



Columbia Basin College

Applied Baccalaureate Information  
Technology Degree Program

Program Proposal

February 26, 2016

**COVER SHEET  
NEW DEGREE PROGRAM PROPOSAL**

**Program Information**

Institution Name: Columbia Basin College

Degree: Bachelor of Applied Science Information Technology CIP Code: 11.0103

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

Degree:	CIP Code:	Year Began:
<u>AAS Information Technology</u>	<u>11.1006</u>	<u>2012</u>
<u>AAS Programming and Software Dev</u>	<u>11.0201</u>	<u>2000</u>
<u>AAS Database Administrator</u>	<u>11.0301</u>	<u>2000</u>
<u>AAS Network Administrator</u>	<u>11.0901</u>	<u>2000</u>
<u>AAS Internet Specialist</u>	<u>11.1004</u>	<u>2000</u>
<u>AAS Help Desk Technician</u>	<u>11.1006</u>	<u>2000</u>
<u> </u>	<u> </u>	<u> </u>

Planned Implementation Date ( i.e. Fall 2014): Fall 2017

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

**Contact Information**

Name: Melissa Dehaan

Title: Associate Professor

Address: 2600 N. 20<sup>th</sup> Ave., Pasco, WA 99320

Telephone: 509-547-0511

Fax: 509-546-0404

Email: mdehaan@columbiabasin.edu

Virginia Tomlinson Vice President for Instruction Date  
Chief Academic Officer

## Contents

Introduction to Program Proposal .....	4
Standard 1 Curriculum Demonstrates Baccalaureate Level Rigor .....	4
CBC Mission and Student Learning Outcomes .....	4
Program Evaluation Criteria and Process.....	5
Standard 2 Qualified Faculty .....	11
Standard 3 Selective Admissions Process.....	13
Open Access .....	13
Admissions Criteria .....	14
Selection Process .....	14
Program Support for Diversity .....	15
Standard 4 Appropriate Student Services Plan.....	16
Standard 5 Commitment to Build and Sustain a High Quality Program.....	20
Program Facilities, Equipment, Technology, and Instructional Resources.....	22
College Commitment to the BASIT Program.....	23
Standard 6 Program Specific Accreditation. ....	23
Standard 7 Pathway Options Beyond Baccalaureate Degree .....	23
Standard 8 External Expert Evaluations .....	24
Appendix I BASIT Admission Process Rubric.....	34
Appendix II Examples Full-Time and Part-Time Schedule .....	35
Appendix III Proposed BASIT Curriculum .....	37
BAS IT Upper Division Course Descriptions.....	37
Appendix IV External Reviews.....	41

## Introduction to Program Proposal

Columbia Basin College (CBC) proposes to deliver a Bachelor of Applied Science degree in Information Technology (BASIT) and is prepared to enroll junior level students beginning Fall 2017. The BAS degree in Information Technology is designed to meet current and future employment needs within CBC's service district of Benton and Franklin Counties. The program proposal for a BAS degree in Information Technology includes specific information addressing the eight criteria for new BAS degree programs and provides information and evidence regarding CBC's capacity to implement and maintain the BASIT program.

## Standard 1 Curriculum Demonstrates Baccalaureate Level Rigor

### Mission of the College

*CBC upholds an environment of diversity, fairness, equity, and sustainability, providing opportunities for the people of Benton and Franklin counties to succeed in their pursuit of higher educational achievement, meaningful employment, and basic skills development, while promoting cultural enrichment and well-being for its community.<sup>1</sup>*

In addition to providing access to associate degree education, CBC provides professional and technical students with bachelor degree programs designed to meet Benton and Franklin counties economic and workforce development needs. CBC's priority is to build on current Associate in Applied Science (AAS) programs so local employees can return to CBC for baccalaureate degrees. CBC's mission serves as the foundation for the BASIT program outcomes and the mission and philosophy of the Information Technology program.

