through open ended questions. Graduate surveys are reviewed on a yearly basis to determine student satisfaction and impact on job placement. (See Appendix D).

Employer Survey

Once graduate surveys are received and indicate which employers have hired our graduates, employer surveys are sent to collect data on their satisfaction with our graduates. Employer surveys are reviewed on a yearly basis to determine employer satisfaction and areas for improvement.

Advisory Committee

Professional technical programs employ an advisory committee to provide ongoing support and program review. Advisory committee members are asked to comment on the effectiveness of the program in meeting the expectations of the field to include reviewing the curriculum for relevancy, inclusion of trends and up to date technologies, as well as any needs for continuing education of program graduates. Advisory committees meet bi-annually.

The Networking and Cyber Security Associate of Applied Science Degree Program's advisory committee has discussed and given approval for the proposal of this degree.

The ITN-IST BAS will create a new Advisory Committee that will include membership from professionals in the business community including members from IT, business, healthcare, government agencies, and other IT specialty areas.

Outcomes Reviews

Coordinated by our Organizational Learning and Effectiveness Division, TCC annually conducts assessments on course, program and degree learning outcomes. Individual programs perform assessment on the effectiveness of each of their program learning outcomes every five years. The entire campus participates in assessment of a specified degree learning outcome each year to assess for student success in learning. Finally, the college uses faculty surveys to collect information on the performance of course learning outcomes assessment and the achievement of student learning.

Program Review

TCC requires all programs to complete a yearly program review to be assessed by the Division Dean and the Executive Vice President of Instruction. Through the annual review, programs identify

gaps and gains realized in the previous year and set program goals for the upcoming year to address those gaps or build on the gains. Program review includes a review of disaggregated data on course and program completions to assess for who is and is not completing. Program reviews are used to identify additional resources needed as well as to show best practices.

BAS Steering Committee

The TCC BAS Steering Committee meet quarterly to address any impact on college processes. The committee is representative of affected departments/programs on campus and includes representation from enrollment, financial aid, advising, tutoring, library, eLearning, accreditation, faculty, curriculum committee, marketing, business office, administration, and Workforce.

1.3 Course Preparation Needed by Students Transferring with a Technical Associate Degree.

The ITN-IST BAS will provide access to a wide range of students while ensuring that those who gain entry are prepared for baccalaureate level rigor. Preparation needed to enter TCC's ITN-IST BAS will require an associate degree or 90 equivalent college level credits, specific certifications, and an English writing/composition course

Entrance Requirements:

- Associate of Applied Science Degree in Networking and Cyber Security from an accredited institution with a cumulative GPA of 2.5* and a minimum of 2.0* in all applicable college courses OR
- Associate Degree or 90 equivalent credits from an accredited institution with a cumulative GPA of 2.5* and a minimum of 2.0* in all applicable college courses AND:
    - A+ certificate or equivalent
    - Network+ certification or equivalent
- Completion of college level business math or higher (i.e.; BUS 110)
- General Education Courses should include a minimum of:
    - English 101 or equivalent (5 credits)
    - CMST& 101 (or other Humanities distribution) (5 credits)
    - General Electives (15 credits)
    - Statistics (5 credits) (may be accepted without as long as completed prior to IT 441)
- Students must be in good standing**

*Students who do not meet the GPA requirement(s) may petition to have their individual circumstances reviewed with submission of letter of explanation.

**Students with any incidence of academic dishonesty may submit a petition to have their individual circumstances reviewed with submission of a letter of explanation.

1.4 General Education Requirements

Within the 180 credits required to earn a Bachelor of Applied Science Degree, students will take a minimum level of General Education Requirements as directed by the State Board of Community and Technical Colleges:

I. Students must earn a cumulative grade point average of at least 2.00, as calculated by the degree awarding institution.

II. The general education courses will include courses earned at either/both the associate degree and/or applied bachelor's degree level, based on the total required 180 quarter hours of credit.

III. A minimum of 60 quarter hours of general education courses will be required (see table 2)

Table 2. General Education Requirements

Total required General Education credits within 180 credits		Required for Admission into BAS	Required for Completion of BAS
Communication 10 credits			
• ENGL& 101 English Composition	5	X	
• CMST 320 Professional and Organizational Communication**	5		X
Humanities 10 credits			
• PHIL 320 Ethical decision making	5		X
• CMST& 101	5	X	
Social Science 10 credits			
• Recommend BUS& 201 Business Law	5		X
• Recommend POLS& 202 American Government	5		X
Natural Science 10 credits			
At least 5 credits in physical, biological and/or earth sciences. Shall include at least one laboratory course Recommended to choose from: • GEOG 210 Maps, GIS, and the Environment • MATH& 107 Math in Society OR • ENVS 101 Introduction to Environmental Science	10		X
Quantitative Skills 5 credits*			
Recommended to choose from: • MATH& 146 Introduction to Statistics • MATH 136 Inferential Statistics • STATWAY	5	X*	
General Education Electives 15 credits			
10 general electives	10	X	
• ENGL 235 Technical Writing	5		
Total required General Education credits within 180 credits	60	30	30

***** may be accepted without as long as completed prior to taking IT 441 Data Science and Big Data Analytics

** CMST 325 will count as either a Humanities or Communication distribution – students will work with their advisor to see which it is most appropriate to fill.

1.5 Course Work Needed at Junior and Senior Levels in the BAS

The ITN-IST BAS at TCC was created as a pathway for students to become well rounded, soft skilled enabled IT professionals. It seeks to develop not only their technical expertise, but also their ability to work as a team and communicate effectively and professionally. With ethics as its corner stone, graduates will be trained and possess industry certifications in cloud computing, Security and forensics, networking, and databases. Students from the bachelor program, ITN-IST BAS, will learn how to properly configure and maintain current and emerging technology needs for a wide range of business and government applications. By providing a broad-based curriculum, TCC prepares graduates for the challenges of the ever-changing job market. This holistic approach ensures graduates have a competitive edge and possess a broadly desired skill set for future employers. Thorough research of industry standard as well as advisory committee input informed our decision making.

Careful thought was given to ensure that all instruction is delivered in an appropriate sequence of didactic, laboratory, and professional activities. As noted previously, all new courses are reviewed by the TCC Curriculum Committee for recommendation of approval. The ITN-IST BAS core courses will be offered on campus in the evenings and/or weekends to meet the needs of our student population.

The ITN-IST BAS program will have a capstone that is designed to allow students to complete an IT Networking focused project.

Junior and Senior level course listings are found in table 3 below. A complete listing of the proposed course descriptions and outcomes for the Junior and Senior Level courses is available in Appendix B.

Table 3 Junior and Senior Level Coursework

BAS Upper Division Course Work			
Junior Level Core (300)			
Course No	Title	Credits	Meets GE
IT 301	Scripting and Programming for Network Administration	5	
IT 302	Emerging Communication Technology	3	
IT 305	Remote and Virtualized Platforms	5	
IT 321	Advance Information and Data Security	5	
IT 322	Forensics I	5	
IT 361	Cloud Computing	5	
LS 301	Research Skills for IT	2	
CMST 325	Professional and Organizational Communication	5	Humanities/Communication
PHIL 320	Ethical Decision Making	5	Humanities
Senior Level Core (400)			
IT 418	Advanced Technology Integration	5	
IT 421	Cyber Operations	5	
IT 441	Data Science and Big Data Analytics	5	
IT 461	Advanced Routing and Switching	5	
IT 481	Program Capstone	5	
TOTAL UPPER DIVISION CREDITS		65	

The following convention was followed when determining upper division course numbers:

- Core courses: 301-319 & 401-419
- Security related courses: 320-339 & 420-439
- Data related courses: 340-359 & 440-459
- Networking related courses 360-379 & 460-479
- Capstone: 480

Course Offerings

Course offerings/sections will be phased in over a period of four years to allow for proper creation of content, growth of the program, addition of faculty, and the ability to meet student needs. As you can see in Table 4 below, the first year we will begin with one cohort of 20 students and would offer 32 credits of first year courses in our upper division ITN core courses. We will continue to gradually add in larger numbers of student cohorts requiring more credits until we reach our maximum needed in the fourth year of 64 first year and 60 second year course credits, for a total of 124 credits. (See appendix E).

Courses will be offered in a hybrid/evening/weekend model to meet student need. Classes will be offered on the same schedule and in the same building as TCC's Applied Management BAS degree so we can offer support services to BAS students.

Table 4 Credits Offered

	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24
1st Year FT cohort size	20	25	40	45	50
Sections of each 1st course	1	1	2	2	2
Credits	32	32	64	64	64
2nd Year FT cohort size	0	18	22	36	40
Sections of each 2nd year course	0	1	1	2	2
Credits	0	30	30	60	60
TOTAL CREDITS	32	62	94	124	124

Full 180-credit Degree

In order to be awarded the ITN-IST BAS degree, students must complete a minimum of 180 credits, which must include 45 credits in general education, 15 credits of electives, and 60 credits in upper division coursework. (See table 5)

Table 5 BAS Degree Requirements

Full 180 credit requirements	
Associate Degree	90
Should include 15 credits General Education Courses • **English 101 (5 credits)** • **Humanities (5 credits)** • **Social Science (5 credits)**	
Includes 15 credits college level general education electives (15)	
Applied Bachelor Degree	90
Includes 30 credits General Education Courses • **Communication (5 credits)** • **Humanities (5 credits)** • **Social Science (5 credits)**	

• **Natural Science (10 credits)** • **Statistics (5 credits) (must be completed prior to beginning IT 441)** **Includes min of 60 credits upper division courses**	
TOTAL	180

Student Schedule

Students can attend this program full or part time. Full time students typically take 15 credits each quarter and can complete the program in six quarters (excluding summers). A full time schedule is intended to provide students with the most efficient path to completing their degree (see appendix F). Students who enroll in fewer than 15 credits complete the program in nine or more quarters depending on their quarterly load (see appendix G). All students will work closely with their advisor to ensure proper progression and completion of program goals.

Table 6. Sample Full Time Schedule

Summer	Quarter 1	Quarter 2	Quarter 3
No required courses (Potential to take Dedicated Statway section Math 93/136) and /or ENGL& 102 or 103 (5) (Com)	IT 301 Scripting and Programming for Network Administration (5) IT 302 Emerging Communication Technology (3) IT 305 Remote and Virtualized Platforms (5) LS 301 Research and rhetoric for IT (2)	IT 321 Advanced Information and Data Security (5) CMST 325 Professional and Organizational Communication (5) (Hum) STATs STATWAY or Statistics (5)	IT 322 Forensics I (5) PHIL 320 Ethical Decision Making (5) (SS) IT 361 Cloud Computing (5)
Summer	Quarter 4	Quarter 5	Quarter 6
	IT 418 Advanced Technology Integration (5) IT 441 Data Science and Big Data Analytics (5) GEOG 210 Maps GIS, and the Environment (5) (NS)	IT 461 Advanced Routing and Switching (5) BUS 201 Business Law (5) POLS& 202 American Government (5)	IT 421 Cyber Operations (5) IT 481 Program Capstone (5) ENVS 101 Introduction to Environmental Science (5) (NS)

Criteria 2: Qualified Faculty

Beginning year one, TCC will allot one full time non-tenure track faculty and 1/3 chair release time to the ITN-IST BAS Program. TCC plans to move the non-tenure track faculty into a tenure track position during year three, once the program proves enrollment is sustainable. If enrollment projections are met then a second full time faculty will begin year three. In addition to creation, preparation, delivery and revision of curriculum, full time faculty's work load includes, but is not limited to, advising, attendance of department, division, campus meetings, and participation in program review, accreditation, and institutional effectiveness. The 1/3 release for program chair duties includes

administrative functions, such as coordination of quarterly course offerings, orienting new faculty, convene meetings, makes recommendations regarding hiring of part-time faculty, coordinating book orders, review syllabi, coordinate development, revision, and implementation and evaluation of curriculum, coordinate with advisors, update catalog, etc.

IT faculty teaching in the ITN-IST BAS degree program will typically be required to hold a minimum of a master's degree. Adjunct faculty will typically be IT professionals who are currently working in the field and hold a master's degree. When appropriate, the program will seek faculty with a doctoral degree.

Faculty teaching general education courses meet the standards of qualifications for community and technical college personnel (outlined in WAC 131-16-080 and 131-16-091). These individuals hold advanced degrees (e.g. masters, doctorate, juris doctorate) in their field(s) of educational service. All faculty, full-time and adjunct, are screened and evaluated per college policy and negotiated agreements. Tacoma Community College is committed to recruiting diverse faculty to serve our diverse student populations.

Full-time faculty who are responsible for the core requirement technical courses in the ITN-IST BAS program must meet the certification requirements for professional and technical instructors and administrators as stated in the Washington Administrative Code, WAC 131-16-091.

Appendix H shows the faculty profiles of TCC's full-time and adjunct faculty who may teach in the ITN-IST BAS degree program. These class assignments may change as new full-time faculty are hired into the program. Two new faculty are budgeted to be hired; one in the first year, one in the fourth year.

Specialized Credentials

In addition to requiring a minimum of a Master's Degree, additional industry recognized credentials such as CompTIA Security+, CompTIA Cloud+, CompTIA CySA+, and CCNA Routing and Switching will be preferred (see Table 7).

Table 7 Specialized Credentials Required

Course		Specialized Credential Preferred
IT 321	Advance Information and Data Security	CompTIA Security+
IT 361	Cloud Computing	CompTIA Cloud+
IT 421	Cyber Operations	CompTIA CySA+
IT 461	Advanced Routing and Switching	CCNA Routing and Switching
PHIL 320	Ethical Decision Making	Ph.D.

Criteria 3: Admissions

Tacoma Community College provides access to education for our community that is inclusive and equitable. TCC is committed to providing pathways to individuals with a wide variety and level of skill and need. With access in mind, the TCC ITN-IST BAS degree will seek to provide admission to this degree to as many in our community who would benefit from it, while ensuring that those entering the

process are prepared to complete courses at a baccalaureate level. TCC will work to minimize the barriers to baccalaureate education that have previously kept our associate degree graduates from advancing their education. Courses will be available to students in a hybrid/campus based format with careful attention to scheduling to enable working and place bound students to access the program. Admission to the upper division courses in this degree program will occur each Fall.

The admission process will be moderately selective. The admission criteria were carefully chosen to ensure that students are properly prepared for the rigor of a baccalaureate program, while also allowing for a variety of previous student experience. Students will be required to have completed the entrance requirements before they make application to the program.

It is anticipated that there will be more applicants to the BAS program than there are available positions. Therefore if a student meets the requirements for a completed application, **it does not guarantee admission to the program**. Candidates may be considered for admission based on a number of factors, to include additional coursework completed in college level leadership/management/human relations, and communication courses, number of years of work or volunteer experience, military status, and college level GPA. When there are more applicant then seats students will be scored using a scoring rubric (see Appendix J). Admission will be offered to the top scores. If there are more qualified applicants than there are openings, but not enough to feasibly add additional sections, the college will place the remainder on a wait list. In the instance when additional spots open prior to the start of the term, students on the wait list will be added based on their order of their application score. After the start of the quarter, students on the wait list will be added to any course where a spot opens due to another student dropping the course through the first three days of the quarter. Any student still on the wait list after the quarter has begun will be offered additional advising and given priority registration for the following year.

The BAS Director, program chair(s), and Student Success Navigator will work in conjunction with marketing, advising, enrollment, and outreach to assist the program in drawing from a wide and diverse applicant pool. Representatives of the ITN-IST BAS program will attend appropriate recruitment events aimed to reach potential students who are appropriate to this program. There will be direct outreach to all previous graduates from the Networking and Cyber Security AAS degree. In order to increase the diversity of our students, Program faculty from both the Networking and Cyber Security and the ITN-IST BAS will directly outreach to organizations that typically service professionals of color, starting with LUSS (LatinX Unidos of South Sound), the Puget Sound Chapter of the Association for Women in Computing. TCC also plans to increase outreach to high school and younger, beginning with Girl Scout events and the hilltop non-profit working with high school kids interested in technology fields.

Student Enrollment

We plan to phase in enrollment over a period of three years until we reach our desired max of 50 new students per year. We expect an attrition of 10% per year. We estimate a total of 116 graduates through the fifth year (see Table 8). We will reevaluate our budget projections if we find that we find that our student enrollment predictions are not met.

Table 8 Projected Student Enrollments

	FY20-21	FY21-22	FY22-23	FY23-24	FY24-25	TOTAL
New Students (10 credits or more upper division)	20	25	40	45	50	180
New Part time (5 credits upper division)		2	2	2	2	8
TOTAL NEW	20	27	42	47	52	188
Continued 10 credits or more upper division	0	18	22	36	40	116
Continued 5 credits upper division		2	2	2	2	8
TOTAL HEADCOUNT	20	47	66	85	94	312
FTE	13	29	42	54	61	199
Projected Graduates	0	18	22	36	40	116

Criteria 4: Student Services Plan

Tacoma Community College is committed to increasing the continued education of our community. It is vital to our mission that we provide opportunity for education to a diverse body of students as well as empowering students with the tools they need to ensure their success. To this end, we provide a robust menu of student-focused services to help students achieve success and accomplish their goals.

Academic Advising

TCC has a shared advising model. Once students have declared their major and are prepared to begin their major they move from general advising to a program faculty advisor. Students will be assigned a faculty advisor upon entry to ITN-IST BAS program as they will be declared and prepared. Students will meet quarterly with their faculty advisor to ensure they are following proper course sequencing. Student advising can be done in person, on the phone, over email, or over teleconference, whichever best meets the student's needs. There will be a quarterly advising meeting that will include updates, problem solving, and process improvement. This group meeting will be attended by the BAS director, the Student Success Navigator general advising, and faculty advisors for the ITN-IST BAS program.

TCC uses Civitas Inspire for Advisors which provides faculty and professional advisors with predictive analytics to allow for meaningful conversations and strategic discussions around student persistence and graduation.

Early/Continuous Alert

TCC has an Early Alert system that is intended to promote student success. The intention of the Early Alert System is to identify struggling students early on so they can be offered guidance to help them be successful. At the tenth day of instruction, the course faculty will initiate an Early Alert for any student who falls below the course minimum passing score, or is close to falling below. The Early Alert goes to the student and the advisor and into the student's electronic file. The Early Alert includes information regarding the student's performance, what resources are

available to the student, and encourages them to speak with the course faculty immediately for guidance. The student's advisor will then also check in with the student to see if any additional resources are needed. The ITN-IST BAS program will also use the Early Alert system at midterm as a way of staying in touch with students who are in jeopardy of failing the course. Providing multiple ways to communicate progress to a student is important. We look at the student holistically and find that a partnership between the student, faculty, and advisor is vital to student success.

Career Advising

The Career Center assists students with the Career search process as it relates to their education at TCC, and assists students with resume writing, interviewing, basic job search and internship search.

Veteran's Services

TCC has been identified as a Military Friendly School. TCC has both a Veterans Services Coordinator and a Veterans Navigator to assist students. TCC is approved by the US Veterans Administration for attendance by students in multiple VA education programs to include: Chapter 30, 31, 33, 35, 1606, and Section 901 of Title 10 & Title 31 U.S.C.

Financial Aid

TCC's Financial Aid department is staffed by experienced and knowledgeable professionals who are committed to serving students and guiding them through the financial aid application process. TCC Financial Aid professionals are experienced working with distance learning students and as such distance students will receive the same access to services as local campus students. Students can complete their WAFSA and FASFA and apply for aid online. Students also have access to all financial aid documents through their web-based student portal. TCC is currently approved to offer financial aid to bachelor students.

TCC offers a wide range of financial aid, including grants, loans, and scholarships from a variety of sources. In addition to the helpful and detailed information found on the Financial Aid pages of the TCC student portal and TCC website, TCC offers workshops on "Ways 2 Pay 4 College" to help students navigate their funding choices. TCC's Workforce Department also provides students with connections to funding sources.

Dedicated BAS Financial Aid services: If approved, this will be TCC's fourth BAS degree. Once students are accepted in the program, Financial Aid is one of the most critical factors for student's successfully enrolling in the BAS program. To mitigate the amount of questions and communication required from our Financial Aid department, the BAS programs have partnered with TCC's Workforce Education to create a financial aid liaison position. This position is the first point of contact for BAS students. You will see in the proposed budget there are two lines for Financial Aid resources. The first line is for a dedicated financial aid position at .33 FTE to increase the hours for this shared liaison position with Workforce Education. The second line is a transfer of funding starting at $2000 and increase gradually up to $5000 per year once we are full at 60 new students each year. This line is meant to mitigate the extra resources needed to award BAS degrees in ctcLink, which is an onerous task. We have also instituted a Success

Navigator for our BAS programs and this position is also a liaison between our BAS students and Financial Aid services.

Counseling/Resources

TCC offers confidential personal, academic, and career counseling for students. In addition, TCC's Workforce Department supports students by providing access to community resources.

MECA

TCC's Center for Multi-Ethnic and Cultural Affairs (MECA) provides program and support services designed to promote the academic persistence, success, and graduation of our diverse student body. Programs and services through MECA include financial aid & scholarship research, transfer advising & research, instructional lab including tutoring & computers, emergency book loans, peer monitoring, advocacy, campus and community resource information, student leadership development, and cultural events & activities.

Access Services

TCC's Access Services department works with students to assist with access and accommodation needs. TCC offers a variety of accommodation solutions, unique to each student depending on their disability. Some example of services include direction to alternative text & study resources, assistance with taping lectures, assistance utilizing note-takers or interpreters, alternate testing arrangements, tutors, counselors, class and career advising, use of computer adaptive equipment, and referral to outside agencies.

TCC Learning Network

TCC's Learning Network is an online support center that provides students access to a variety of support from anywhere in the world. From the TCC Learning Network launch page, students can receive support for our Learning Management System, Information Systems, Media Production, Enrollment Services, Institutional Research, the TCC library, Business Ed Center, Math Advising & Resource Center, Writing and Tutoring Center, and Study Spaces.

Library

The TCC Library provides timely and responsive academic support for students, faculty, and staff in academic, developmental, transfer, and professional programs by teaching and promoting information literacy, collecting relevant materials in the most useful formats, and providing access to educational technology. Librarians teach library research workshops; teach online and hybrid two-credit LS courses; and create online learning objects such as LibGuides and video tutorials to support specific research assignments. Librarians also provide research assistance at the reference desk, via e-mail or phone, and via our 24/7 Chat service. Features of the library include study rooms; a variety of print and online books, scholarly journal articles, magazine and newspaper articles, and films; a "SuperSearch" discovery tool that provides students the ability to search across 40+ research databases and the library catalog in one Google-like search; and a computer lab with 85 desktop PCs and 20 laptops available for check-out. Computers will be imaged with SQL and a data modeler allowing access for students outside of the dedicated IT lab. The library is accessible for non-traditional hour students, from Monday-Thursday until 8 PM and on Saturdays. The ITN-IST BAS degree includes a library science course taught by our library educators. We already subscribe to a number of business-specific databases (see table 9). We plan to add Database O'Reilly for Higher Education.

Table 9. TCC Currently Held Databases

Database	IT Pro ebooks	Academic Search Complete	ProQuest Periodical Databases
Descriptions	Thousands of full-text books, resources, and courses, industry-focused reports, and major news sources.	Multi-discipline, particularly strong on scholarly sources.	Multi-discipline, particularly strong on current events.

Through the above databases, we also provide access to the following business periodicals: Business Week, Entrepreneur, Financial Times, Forbes, Harvard Business Review, Inc., The Economist, The Wall Street Journal, The Washington Post.

eLearning

TCC has been a community college leader in online and hybrid courses offering our first online course more than 16 years ago. TCC is an experienced online course provider and has ample support in place to provide support for additional ITN-IST BAS students. The eLearning department provides technical support, multimedia production support, and Instructional Design support in a team-based, collaborative approach. The eLearning technical support team is located in the Information Commons computer lab. The computer lab has 86 computers available, as well as equipment available for checkout. The help desk support staff are available Monday through Saturday. Students and faculty also have 24/7 access to self-help and can submit support requests directly to our support team through our support site. There are hundreds of knowledgebase articles that are revised and added based on student and faculty questions. TCC offers students many options for test proctoring, both online and in person.

Tutoring

TCC's writing and tutoring center supports student's academic success by providing tutoring services that supplement the student's classroom instruction. Tutoring is available in a wide variety of subjects. The ITN-IST BAS program includes a number of general education and distribution courses, all of which the Writing &Tutoring Center are already adept at handling. Tutoring is available in many settings, including one-on-one sessions, group tutoring, drop-in tutoring and online tutoring. TCC is also a member of the Northwest eTutoring Consortium, along with many other colleges in western states. eTutoring is available for math, science, and writing assignments. For local students, the Writing & Tutoring Center has student computers available on campus for students to draft papers and do research. The proposed budget for the ITN-IST includes graduated support for the Tutoring centers to account for increased traffic

The TCC Writing & Tutoring Center along with the Computer Assisted Learning Lab (CAL) has also worked to create LearnDotTacomacc (http://learn.tacomacc.edu/). LearnDotTacomacc is a website with a host of online, open education resources to help students with "do it yourself" learning. From this website students can participate in open resources on a multitude of subjects, including, but not limited to, English, grammar, science, math, and even keyboarding.

Math Advising Resource Center (MARC)

The MARC provides students with resources for success in math courses. The MARC has an open student area and computer lab on campus with drop in tutoring available as well as math advising. The MARC provides students with access to reference books, whiteboards, textbooks, calculators, rulers, and headphones.

Business Education Center (BEC)

TCC's BEC provides tutoring support for students enrolled in accounting, computer user, business math, business, economics, information technology and statistics courses.

Enrollment Services

Enrollment Services maintains documentation for student admissions, enrollment, transfer credit evaluation, and degree audit. Grades and credits for courses are recorded on the student transcript and permanently maintained by TCC in a safe and accessible location. Students can apply to TCC with an online application. All enrollment functions (add/drop/withdrawal) can be performed either by visiting campus in person or through online self-service. TCC enrollment services are experienced professionals in transcript review. Students can request official TCC transcripts in person or online through the National Student Clearing House. The link to the National Student Clearinghouse is available on the TCC website or in the Student Portal, My TCC.

Transcript Evaluation

Credential evaluators are experienced in assessing incoming transcripts for applicable transfer credits towards degree completion. Upon evaluation, transferred credits are reported to the student as well as recorded in the Student Management System, ctcLink for access to appropriate staff and advisors. Consideration for prior learning for military training/experience is assessed through transcript evaluation and crosswalk with the ACE Military Guide.

Bookstore

Students can purchase required texts from the TCC bookstore on campus or online. The bookstore stocks all required texts for courses as noted by the course faculty. When possible, the TCC bookstore will provide the option of buying used books for students to decrease costs. The TCC bookstore also offers in-store textbook rentals when possible for required textbooks. Students who purchase their books online can have them shipped to their home.

In 2011 TCC launched its Open Education Resource (OER) Initiative. Since that time, the project has saved students at least $2 million. Mindful of the potential for savings, the ITN-IST BAS program will encourage the use of OER whenever appropriate.

Office of Student Engagement

TCC's Office of Student Engagement (OSE) provides students with access to cultural, educational, recreational, and social learning opportunities. Through TCC's OSE, students can

participate in Student Government, student clubs, and the student newspaper. TCC OSE coordinates the Artist & Lecture Series, which consists of 3-4 professional speakers and presentations per quarter. Visitors to the college through the Artist & Lecture series provide students with presentations that expand what students are learning in the classroom.

Early Learning Center

For local students, TCC's offers students the Early Learning Center for their children. The Early Learning Center is located on the Main Campus at TCC. The program is staffed by early childhood professionals. Care is available for full or half days for children ages one month to five years.

BAS Specific Services

In addition to the vast array of services the college provides as a whole, TCC has implemented additional services to further ensure BAS student and program success.

Director of Applied Baccalaureate Programs

The Director of Applied Baccalaureate Programs provides administrative leadership for Bachelor of Applied Science BAS) degree programs, serves as the primary contact for community, and faculty regarding the college's BAS programs, and plays a key role in advancing the college's priority to develop and deliver high quality BAS degree programs. The Director is responsible for leading and managing the development of new BAS degree programs as well as coordinating and maintaining current BAS programs through collaboration with faculty, deans, administrators, and the community

ITN-IST BAS Program Chair

The program chair will be responsible for the organization, administration, continuous program review, planning, development, and general effectiveness of the program. The program chair will be involved in curriculum development and evaluation, counseling of students, program management and administrative duties within the institution. The BAS program chair will be a point person for student advising and will communicate regularly with student services regarding issues of advising.

Student Success Navigation

The Student Success Navigator (SSN) will provide outreach to former, current, and future students interested in the ITN-IST BAS program. The SSN will work directly with students as a partner in their success. The SSN will assist students in application to the program, enrollment and registration. They will work with students to develop an academic plan ensuring that they are able to meet their academic goals. The SSN will assist with Financial Aid, Washington State Opportunity Grant, and access to other grants, scholarships, and provide referrals to local community-based and government resources. The SSN will provide referrals to appropriate college services such as Workforce, counseling, tutoring, Veteran's services, etc. The SSN will meet regularly with student to track progress and provide intervention and retention strategies. The ITN-IST BAS Navigator will have regular communication and coordination with Student Services regarding BAS students. The SSN will assist students with internships, employment searches, and job placement.

Lab Technician

The ITN-IST BAS lab assistant will provide the ITN-IST BAS students with hardware and software support. They will coordinate use, cleaning, storage and inventory of equipment used for on-campus lab classes and open lab sessions. They will interface with TCC"s Information Systems Support Department as needed to facilitate support of the ITN-IST lab.

Advisory Committee

The ITN-IST BAS program will have an advisory committee representative of the Tacoma area business community that will meet at least twice a year. The committee responsibilities will include assisting the ITN-IST BAS program faculty and TCC personnel with the development and revision of program goals and curriculum, monitoring program needs and expectations, and ensuring program responsiveness to change.

Criteria 5: Commitment to Build and Sustain a High Quality Program

Tacoma Community College has planned for and designed the ITN-IST BAS to ensure sustained institutional support using four strategies: integration and scaffolding with TCC's existing networking and cyber security program, leveraging of existing institutional staff expertise and resources, investment in ongoing development of faculty and staff, and modest initial targets coupled with slow growth. Together, these strategies limit initial sunk costs and assured feasibility to allow tuition revenues to build to where revenue exceeds expenses over a five year period.

The presence of established IT networking and cyber security programs at TCC has allowed TCC to build staff and infrastructure upon which the applied baccalaureate will rely. TCC's proven ability to provide local employers with highly skilled allied business professionals has led to close partnerships between the college and the local business entities. TCC's established record with our community partners will allow us to leverage those relationships as we integrate graduates from this new degree into our community.

As noted elsewhere in the proposal, existing TCC staff are qualified to teach junior and senior level courses in the proposed ITN-IST BAS. Clerical, technical, and administrative staff are already familiar with the goals and outcomes of the current networking and cyber security program and will be able to transition easily to supporting the ITN-IST BAS. TCC's professional, committed faculty are experienced in the highly specialized curriculum development required in the IT field. Faculty are experienced with providing creative and thoughtful delivery modes to allow students to leverage their knowledge while maintaining their work life balance.

Using dedicated local funds, TCC will ensure ongoing professional development of the faculty and staff in this program as it has previously for the associate degree IT programs. Dedicated dollars in the budget ensure sufficient support for faculty development, both in areas of curriculum as well as continuing education in delivery of hybrid and campus based course work.

Revenue

We will phase enrollment in slowly over a six-year period. We project an initial enrollment of 20 students in the first years, 25 in the second year, 40 in the third year, 45 in the fourth year, and our final maximum cohort size in the fifth year of 50 students. (See table 10).

Annual tuition is calculated based on the 2019-20 rate of $2151 per student enrolled in at least 10 upper division credits (based on pro-rating for courses taken over 10 upper division credits by the SBCTC) and $1075 for students taking 5 upper division credits. Mandatory college fees include fees collected for Student Center, Early Childhood Education Building, Facility Fee, Technology Fee, Health and Wellness Center Fee, Safety Fee, and eLearning fee. In addition, we will collect a $100/course fee that will be used for required software, such as MS Project, servers, as well as library databases. We are calculating an attrition of 10% each year. We anticipate FTE of 13 year one increasing to 60 by year five for a total increase of 199 FTE over five years. At capacity, TCC expects to generate $678,740 in revenue from tuition and fees annually. While these modest initial enrollment targets do not cover program costs until the third year, TCC is committed to use of local funds to support the program's continued growth and quality.

Table 10 Projected Revenue

	Proposed FY20-21	Proposed FY21-22	Proposed FY22-23	Proposed FY23-24	Proposed FY24-25	Proposed TOTAL
New Students (10 credits or more upper division)	20	25	40	45	50	180
New Part time (5 credits upper division)	0	2	2	2	2	8
TOTAL	20	27	42	47	52	188
Continued 10 credits or more upper division	0	18	22	36	40	116
Continued 5 credits upper division	0	2	2	2	2	8
Headcount	20	47	66	85	94	312
FTE	13	29	42	54	61	199
Total Tuition	$135.510	$290,379	$412,986	$535,593	$593,670	$1,968,138
Total Mandatory Fees	$9810	$21,015	$29,850	$38,685	$42,870	$142,230
Course Fees ($100/COURSE)	$10,600	$20,900	$30,000	$38,100	$42,200	$141,800
TOTAL REVENUE	$155,920	$332,294	$472,836	$612,378	$678,740	$2,252,168

Expenses

TCC will add a total of 2.0 FTE faculty dedicated the ITN-IST BAS program over four years. TCC will phase these positions in with 1.0 FTE hired in Spring 2020 in year zero and 1.0 FTE in year four. TCC will add a dedicated .33 FTE for ITN-IST BAS program chair duties, and sufficient part time instruction to address education requirements. TCC will also add a dedicated full time lab technician to support the computer lab.

As this is TCC's fourth BAS degree, we already have administrative personnel in place that will support this degree to include a full time BAS Director, a Success Navigator, Program Clerical Support, and a half time Financial Aid-Workforce position.

The Program Chair and full time Faculty positions are designed to begin in Summer 2020 to support enrollment into the program for Fall 2020.

TCC already has a large dedicated computer lab for our Networking and Cybersecurity AAS degree. The BAS students will share this space, however we will budget for lab configuration of a classroom in Building 16 for to allow for collaborative session space and additional computers beginning 22-23 when we expect our size to increase above our current capacity. TCC has budgeted for equipment, supplies, professional development, and administrative support to ensure program quality. TCC already employs a BAS Director, Success Navigator, and Support Staff so these positions would not be a new cost to the college. TCC would add another ½ time position for Financial Aid support and one full time position for a lab technician. TCC will add O-Reilly for Higher Education (new Safari) to our library to support the new BAS degree program. These database services will begin in Summer 2020 to support curriculum development. Finally, a funded marketing program will ensure student awareness and interest in the program to meet enrollment projections. Estimated program expenses and income are detailed in Appendix I.

TCC does not expect the program to enroll sufficient numbers of students to fully support the program until the 3rd year of student enrollment, FY22-23.

Table 11 Expenses ITN-IST BAS

Expenditures							
	19-20	20-21	21-22	22-23	23-24	24-25	TOTAL
Personnel Costs							
FACULTY							
BAS Chair (.33fte)	$ 6,700	$20,000	$20,600	$21,218	$21,855	$22,510	$106,183
Full-time faculty #1 (1 FTE)	$ 20,000	$60,000	$61,800	$63,654	$65,564	$67,531	$318,548
Full-time faculty #2 (1 FTE)	$	$0	$0	$0	$60,000	$61,800	$121,800
Adjunct faculty	$ 5,867	$53,784	$23,999	$63,168	$46,204	$47,590	$234,745
DIRECTORS ADMINISTRATORS							
BAS Director (.25 of 1.0FTE)	$	$22,500	$23,175	$23,870	$24,586	$25,324	$119,456
ADMINISTRATIVE SUPPORT PERSONNEL							
Success Navigator (.25 of 1.0FTE)	$	$13,925	$14,343	$14,773	$15,216	$15,673	$73,930
Support Staff (.25 of 1.0FTE)	$	$8,505	$8,760	$9,023	$9,294	$9,572	$45,154
Dedicated Financial Aid/Support	$	$20,000	$20,600	$21,218	$21,855	$22,510	$106,183
Lab Technician (1.0 FTE)	$	$60,000	$61,800	$63,654	$65,564	$67,531	$318,548
FRINGE BENEFITS							
Benefits (estimate 34%)	$11,073	$87,963	$79,926	$95,397	$112,246	$115,614	$491,146
TOTAL PERSONNEL COSTS	**$43,640**	**$346,677**	**$315,003**	**$375,975**	**$442,383**	**$455,654**	**$1,935,692**

Travel							
Airfare, overnight, mileage, lodging, substinence	$	$1,500	$1,500	$1,500	$3,000	$3,000	$10,500
TOTAL TRAVEL	**$0**	**$1,500**	**$1,500**	**$1,500**	**$3,000**	**$3,000**	**$10,500**
GOODS AND SERVICES							
Conference Registrations	$	$1,000	$1,000	$1,000	$2,000	$2,000	$7,000
Materials & Supplies	$	$3,000	$3,000	$3,000	$3,000	$3,000	$15,000
Printing and Reproduction	$	$500	$500	$500	$500	$500	$2,500
Software Licenses	$	$8,000	$8,000	$8,000	$8,000	$8,000	$40,000
Library Subscriptions/Databases	$	$10,000	$10,300	$10,609	$10,927	$11,255	$53,091
Marketing	$ 5, 000	$5,000	$3,000	$3,000	$3,000	$3,000	$17,000
Other Services (Accreditation)	$ 1,000	$0	$0	$0	$0	$0	$0
TOTAL OPERATING EXPENSES	$6,000	$27,500	$25,800	$26,109	$27,427	$27,755	$155,591
Equipment							
Equipment (computer hardware)	$ 2,500	$5,000	$5,000	$30,000	$5,000	$5,000	$50,000
TOTAL CAPITAL OUTLAY	**$2,500**	**$5,000**	**$5,000**	**$30,000**	**$5,000**	**$5,000**	**$50,000**
Capital Facilities Construction or Major Renovation							
Construction or renovation	$	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL FACILITIES CONSTRUCTION	**$**	$0	$0	$0	$0	$0	$0
Indirect Costs							
Indirect Costs	$2,182	$17,334	$15,750	$18,799	$22,119	$22,783	$96,785
TOTAL INDIRECT COSTS	**$2,182**	**$17,334**	**$15,750**	**$18,799**	**$22,119**	**$22,783**	**$96,785**
Total Expenditures	$54,322	$398,011	$363,053	$452,383	$499,929	$514,192	$2,238,068

Sustainability

Conservative minimum enrollment targets and budgeting projections will help ensure successful ITN-IST BAS implementation. TCC has committed $327,172 over year zero to three to allow the program to reach enrollment targets and sufficient revenue to offset costs. TCC projects that this ITN-IST BAS will be self-sustaining in its third year of student enrollment with a net projection of $164,548 in year five. As noted earlier, we anticipate FTE of 13 year one increasing to 60 by year five for a total increase of 199 students over five years. If enrollment targets exceed expectations, TCC may begin to recoup costs earlier than the expected Year 3 of the program.

Criteria 6: Program Specific Accreditation

In August 2015 Tacoma Community College submitted a substitutive change request proposal to offer our first Bachelor of Applied Science Degree. TCC was granted *candidacy* status at the

baccalaureate level by the Northwest Commission on Colleges and Universities (NWCCU) in February 2016. July 13, 2017 TCC was officially granted accreditation at the baccalaureate degree level.

TCC will seek accreditation by the NWCCU for this Bachelor of Applied Science Degree in IT Networking: Information Systems and Technology.

Criteria 7: Pathway Options Beyond Baccalaureate Degree

Graduates from Tacoma Community College's ITN-IST BAS degree program will be prepared to pursue a master's degree in several possible graduate pathways. As with many of our other applied degree programs, the graduates from TCC's program should have no problem applying to an MBA program. Additionally, based on the course content we are providing, students will be able to transfer to the Master of Science in Geospatial technology at the University of Washington Tacoma. Through our external review process, we have also learned that our graduates will be of 'keen interest" to UW-T's Masters of Cybersecurity and Leadership as well as the proposed Masters of Science in Information Technology program, as noted by our external reviewer Mr. Costarella. Students will also be able to transfer to MBA programs at Saint Martin's University in Lacey and Seattle Pacific University.

In addition Washington State Community and Technical Colleges has a state-wide articulation agreement with Western Governor's University which will allow TCC's ITN-IST BAS graduates to pursue several master's degrees.

Criteria 8: External Expert Evaluation of Program

TCC received input from external reviewers from two local 4-year Universities, University of Washington-Tacoma School of Engineering and Technology located in Tacoma, Washington and St. Martin's University located in Lacey, Washington. TCC purposefully chose external evaluators who had expertise in areas of computer science and security. Charles Costarella is a full time faculty at the University of Washington-Tacoma's School of Engineering and Technology's Information Technology program. Dr. Mario Guimaraes is a professor and Department Chair of Saint Martin's Computer Science Department. The complete comments, feedback, and biographies are available in Appendix A.

Both reviewers felt that the proposed bachelors is well rounded and provides academic rigor commensurate with the discipline of IT at the bachelor's level. Mr Costarella noted "the outcomes are designed to produce a very highly skilled graduate who is ready to fill critical roles in infrastructure with a foundation or being mindful to an organization's front line of defense against network and device intrusion. Both respondents also felt confident in the ability of graduates to enter appropriate masters programs. Mr. Costarella indicated that the students would specifically be of interest to UW-T's Masters of Cybersecurity and Leadership as well as a proposed new Masters of Science Information Technology program. Dr. Guimaraes indicated that graduates of TCC's ITN-IST would be good candidates for a Masters in Computer Science, Masters in Business Administration, Masters in Engineering Management, and a Masters in Information Technology. Both reviewers were impressed by the range of skills covered in the proposed [program as well as the emphasis on communication skills outlined in each class.

Mr. Costarella suggested that TCC look into ABET accreditation standards for systems administrators and felt that many of our proposed class offerings would cover much of the requirements. This is something

that TCC will definitely consider. Additionally, we are looking at an NSF grant closely linked to ABET with Green River community college, lending us some expertise.

Dr. Guimaraes suggested that emphasis be placed on GIS within the natural science classes suggested for the distribution credits. This, as well as the suggestion for a data analysis elective, are being considered for a possible data analytics certificate to be offered potentially shortly after the BAS launch.

Conclusion

Tacoma Community College (TCC) is proposing a Bachelor of Applied Science (BAS) Degree in IT Networking (ITN) with a specific focus on Information Systems and Technology (IST). This new offering will create a pathway for graduates from TCC's Networking and Cyber Security Associate of Applied Science Degree. The proposed degree will help the Tacoma-Pierce County area county fill the gap for computer and IT related professionals. This degree will provide holistic education that to meet the needs of the broad scope of technical skills in high demand that area employers desperately need. The program will focus on security, networking, and databases with emphasis on highly desirable industry certifications, ethical behavior, diversity and equity, and soft skills. This Information Technology (IT) Bachelor Degree aspires to increase access and mitigate or remove the significant barriers faced by current graduates of applied associate degree programs when trying to pursue further education.

Appendix A External Evaluations

College Name:	Tacoma Community College	**BAS Degree Title:**	Bachelor of Applied Science in Applied Management
Reviewer Name/ Team Name:	Dr. Mario Guimaraes	**Institutional or Professional Affiliation:**	Saint Martin's University
Professional License or Qualification, if any:	Ph.D. in Computer Science, Post-doc in Information Assurance Department Chair	**Relationship to Program, if any:**	none

Please evaluate the following Specific Elements

a) Concept and overview

Is the overall concept of the degree program relevant and appropriate to current employer demands as well as to accepted academic standards? **YES.** Will the program lead to job placement? **YES.**

Comment

Yes. Although faculty/students should also be aware that job placement is also a strong function of career service and the student's initiative and skills to apply.

b) Degree Learning Outcomes

Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?

Comment

YES. It has the rigorous of a Baccalaureate degree in Information Technology

c) Curriculum Alignment

Does the curriculum align with the program's Statement of Needs Document?

Comment

YES

d) Academic Relevance and Rigor

Do the core and elective courses align with employer needs and demands? **YES.** Are the upper level courses, in particular, relevant to industry? **YES**. Do the upper level courses demonstrate standard academic rigor for baccalaureate degrees? **YES.**

Comment

I attached a few personal suggestions. However, they reflect my personal opinion, not a requirement for a successful IT program.

Are the general educations requirements suitable for a baccalaureate level program? **YES.** Do the general education courses meet breadth and depth requirements? **YES.**

Comment

Reviewer has more experienced in the IT related courses than General Ed.

e) General Education Requirements

f) Preparation for Graduate Program Acceptance

Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs? **YES**

Comment

Masters in Computer Science (although a second programming class is recommended)

Masters in Business Administration

Masters in Engineering Management

Masters in Information Technology (if created)

g) Faculty

Do program faculty qualifications appear adequate to teach and continuously improve the curriculum? **YES**

Comment

YES. Note that the resources allocated for future IT faculty is sufficient as long as Tacoma is NOT looking for a faculty with Ph.D. For a faculty with Ph.D., it needs to be raised to at least 75K.

h) Resources

Does the college demonstrate adequate resources to sustain and advance the program, including those necessary to support student and library services as well as facilities? **YES**

Comment

i)	Membership and Advisory Committee	Has the program received approval from an Advisory Committee? **YES** Has the program responded appropriately to it Advisory Committee's recommendations? **I AM NOT AWARE OF** **Comment**
j)	Preparation for a Master of Business Administration	Does the curriculum prepare graduates to enter into any master's degree programs at your institution i.e. MBA, etc.? **YES** **Comment**
k)	Overall assessment and recommendations	Please summarize your overall assessment of the program. **COMPLETE. SEE BELOW.** **Comment** Very complete from an educational and technical viewpoint.

Reviewer Bio or Resume

Evaluator, please insert a short bio here

Dr. Mario Guimaraes is professor and chair of Saint Martin's Computer Science Department. Dr. Guimaraes has over 100 publications/presentations at international, national and regional conferences. He has been the Principle Investigator of multiple National Science Foundation (NSF), Eisenhower and RTA grants and served on 13 National Science Foundation panels. Dr. Guimaraes has a Ph.D. in Computer Science from PUC-RJ and an NSF Sponsored Post-Doctorate in Cybersecurity from the University of Maryland. His Research Areas include Database Security, Data Warehouse, Geographical Information Systems, Instructional Software and Video Games. He was the recipient of the first place award at the 1995 International ACM Student Research Competition. Dr. Guimaraes has developed instructional software that is used throughout Brazil in the areas of introductory programming and trigonometry. He has over 20 years of experience teaching Databases, Database Security, Videogame Design, System Analysis, Programming, Software Engineering and Project Management at in the USA (Texas A&M-CC and Kennesaw State University), Brazil and UAE (Zayed University). Dr. Guimaraes also has an extensive industry experience which includes DBA for the Brazilian Navy, Developing Stock Market Analysis software for a Brokerage Company, and Developing Instructional Software for SENAC.

Additional comments from Dr. Guimaraes:

1) A few minor issues (not a concern), and this may be more personal opinion due to my CS background:
   2.1) I only saw one programming class. Although this is okay for an IT major, I would have preferred to see two.
   Perhaps the second as an elective. Even typical IT tasks like ETL in Data Warehouses and Data Analysis, have programming.
   2.2) I didn't see a Software Engineering or System Analysis class, but I saw an IT Project Management class. I agree that you don't need more because there is a considerable overlap between these classes. However, I would recommend to at least provide an overview of the following Software Engineering topics:

- Software development process model such as waterfall, evolutionary model, unified process model, and agile development model

- Development management tools, such as pert chart and gannt chart

- Unified Modeling Language (UML)

2.3) Under Natural Sciences, you have

Natural Science 10 credits
At least 5 credits in physical, biological and/or earth sciences. Shall include at least one laboratory course Recommended to choose from: • GEOG 210 Maps, GIS, and the Environment • MATH& 107 Math in Society OR • ENVS 101 Introduction to Environmental Science

Most Computing Programs when they do recommend a science from above, they include Physics (or sometimes only recommend Physics).
My own recommendation though, would be GEOG 210 Maps, GIS and the Environment. I think this course will way be more useful to get student jobs than Physics, MATH 107 or ENVS 101.

College Name:	Tacoma Community College	**BAS Degree Title:**	Bachelor of Applied Science in Applied Management
Reviewer Name/ Team Name:	Charles Costarella	**Institutional or Professional Affiliation:**	University of Washington Tacoma School of Engineering and Technology
Professional License or Qualification, if any:	CCNA R&S, CCNA Security	**Relationship to Program, if any:**	Colleagues. Many students transfer from TCC to UW Tacoma

Please evaluate the following Specific Elements

l) Concept and overview

Is the overall concept of the degree program relevant and appropriate to current employer demands as well as to accepted academic standards? Will the program lead to job placement?

Program is commensurately relevant to demand in the area for IT infrastructure operational positions, both government and private industry. As cybersecurity threats continue to evolve and bad actors multiply, both operational IT positions and InfoSec positions will continue to have to be filled by trained individuals with specific, in depth knowledge commensurate with Bachelor degree level or better. So it is a nice dovetail that the 4 year degree offering is built upon a 2 year degree with a security mindset.

m) Degree Learning Outcomes

Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?

Outcomes look to be designed to produce a very highly skilled graduate who is ready to fill critical roles in infrastructure with a foundation of being mindful to an organization's front line of defense against network and device intrusion. More and more, organizations are recognizing that their data is a critically valuable business asset and the trust to be placed in recent grads who would be manning these positions puts focus on

the critical nature of the education and training those personnel received. This is in line with requiring employees to achieve a baccalaureate level degree.

Note: it is refreshing to see the emphasis put on the "COM" breakdown of well-rounded language communication skills: read, write, speak, and hear. Communication is key.

n) Curriculum Alignment

Does the curriculum align with the program's Statement of Needs Document?

Is aligned with Statement of Needs doc, according to the numbers put forth from the studies and data. Numbers alone can be ambiguous at times, and there are some that surprised me and there were some specific numbers that are not in keeping with those that I have seen from other sources. But overall the metrics are clearly in support of such a program at this time at TCC.

o) Academic Relevance and Rigor

Do the core and elective courses align with employer needs and demands? Are the upper level courses, in particular, relevant to industry? Do the upper level courses demonstrate standard academic rigor for baccalaureate degrees?

Upper division courses are relevant to the major. Similar to other tech fields, this is a discipline that is already stuffed full of topics. Actual expertise of the specific faculty may determine which niche areas are eventually developed.

ABET (among other accrediting organizations) recognizes the importance of the System Administration topic in a good rounded IT program. It has recently become a requirement for ABET approval. The curriculum of the ITN-IST may have, and likely does have, good coverage of this component. However its coverage may be spread among other course topics that could provide components of System Administration, including IT 321, IT 361, or even the components covering virtualization or cloud computing. The lower division foundations for System Administration certainly look to be well-grounded, possibly in your IT 262. Having recently gone through the ABET process, we have been notified of this change for our follow-up visit in a year or so and are

making the adjustment now. I have no idea if other accreditation bodies are following suit and I am not familiar with the specific requirements of the org mentioned in this document, NWCCU. Your program appears to have the component, I'm just not sure where it is, or how spread out it is.

Rigor of the upper division courses looks to be commensurate with programs of this type granting Bachelor degrees, from what can be determined from the course descriptions.

p) General Education Requirements

Are the general educations requirements suitable for a baccalaureate level program? Do the general education courses meet breadth and depth requirements?

This is not an area of my expertise, either in teaching or service. The breadth and depth of the requirements certainly are in evidence from what one thinks of as a general liberal arts education for Bachelors level, but I don't feel qualified to comment beyond that.

q) Preparation for Graduate Program Acceptance

Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?

Yes it does, and this is of keen interest to UW Tacoma with regard to the UW's current MCL (Masters of Cybersecurity and Leadership) program as well as the proposed MSIT (Masters of Science Information Technology) program. There is a demonstrated need for graduates to feed Master degree programs in the region and I feel this proposed BAS ITN–IST program is a nice feeder to them. Further, for those students who are thinking all the way to a terminal degree, UW Tacoma's MCL has a currently in place articulation agreement to the University of Colorado at Colorado Springs PhD program with a focus on Cyber Security. So, there could be a nice series of steps here that afford a student access to progress as far as s/he wants to in the field. The proposed MSIT program, which is in the first group of programs to be added that the Chancellor has identified as priority in our current strategic plan, will provide fulfillment in the region for graduate level degreed workforce personnel, but of course, the graduate students need to be recruited from qualified BS, BA, and BAS programs. Many students, as they approach graduation, and having gone through the experience of an industry internship (requirement of our BSIT program) readily recognize the earning power they can achieve

by earning a Masters and many young students, especially, are in the position where another 2 years in school is well worth the trade-off. I feel the MSIT would be a better fit for graduates of the BAS ITN-IST than the MCL would. The MCL program is specifically looking for candidates that are following a path to leadership/management roles in organizations and often the candidates for this program have some measure industry experience in that area already. Some students entering MCL fulfil the leadership requirement with military leadership experience.

r) Faculty

Do program faculty qualifications appear adequate to teach and continuously improve the curriculum?

I have some limited knowledge of some of the faculty at TCC and I found them to be excellent in all respects. I have previously attended the UW Tacoma sponsored quarterly CTC meetings for the collaboration and exchange of ideas on CS1 education, methodologies, etc. Now that we have a number of Colleges in the area similarly offering BAS degrees in various flavors of IT concentration, perhaps we can entertain the idea of a similar meeting of the minds focusing on IT education. The qualifications and certifications of Profs. Korff, Smith-Perrone, Anderson, Williams, Padden, Sims, Hernandez, Estabrooks, Johns, Cerny, Brottlund, and Olson are all impressive and well-rounded. I find the inclusion of Prof. Sorensen of heightened interest, because I teach the MCL course on Incident Response and I personally see increasingly interaction between legal issues and the handling (and mishandling!) of data and information systems.

s) Resources

Does the college demonstrate adequate resources to sustain and advance the program, including those necessary to support student and library services as well as facilities?

Budgets are attached, with specific line items. I would like to see a further breakdown, if possible, of what resources will be allocated for lab facilities and specifics of the existing lab spaces that will serve the program. I would encourage an expansion of the details of provided virtualization, cloud, etc., in a more explicit way in the budget. I am confident these items are accounted for in the totals, but it might be helpful to be specific with these, in an area of resources to a new program that I find is growing in importance with students, especially with an applied type degree. The ability of the school to come up with the budget and the ability to continue to grow those resources year after year as the number of students grows will be critical to maintaining the quality of the learning experience. Just as a small example, wireless networking is often an

area that is overlooked in importance for lab resources, and yet in our everyday lives, we can't get through a day without relying on it.

t) Membership and Advisory Committee

Has the program received approval from an Advisory Committee? Has the program responded appropriately to it Advisory Committee's recommendations?

There is a good plan in place, very finely described for the selection and make-up of committees and the periodic review and oversight of the program and the curriculum.

u) Preparation for a Master's Degree

Does the curriculum prepare graduates to enter into any master's degree programs at your institution i.e. MBA, etc.?

First, to answer the question as stated in the heading for row (j) directly, I have little knowledge of UW Tacoma's MBA program from the Milgard School.

Concerning Masters programs that I am familiar with, being an instructor and on the curriculum and admissions committees for the MCL and the MSIT, and having designed a course for the MCL, and written two of the course proposals for the pending MSIT, I can speak to those. MCL and (pending) MSIT, could be fed by this degree. I cannot comment to specific articulations beyond stating that it certainly looks like in the worst case they are a close match, with the MSIT being more in line than the MCL would be. The MCL program, being an interdisciplinary degree involving the School of Engineering and Technology and the Milgard School of Business, is less of a direct fit. MCL has a component of leadership and industry experience that we look for in applicants, although there are substitutions and exceptions for these requirements in specific cases.

Please summarize your overall assessment of the program.

v) Overall assessment and recommendations

The program as designed and described will be a benefit to the regional area to provide another path forward for students interested in this growing career field. It is nicely dovetailed with existing programs and coursework at TCC and can function as a feeder program to advanced degree programs nearby.

Some additional thoughts for your consideration:

Implementation is an important factor in the success of an applied science program. The specific delivery of course material, the labs and supplemental materials chosen, the expertise of the instructors, and the school's support of the program in terms of resources are all critical factors. I personally feel that (teaching, not just using) cloud and virtualization are the 2 most under-represented areas of tech in most programs across the board currently, and it is nice to see them represented here. I would like to see line items in the budget for funds specifically earmarked towards this goal. There is specific mention of Lynda.com (now LinkedIn Learning) and other library sources/subscriptions that can contribute towards this goal. The proliferation of portals that deliver this type of content, i.e. Lynda.com, PluralSight, Microsoft Learn, etc., allow for a very nice blended delivery of materials to a course in much the same way that traditional approach of textbook and supplementary materials have in the past, and are nicely suited to technological study. Nice to see it in the paperwork.

The requirement for compute resources will grow as the number of students in the program grows. I see line items that could potentially represent this budget (i.e., maybe the per course technology fee includes cloud use per student), but I always find that a bureaucracy's lack of imagination makes it prudent to spell it out in no uncertain terms.

I recommend recognition that there should be a plan moving forward to transition from cohort model to open scheduling for the students. Our BSIT program is currently wrestling with this issue at our given stage of significant growth. Once a program has established as a cohort arrangement, schedules and budgets get

established as well, and like any momentum, it is difficult to re-target the vector. There is mention of a cohort in the paperwork but not detail of a transition out of a cohort model.

I strongly endorse the inclusion of the Capstone component of the program and suggest that adding a goal to the course of producing a whitepaper or presenting at a conference to document the data gathered would be a designation to the program that would lend an element of distinction academically. Along with a resume of the course topics and any certifications earned, to also have a primary author entry in Google Scholar for either an IEEE or ACM conference would be a strong credential to take into a job interview.

In looking over the PLOs listed for the Capstone, I see a need for some minor rewriting of either the list of PLOs or the wording of the section to indicate that any one particular student's Capstone may or may not touch on some of the PLOs. If the actual list there is in fact the intention of the authors, then the breadth of what can be considered a Capstone may be restricted more than you would want.

On the topic of "Information Systems"

Prior to undergoing ABET accreditation just 2 years ago, our program was named Information Technology and Systems. This was partly by design, and partly in keeping with the tradition of naming our programs at the then Institute of Technology with an additional "Systems" tag at the end, i.e. Computer Science and Systems, Computer Engineering and Systems. We had, on faculty, a full professor, George Mobus, who is known for his work in the area of Systems science and has authored works, etc., in the body of knowledge.

As you may know, our institute was formed by state government decree that there be established a "technology institute" serving the South Sound region at that time (some 25 years ago). As it turns out, ABET as an accrediting organization makes a distinction between Information Technology degrees and Information Systems degrees, and had specific requirements for the Information Systems degree which we did not meet.

This necessitated a change of program name to Information Technology. It was a great deal of work. The name and the "Systems" tag appeared in many of our course titles and in many other various places. I am not familiar with the NWCCU criteria for accreditation, but I would be cautious and investigate what specific criteria NWCCU has and which (if any) additional accrediting organizations may also be sought out at a future point in time, in order to avoid a time consuming change of program name process altogether.

Correction (please excuse the wordsmithing)

In the Criteria 5 section, at the beginning of the third paragraph, the section reads "…existing TCC staff are qualified to teach", etc. I would change the word "staff" to read "faculty". I am aware that some institutions refer to adjunct faculty as staff (UW does not), but I think for the purpose of this document, that the distinction is best left to refer to "staff" as non-teaching support, and "faculty" to refer to teaching personnel, just for clarity throughout.

Conclusion

This is a very strong and compelling statement for the establishment and management of the new program. As it stands, the program that will cover a wide range of educational purposes in IT for a growing and diverse pool of students from the region. It is designed to provide usable, marketable skills and breadth of knowledge that can be built on and specialized from. It will serve the students well, and nicely dovetail between feeder programs and programs that it could, in turn, feed into.

V/R

--Charles Costarella, costarec@uw.edu

Reviewer Bio or Resume

Evaluator, please insert a short bio here

My name is Charles Costarella, I am currently on the full time faculty at the University of Washington Tacoma in the School of Engineering and Technology where I have been teaching in the IT program since 2013. My background in IT began in the 1990s when I worked as a C++ and Java developer at the United States Air Force Flight Test Center at Edwards Air Force Base in California. We built flight test systems to do real time loads/flutter and performance and flying qualities post-test analysis for supersonic jet aircraft. I also had a brief opportunity to do some early server side web application development for the 412th Test wing at AFFTC.

After completing my BS in Computer Science at Chapman University at Edwards, I left AFFTC to go to work for a startup that was acquired by Ask Jeeves, the Internet Search Engine, where I stayed on for a couple of years. I ended my programming work in industry with a professional services position for Trintech, an International Financial transaction software company where I did custom C++ and Java development for customers such as Unibanco in Brazil, Korean National Bank, Sprint PCS, VISA, and MasterCard. We built automated dispute resolution systems as well as early payment wallet systems and a number of other cutting edge applications for that time period.

My teaching career path began in 1999 almost as soon as I received my BSCS, teaching Java and Data Structures at Antelope Valley College in California, and I have been teaching IT in the classroom ever since. After moving to Washington in 2011, I returned to school (UWT) to get my Masters in CS on a National Science Foundation Scholarship for Service and stayed on at UWT to teach in the BSIT program and the Masters in CyberSecurity and Leadership program, a joint venture between the SET and the Milgard Business School. My current subject areas are Networking (I run UW Tacoma's Cisco NetAcad), System Administration, Cybersecurity (Incident Response), and all things .NET programming, from C# to full stack web application development using ASP.NET Core MVC. I am the faculty advisor for the campus GrayHat security group and I am a representative of SET on the University's Executive Council for the past 5 years.

Bachelors of Applied Science in ITN-IST

For students beginning Fall 2020

		Credits	Quarter Offered	Gen Ed
IT 301	Scripting and Programing for Network Administration	5	F	
Description	This course provides an in-depth view current and future mainstream features of network scripts. Emphasis is placed on the issues of multi-platform networks, including the challenges and items that must be maintained on a regular basis. Introduces students to scripting methods, standard algorithms and scripting languages. The two primary platforms will be UNIX/Linux and Windows.			
CLOs	Upon successful completion of this course students should be able to: 1. Purpose effective use of programmatic concepts. PLO: 5 2. Effectively set file permissions for use on a network PLO:3 3. Use parsing of files to find needed information. PLO: 5 4. Compose scripts and programs using relevant languages. PLO: 5, 7 5. Create automated scripts to simplify network administration. PLO: 5 6. Create arrays for fixed and variable length records. PLO:5 7. Use load balancing techniques on local and remote servers and cloud servers PLO: 5 8. Defend the use of monitoring for network administration, compliance and security PLO: 5 9. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			
LS 301	Library Science /Research skills	2	F	
Description	This course provides topics to help the student to meet course-related research needs by developing strategies to identify, find, evaluate, incorporate and cite appropriate sources used in their program of study. Evaluation and use of sources specific to the student's program of study will be emphasized.			
CLOs	Upon successful completion of this course students should be able to: 1. Use electronic database search strategies. 2. Implement an effective plan for finding information using a variety of electronic and print tools. 3. Identify and explain the differences between major types of information resources used in the student's program of study (e.g. books, lay periodicals, scholarly journals, government Web sites, etc.) and when and how to use them. 4. Demonstrate knowledge of sources of evidence, methods, and modes of discourse by correctly incorporating evidence into written work. 5. Properly use APA style in written work. 6. Create a thesis statement that is based on the analysis of academic resource.			
IT 302	Emerging Communication Technology	3	F	
Description	This course covers provides an analysis of emerging technology-based communication mediums and their roles in business. Roles of technology professionals in maintaining and devising policies for their acceptable use are also covered.			
CLOs	Upon successful completion of this course students should be able to: 1. Categorize popular forums of current communication technologies. PLO: 1, 2, 6 2. Perform critical evaluation of usage trends. PLO: 1,2, 6 3. Discuss corporate impact of new communication technologies. PLO: 1,2,6 4. Assess content policies for consumers and providers. PLO: 1, 2, 7 5. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			

IT 305	Remote and Virtualized Platforms	5	F	
Description	This course provides an introduction to remote data storage and access technologies with the inclusion of virtualized hosts. The material in this course forms the knowledge and skillset foundation for IT 361 Cloud Computing			
CLOs	Upon successful completion of this course students should be able to: 1. Support virtualized computing technology. PLO: 3 2. Apply business analysis tools and techniques, data management and virtualization. Using cloud platforms and tools. PLO: 5, 7 3. Develop and deploy cloud applications using popular cloud platforms. PLO: 5 4. Compare, contrast, and evaluate multiple cloud computing platforms. PLO:6 5. Appraise cloud information security and risk management concepts, principals, and best practices. PLO: 1, 7 6. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			
IT 321	Advance Information and Data Security	5	W	
Description	This course provides an in-depth view of current and future mainstream features and implementation of network security, compliance and operation security threats and vulnerabilities as well as application, data and host security. Topics include helping organizations to prepare for security threats and other security related situations that require swift, effective decisions. This course prepares students for the CompTIA Security+ exam.			
CLOs	Upon successful completion of this course students should be able to: 1. Propose information security and risk management concepts, principals, and best practices. PLO: 1, 7 2. Measure the importance of information security in supporting business continuity. PLO: 1, 7 3. Identify and classify threats to information systems and data. POL: 1, 7 4. Implement firewalls and intrusion detection system. PLO: 5, 7 5. Discuss current legal, privacy and public relations implications of securing access to information systems and data. PLO: 1 6. Originate a security planning effort for systems and data with the primary goals to design, implement, sustain and respond to threats. PLO: 1, 7 7. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			
IT 322	Forensics I	5	S	
Description	This course provides in-depth foundation in data recovery and computer forensics. Legal issues relevant to information security and digital forensics professionals are covered. Students will be presented with the proper way to gather and secure evidence, document a computer crime scene, retrieve lost files, retrieve deleted files and e-mails and reconstruct data from various computer storage media. Students will learn use of media imaging and data recovery tools. Proper documentation and procedural guidelines are stressed. Students get hands-on experience with some of the popular commercial and open source digital forensics tools.			
CLOs	Upon successful completion of this course, students will be able to: 1. Interpret how electronic discovery differs from digital forensics. PLO:1 2. Discuss legal issues related to electronic evidence, legislation, regulations, privacy, and cybercrime. PLO:1, 6 3. Evaluate the accepted computer forensic procedures. PLO:1, 7 4. Improve effective interpersonal skills involving teamwork, professionalism, and ethical behavior. PLO:1, 2, 4, 6			
IT 361	Cloud Computing	5	S	
Description	This course provides in-depth view of current and future mainstream features and implementation of cloud computing. Security issues, load balancing and cloud environments are covered. Students will learn to prepare for contingencies, malfunctions, security threats and other situations that require swift, effective decisions. This course prepares students for the CompTIA Cloud+ exam.			
CLOs	Upon successful completion of this course students should be able to: 1. Support cloud computing technology, architecture, models and storage. PLO: 3 2. Apply big data analysis tools and technique, data management and virtualization. Using cloud platform and tools. PLO: 5, 7 3. Develop and deploy cloud application using popular cloud platforms. PLO: 5 4. Compare, contrast, and evaluate tradeoffs between approaches to cloud solution design in relation to solving real world cloud computing issues. PLO:6 5. Appraise cloud information security and risk management concepts, principals, and best practices. PLO: 1, 7 6. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			

IT 461	Advanced Routing and Switching	5	W	
Description	This course provides topics designed to prepare network technicians and engineers to navigate and administer routers and switches, Ethernet LAN switches, VLANs, and WANs. It also covers the topics such as TCP/IP networking, command-line interfaces, switch management, configuring switch interface. This course prepares the student to take the Cisco CCNA Routing & Switching exam (CRT, IIT)			
CLOs	Upon successful completion of this course students should be able to: 1. Classify Wide Area Network terms, concepts and technologies in relation to the implementation of Cisco networking devices. PLO:1, 2. Dissect the characteristics, network protocols, connectivity and use of Access Lists on routers to control traffic as used by network components. PLO:1, 7, 3. Construct a network using IP addresses and subnet masks. PLO: 3, 5 4. Classify cabling requirements, types of cabling and connectors used in internetworking. PLO:3, 5 5. Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs. PLO: 7 6. Recommend the use of industry best practices for maintaining safety in a technical environment and how to address environmental issues and hazards. PLO: 7 7. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO:1, 2, 4, 6			
IT 441	DATA SCIENCE AND BIG DATA ANALYTICS	5	F	
Description	This course provides a focus on the practice of data analytics, the role of the Data Scientist, the main phases of the Data Analytics Lifecycle, analyzing and exploring data statistics for model building and evaluation, the theory and methods of advanced analytics and statistical modeling, the technology and tools that can be used for advanced analytics, operationalizing an analytics project, and data visualization techniques. Successful candidates will achieve the Dell EMC Proven Professional – Data Science Associate credential			
CLOs	Upon successful completion of this course students should be able to: 1. Construct a customer and /or objects signature by applying data exploration and writing a comprehensive analysis of that data. PLO:1 2. Elaborate and explain current security issues in big data analytics. PLO:1 3. Analyze and explore data in preparation for data mining. PLO: 5 4. Prove competency in data mining models. PLO:5 5. Determine appropriate communication to organizational stakeholders with professionalism, accuracy and transparency using interactive and dynamic visualization tools to translate statistical findings. PLO: 1 6. Deduct the value of predictive model usage, evaluation, and strategy. PLO:3 7. Improve effective interpersonal skills involving teamwork, professionalism, and ethical behavior. PLO: 1, 2, 4, 6			
IT 421	Cyber Operations	5	S	
Description	This course provides students with skills needed to apply security analytics, security intrusion response. The skills learned will help identify and combat advance persistent threat in an ever changing threat landscape. This course prepares for the assessment for the CompTIA CySA+ exam.			
CLOs	Upon successful completion of this course students should be able to: 1. Survey the configuration and use of threat detection tools. PLO: 5 2. Take part in data analysis to interpret the results of a vulnerability scan to identify vulnerabilities, threats and risks to an organization. PLO: 1, 3, 7 3. Test packet analysis and design mitigation strategies. PLO: 5 4. Examine and develop data breach reporting strategies. PLO: 1 5. Recommend remediation for security issues using a change management cycle. PLO: 1, 7 6. Improve effective interpersonal skills involving teamwork, professionalism, and ethical behavior. PLO: 1, 2, 4, 6			
IT 461	Advanced Technology Integration	5	F	

Description	This class provides information on data and communication technologies whose development, and practical application is either newly emerging or whose potential is largely unrealized.			
CLOs	Upon successful completion of this course students should be able to: 1. Support emerging forms of virtualized computing technology. PLO: 3 2. Examine, document, and implement information technology tools to support infrastructure needs. PLO: 5 3. Formulate policy driven functions of emerging technologies. PLO: 3 4. Asses security concerns and utility of advanced technologies PLO:7 5. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			
IT 481	Program Capstone	5	S	
Description	This course provides a focus on the completion of a capstone project which includes the assimilated skills and knowledge acquired during previous course of study. The student will identify a project, certification, or other endeavor preapproved by the program chair/program faculty.			
CLOs	Upon successful completion of this course students should be able to: 1. Test, document, implement, and maintain a secure network infrastructure, TCP/IP addressing, security, and protocols. PLO: 1, 7 2. Examine, document, and implement role-based servers to secure host applications or services. PLO: 1 3. Create secure remote access connectivity to client and server systems. PLO: 5 4. Rate INFOSEC technology, solutions, services, software, products and management issues. PLO: 1, 3 5. Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs. PLO: 1 6. Evaluate industry best practices for maintaining safety in a technical environment and how to address environmental issues and hazards. PLO: 7 7. Improve effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment. PLO: 1, 2, 4, 6			

Courses are offered in Lecture, Web-enhanced, Hybrid and Fully Online modes. Not every course is offered in every mode. Not every course is offered online every quarter

Appendix C: Student End of Course Survey Questions

Student End of Course Surveys are anonymous. The first 18 questions are asked using a Likert Scale ranging from 1-4 with 4 being the best. Students are also given a text box to give comments. The last two questions open ended essay. There are 20 questions in all:

1. Progression through this course was user friendly, logical, and consistent.
2. I received a syllabus or one was available online within the first week of class.
3. The instructor was enthusiastic about the class.
4. The instructors had high expectations of his/her students.
5. The instructor gave clear directions on how I was to communication with him/her.
6. The instructor created an environment of mutual respect for all students and their opinions.
7. The instructor was prepared for class.
8. The instructor explained new and difficult concepts in a variety of ways.
9. The students were free to ask questions and encouraged to listen to others.
10. The instructor provided clear directions for class activities and assignments.
11. The instructor was accessible and responsive to assist students during office hours and with other modes of communication.
12. The instructor used a variety of class activities that helped me learn.
13. The instructor used a variety of materials that helped me learn.
14. The instructor clearly outlined the ways in which I would be assessed and the criteria used for grading.
15. The instructor graded/returned assignments, projects, tasks, or group work in time to be useful for future assignments.
16. The instructor provided opportunities for students to work together to help me learn.
17. The instructor provided opportunities for me to use course concepts in my life.
18. I receive information about college learning support services to assist my learning.
19. What did the instructor do that helped you learn?
20. What specific changes can the instructor make to improve learning in the future?

Appendix D: Graduate Survey Questions

The Baccalaureate Leadership Council has created a Graduate Survey for deployment to all SBCTC colleges. The questions are as follows:

College Information

1. During which school year did you graduate?
2. From which college did you receive your applied baccalaureate degree?

Employment

3. What is your present employment status?
4. If you are employed, what is the name of your employer?
5. If you are employed, what is your current job title?
6. How long after graduation did you begin working as a result of your applied baccalaureate degree?
7. If you were already employed prior to completing your applied baccalaureate degree, did completion of this degree result in (promotion, increase in salary, neither, other)
8. What was your salary range before completing your applied baccalaureate degree?
9. What was your salary range after completing your applied baccalaureate degree?

Continued Education

10. Regarding further education: Do you plan to pursue additional education after completion of your applied baccalaureate degree?
11. If you plan to continue your education to a graduate degree, what is your time frame?
12. If you plan to continue your education to a graduate degree program, have already enrolled in a graduate program, or have already finished a graduate program, in what field will/did you pursue?
13. If you plan to continue to a graduate degree program, have already enrolled in a graduate program or have already finished a graduate program, what college(s) are you considering or did you attend?

Decision to Pursue a Bachelor Degree at a Community or Technical College

15. For all the list of issues below please mark the importance of each in your decision to enroll in the applied baccalaureate at the community or technical college:

	Not important at all	Somewhat Important	Quite Important	Very Important	N/A
Tuition Costs					
Schedule of Classes					
Length of program					
Reputation with employers					
Distance from my home					
Distance from my work					

Ability to complete entirely online

Ability to go straight into the program with junior status

I completed my associate degree at this institution

Ability to receive credit for prior learning

16. How likely is it that you would have pursued a bachelor degree if you had been unable to do so at the community or technical college?
17. What skills or knowledge gained from your training program were most helpful in finding employment? What was lacking?

Demographic Information

18. What is your age?
19. What is your ethnicity/race?
20. What is your gender?
21. Prefer to self-describe gender
22. What is your military status
23. Do you have a disability as identified by the Americans with Disabilities Act?

Appendix E Course Offerings

20-21 Offerings	# Sections	21-22 Offerings	# Sections	22-23 Offerings	# Sections	23-24 Offerings	# Sections		
FALL		FALL		FALL		FALL			
IT 301	1	IT 301	1	IT 301	2	IT 301	2		
IT 302	1	IT 302	1	IT 302	2	IT 302	2		
IT 305	1	IT 305	1	IT 305	2	IT 305	2		
LS 301	1	LS 301	1	LS 302	2	LS 302	2		
		IT 418	1	IT 418	2	IT 461	2		
		IT 441	1	IT 441	2	IT 421	2		
CREDITS	15		25		50		50		
WINTER		WINTER		WINTER		WINTER			
IT 321	1	IT 321	1	IT 321	2	IT 321	2		
CMST 325	1	CMST 325	1	CMST 325	2	CMST 325	2		
		IT 461	1	IT 461	2	IT 461	2		
CREDITS	10		15		30		30		
SPRING		SPRING		SPRING		SPRING			
IT 322	1	IT 322	1	IT 322	2	IT 322	2		
IT 361	1	IT 361	1	IT 361	2	IT 361	2		
PHIL 320	1	PHIL 320	1	PHIL 320	2	PHIL 320	2		
		IT 461	1	IT 461	2	IT 461	2		
CREDITS	15		20		40		40		
TOTAL CREDITS	40		60		120		120		

* All courses are 5 credits with the exception of IT 302 which is 3 credits and LS 301 which is 2 credits

Appendix F Full Time Student Schedule Sample

Summer	Quarter 1	Quarter 2	Quarter 3
No required courses (Potential to take Dedicated Statway section Math 93/136) and /or ENGL& 102 or 103 (5) (Com)	IT 301 Scripting and Programming for Network Administration (5) IT 302 Emerging Communication Technology (3) IT 305 Remote and Virtualized Platforms (5) LS 301 Research and rhetoric for IT (2)	IT 321 Advanced Information and Data Security (5) CMST 325 Professional and Organizational Communication (5) (Hum) STATs STATWAY or Statistics (5)	IT 322 Forensics I (5) PHIL 320 Ethics in Leadership (5) (SS) IT 361 Cloud Computing (5)
Summer	Quarter 4	Quarter 5	Quarter 6
No Required Courses	IT 418 Advanced Technology Integration (5) IT 441 Data Science and Big Data Analytics (5) GEOG 210 Maps GIS, and the Environment (5) (NS)	IT 461 Advanced Routing and Switching (5) BUS 201 Business Law (5) POLS& 202 American Government (5)	IT 421 Cyber Operations (5) IT 481 Program Capstone (5) ENVS 101 Introduction to Environmental Science (5) (NS)

Appendix G Part Time Student Schedule Sample

Summer	Quarter 1	Quarter 2	Quarter 3
No required courses (Potential to take Dedicated Statway section Math 93/136) and /or ENGL& 102 or 103 (5) (Com)	IT 301 Scripting and Programming for Network Administration (5) IT 302 Emerging Communication Technology (3) IT 305 Remote and Virtualized Platforms (5) LS 301 Research and rhetoric for IT (2)	IT 321 Advanced Information and Data Security (5) STATs Statway or Statics (5)	IT 322 Forensics I (5) IT 361 Cloud Computing (5)
Summer	Quarter 4	Quarter 5	Quarter 6
No Required Courses	IT 461 Advanced Routing and Switching (5) IT 361 Cloud Computing (5)	POLS& 202 American Government (5) CMST 325 Professional and Organizational Communication (5) (Hum)	PHIL 320 Ethics in Leadership (5) (SS) ENVS 101 Introduction to Environmental Science (5) (NS)
Sumer	Quarter 7	Quarter 8	Quarter 9
	IT 421 Cyber Operations (5) GEOG 210 Maps GIS, and the Environment (5) (NS)	IT 441 Data Science and Big Data Analytics (5) BUS 201 Business Law (5)	IT 418 Advanced Technology Integration (5) IT 481 Program Capstone (5)

Appendix H Faculty Profiles

Faculty Name	Credentials	Course Qualified to Teach
Sergio Hernandez	BA - Sustainable Urban Development and Urban Studies Hispanic Studies Minor MA in Education MS – Geospatial Technology GIS Professional Certification	Social Media/Misinformation (IT 300) Database Management (IT 441) Equity (HUM, IT or PLST)
Jeanette Smith-Perrone	CISSP - Certified Information Systems Security Professional MIO - Industrial & Organizational Psychology MBA BS Information Systems c Management Radware Attack Mitigation Systems Certified Trainer	Human Resource Development Advanced Organizational Concepts IT Project Management (IT 302) Business Help Desk & Technical Support Applied IT Ethics (IT 303) Advanced Security Topics (IT 321, IT 418, IT 421) Database Management (IT 441) Networking (IT 461) Cloud Computing (IT 361) Programming (IT 301) Advanced Capstone Topics (IT 481) Equity (HUM, IT or PLST)
Jeremy Sims	BS - Information Technology MS - Cybersecurity and Information Assurance COMPTIA Certifications CISCO CCNA Routing & Switching Eccouncil Certified Ethical Hacker MCP: Web Development	Cloud Computing (IT 361) Forensics 1 (IT 322) Advanced Security Topics (IT 418) Advanced Capstone Topics (IT 481) Programming (IT 301) Database Management (IT 441) Help Desk & Technical Support Networking (IT 461) Advanced Capstone Topics (IT 481)
Debra Padden	BA - Education MBA - Information Systems Management	Help Desk & Technical Support Business
Erin Korff	University of Phoenix Online MSCIS (Master of Science Computer Information Systems) University of Phoenix Online BSIT/NTC (Bachelor of Science in Information Technology / Networking and Telecommunications) CCNA (Cisco Certified Network Associate)	Cloud Computing (IT 361) Networking (IT 461) Advanced Capstone Topics (IT 481)

	April 1997 MCSE (Microsoft Certified Systems Engineer) VMware vSphere 5.5 Install, Configure, Manage AWS Cloud Practitioner Essentials	
Taina Anderson	BS – Civil Engineering MS – Geospatial Technology GIS Professional Certification AutoCAD Certification	Help Desk & Technical Support Database Management (IT 441)
Yolonda Williams	MAOL - Organizational Leadership MPM - Master of Project Management	Project Management Social Media/Misinformation (IT 300) Business
Rob Olsen	MS - Applied Psychology in Organizational Development PMP - Project Management Professional Certification Consultant (C I T)	Project Management Business
Jennifer Sorensen	JD - Juris Doctorate	Equity (HUM, IT or PLST) Law
Stephen Johns	MA - Speech Communications	CMST
Jonathan Eastabrooks	MBA	Business
Christine Cerny	MBA	Business
Andrew Brottlund	Master's in English Master's in Education	Misinformation (IT 300)

Appendix I Budget

Program Resource Requirements. Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first three fiscal years of the program. Include reallocation of existing personnel and resources and anticipated or requested new resources. Second and third-year estimates should be in dollars adjusted for inflation. If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies). Provide an explanation of the fiscal impact of the proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

College/University: **Program:**

I. PLANNED STUDENT ENROLLMENT

	FY 0		FY 1		FY 2		FY 3		FY 4		FY 5	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments to institution	0	0	13	20	17	27	27	42	30	47	34	52
B. Enrollment from existing programs	0	0	0	0	12	20	15	24	24	38	27	42
	0	0	13	20	29	47	42	66	54	85	61	94

II. REVENUE

	FY 0		FY 1		FY 2		FY 3		FY 4		FY 5	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. Institution Funds	$0	$54,322	$0	$242,091	$0	$29,734	$0	$0	$0	$0	$0	$0
3. Federal (e.g. grant, appropriation)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4. New Tuition Revenues from	$0	$0	$135,510	$0	$290,379	$0	$412,986	$0	$535,593	$0	$593,670	$0

Increased Enrollment																				
5. Student Fees	$0		$0		$20,410		$0		$41,915		$0		$59,850		$0		$76,785		$0		$85,070		$0
6. Other (e.g., Gifts, Program Revenue)	$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0
Total Revenue	$0		$54,322		$155,920		$242,091		$332,294		$29,734		$472,836		$0		$612,378		$0		$678,740		$0

Budget Note: I. A Enrollments are assumed to be full time; therefore FTE=headcount

III. EXPENDITURES

	FY 0		**FY 1**		**FY 2**		**FY 3**		**FY 4**		**FY 5**	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs												
1. FTE (total for all personnel types)	0.33	0.00	4.00	0.00	4.00	0.00	5.00	0.00	5.50	0.00	5.50	0.00
2. Faculty	$26,700	$0	$80,000	$0	$82,400	$0	$84,872	$0	$147,418	$0	$151,841	$0
3. Adjunct Faculty	$5,867	$0	$53,784	$0	$23,999	$0	$63,168	$0	$46,204	$0	$47,590	$0
4. Grad Assts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5. Research Personnel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

6. Directors Administrators	$0		$0		$22,500		$0		$23,175		$0		$23,870		$0		$24,586		$0		$25,324		$0
7. Administrative Support Personnel	$0		$0		$102,430		$0		$105,503		$0		$108,668		$0		$111,928		$0		$115,286		$0
8. Fringe Benefits	$11,073		$0		$87,963		$0		$79,926		$0		$95,397		$0		$112,246		$0		$115,614		$0
9. Other:	$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0
Total Costs	$43,640		$0		$346,677		$0		$315,003		$0		$375,975		$0		$442,382		$0		$455,655		$0

Budget Notes:

III.A.2. Faculty Salaries are increased by 3 % each year

III.A.8. Fringe calculated as 34%

	FY 0		**FY 1**		**FY 2**		**FY 3**		**FY 4**		**FY 5**	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures												
1. Travel	$0	$0	$2,500	$0	$2,500	$0	$2,500	$0	$5,000	$0	$5,000	$0
2. Professional services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3. Other services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4. Communications	$0	$0	$500	$0	$500	$0	$500	$0	$500	$0	$500	$0
5. Materials & supplies	$0	$0	$3,000	$0	$3,000	$0	$3,000	$0	$3,000	$0	$3,000	$0
6. Rentals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

7. Materials & goods used for product sale (e.g. fabrication auto repair) Please reflect revenue in II.6	$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0
8. Marketing materials and advertising	$5,000		$0		$5,000		$0		$3,000		$0		$3,000		$0		$3,000		$0		$3,000		$0
9. Miscellaneous:	$1,000		$0		$8,000		$0		$8,000		$0		$8,000		$0		$8,000		$0		$8,000		$0
Total Operating Expenses	$6,000		$0		$19,000		$0		$17,000		$0		$17,000		$0		$19,500		$0		$19,500		$0

Budget Note:

III.B.8. $60K of operating expense is provided for each new faculty line

	FY 0		**FY 1**		**FY 2**		**FY 3**		**FY 4**		**FY 5**	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay												
1. Library Resources	$0	$0	$10,000	$0	$10,300	$0	$10,609	$0	$10,927	$0	$11,255	$0
2. Equipment	$2,500	$0	$5,000	$0	$5,000	$0	$30,000	$0	$5,000	$0	$5,000	$0
Total Capital Outlay	$2,500	$0	$15,000	$0	$15,300	$0	$40,609	$0	$15,927	$0	$16,255	$0
D. Capital Facilities Construction or Major Renovation												
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
E. Indirect Costs (overhead)												

1. Utilities	$2,182		$0		$17,334		$0		$15,750		$0		$18,799		$0		$22,119		$0		$22,783		$0
2. Maintenance & repairs	$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0
3. Other	$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0		$0
Total Indirect Costs	$2,182		$0		$17,334		$0		$15,750		$0		$18,799		$0		$22,119		$0		$22,783		$0
TOTAL EXPENDITURES	$54,322		$0		$398,011		$0		$363,053		$0		$452,383		$0		$499,928		$0		$514,193		$0
Net Income (Deficit)	($54,322)		$54,322		($242,091)		$242,091		($30,759)		$29,734		$20,453		$0		$112,450		$0		$164,547		$0

Revenue Narrative:

Tuition calculated for students taking 10-15 credits at $2099 per student x 3 quarters per year. Students taking 5 credits calculated at $1049 per student x3 quarters per year.

Mandatory fees:

- Student Center Building 11 $1.50 per credit to 10 credits, maximum rate $15.00
- Early Childhood Education/Childcare Bldg. $1.25 per credit to 10 credits, maximum rate $12.50
- Facility Fee $ 0.50 per credit to 15 credits, maximum rate $7.50
- Technology Fee $1.75 per credit to 10 credits, maximum rate $17.50
- Health and Wellness Center Fee $3.00 per credit to 10 credits, maximum rate of $30.00
- Safety Fee $15.00 per student

Students taking 10 credits or more calculated at $155 per student per quarter. Students taking 5 credits calculated at $115 per student per quarter.

10% student attrition accounted for

Course Fees calculated at $100 per IT course.

Expense Narrative:

- BAS Director .25 of 1 FTE
    - Already have on staff – no new cost
    - 1.0 FTE but charged to ITN-IST BAS as .25 FTE (split .25 with CHP, HIM, AM, and ITN-IST)
    - Full salary $80,000 plus benefits
- BAS Chair release (1/3 release)
    - Start Spring 19 in year 0 for program admission preparation
    - Keep chair separate from FT faculty for 19-20 school year and then move chair over to FT faculty position
- Full-time faculty #1 (1 FTE)
    - Start Fall 19 in year 0 for course development
        - First cohort start Winter 2020
    - Keep chair separate from FT faculty for 19-20 school year and then move chair over to FT faculty position
- Full-time faculty #2 (1 FTE)
    - Start Fall 22
- part time faculty
    - $862.93/credit 19-20 with 3% increase each year thereafter
    - 19-20 12 credits (7 upper division GE 5 IT)
    - 20-21 27 credits (15 IT credits and 1 upper div GE)
    - 21-22 69 credits (45 IT and 24 upper div GE)
    - 22-23 49 credits (25 IT and 24 upper division GE)
    - 23-24 49 credits (25 IT and 24 upper division GE)
- Support Staff (0.25 FTE)
    - Already have on staff – no new cost
    - 1.0 FTE but charged to ITN BAS as 0.33 FTE (0.33 charged to HIM BAS and AM BAS)
    - Start Spring 19
    - Full salary $40,000 plus benefits
- Success Navigator (0.25 FTE)
    - Already have on staff – no new cost
    - 1.0 FET but charged to ITN-IST BAS as 0.33 FTE (0.33 charged to CH BAS and AM BAS)
    - Start Spring 19
    - Full salary $52,000 plus benefits
- Dedicated Financial Aid/Support Position
    - Additional 0.5 position
    - Position will manage funding sources, including financial aid, for BAS students
    - Start Spring 19
- Lab Assistant

    - Manage Campus IT lab
    - 1.0 FTE fully charged to ITN IST
- Benefits (estimate 34%)
- Professional Development
    - Increasing resources required as faculty numbers increase
- Supplies
    - General office as well as disposables (flash drives and cables)
- Library Materials
    - Database O'Reilly for Higher education (new Safari) $10,800 with 0. 4% increase/yr.
- Equipment
    - Computers $1350.50 each
        -
            - $1000.50/computer
            - $300/monitor
            - $50/mice & keyboard
        - Network area storage device $2500
        - Firewall $3500
        - 25 hard drives 1 tb $2500
        - Dell Ecc DDR Ram 10 modules $1500
        - AC unit for server room $400
- Marketing
    - Continued marketing campaigns
- Accreditation
    - $1000 to NWCCU for new program
    - $2000 for up to 4 external reviewers of program proposal
- Stipends/Curriculum Development – charged under adjunct line
    - 11 courses = 55 credits * 862.93 = $47,462
        - 5 in 18-19 $4,444
        - 6 in 19-20 $5,333

Appendix J Admission Scoring Rubric

Calculating an Application Score

Additional Courses

Additional college level coursework in the business content area particularly in leadership, management, human relations, sustainability, and communication courses taken outside of their Associate Degree with a minimum grade of B (2 points each)

Volunteer or Work Experience and Military Service

Applicants may earn additional points by providing proof of IT-related work experience particularly in the areas of Cyber Security and Networking (paid or unpaid). A résumé must be provided with application for verification.

Years of Experience	Points
1-2	1
3-5	3
5-10	5
10+	7

References

Applicants may earn additional points by providing a letter of reference. Letters of reference can be from a recent or current employer; volunteer supervisor; or community member. Applicants may earn 1 point per letter of reference for up to 2 points.

Community Participation

Applicants may earn 1 additional point by regularly participating in group or club activities in their community.

Equity, Diversity, and Inclusion Statement

Applicants will be asked to complete a statement regarding their understanding of the importance of Equity, Diversity, and Inclusion. This will be scored with TCC's EDI rubric. Applicants can earn up to 3 points for a statement that is exemplary, 2 points for one that is developing, and 1 point for one that is beginning.

Cumulative GPA

In the event of a tie in points, applicants will be further scored using their Cumulative GPA

Students are awarded points based on their cumulative GPA for courses required to complete their Associate Degree. Points are awarded based on actual GPA. For example, a student with a 4.0 GPA will

receive 4.0 points, a student with a 3.97 GPA will receive 3.97 points, a student with a 2.6 GPA will receive 2.6 points.

EDI Statement Rubric

CRITERIA	RATINGS				
EDI Statement Knowledge of, experience with, and/or commitment to diversity, equity, and inclusion as evidenced in the Diversity Statement.	Exemplary 3	Developing 2	Beginning 1	No Marks	Comments
	Statement: Describes how a commitment to equity and inclusion informs past/future professional contributions/dedication to lifelong learning and personal growth and reflection Describes a self-awareness, in terms of understanding their own culture, identity, biases, prejudices, power, privilege, and stereotypes. Demonstrates willing to challenge and change institutional practices that present barriers to different groups. Demonstrates an understanding of the challenges faced by underrepresented individuals and the need for all to work to identify and eliminate barriers. Discusses diversity, equity, and inclusion as core values.	Statement: Describes importance of concepts regarding equity, inclusion, and diversity that are broad and include groups beyond race, ethnicity, and gender. Includes experiences that demonstrate self-initiation of positive interactions with others who are or may be significantly different from the candidate. Details how a commitment to diversity and inclusion informs their past and future professional contributions. Includes concrete experiences that are detailed and specific to the individual.	Statement: Includes little expressed knowledge of, or experience with, dimensions of diversity that result from different identities. Includes reliance on generalities, platitudes, and clichés. Use vague terms “diversity is important,” “this field needs more women….” Defines diversity only in terms of different nationalities, does not discuss gender, ethnicity, or race. Does not demonstrate awareness or understanding about the personal challenges that underrepresented individuals face or discuss personal responsibility for helping eliminate barriers.	No Statement Provided. OR Statement does not address candidates understanding of equity, diversity, or inclusion. Statement shows discomfort with discussing diversity-related issues. May state things such as "have not had a chance to think about these issues".	