### CBC Mission and Student Learning Outcomes

The CBC Mission and Student Learning Outcomes (SLOs) provide the foundation for the prerequisite course work and Information Technology curriculum and serve as guidelines for the Information Technology Program and course outcomes. CBC graduates will:

1. Think Critically  
Understand, analyze, and evaluate the elements of one's environment and one's habits of thought. Conceptualize alternatives to both.
2. Reason Quantitatively and Symbolically  
Develop a sense of number and pattern. Analyze, evaluate, and synthesize symbolic statement and quantitative arguments.
3. Communicate Effectively  
Use spoken and written language to express opinions, discuss concepts, and persuade an audience. Synthesize ideas and supporting information to create effective messages.

---

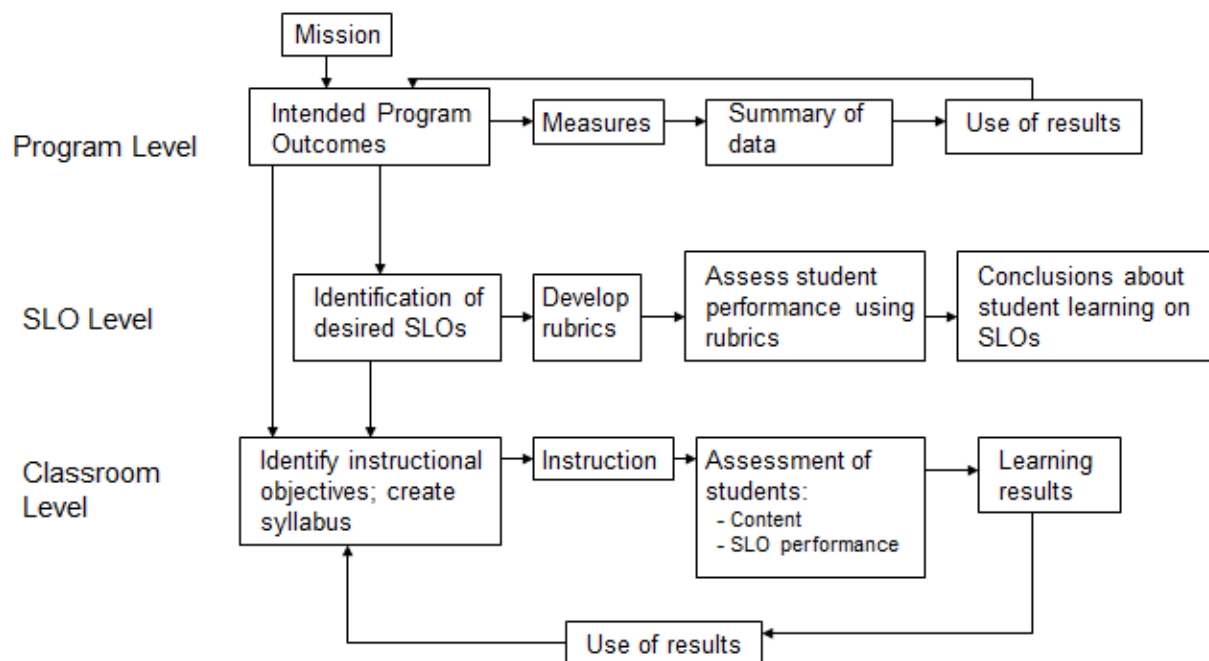
<sup>1</sup>Columbia Basin College (2012) *Mission statement*. <http://www.columbiabasin.edu/index.aspx?page=259>

4. Apply Information Tools and Resources  
Accurately assess information needs. Select appropriate information tools and resources and use them effectively. Evaluate, manage, and use information effectively and responsibly.
5. Develop Cultural Awareness  
Respect self and others. Explore and appreciate different cultures in an increasingly diverse, global community. Challenge culture-bound assumptions.
6. Master Program Learning Outcomes  
Become familiar with a body of knowledge.

### Program Evaluation Criteria and Process

Illustrated in Figure 1, students who graduate from the CBC BASIT program will meet three levels of the CBC Assessment Model: classroom/course learning outcomes, college-wide Student Learning Outcomes (SLOs), and program level graduate outcomes.

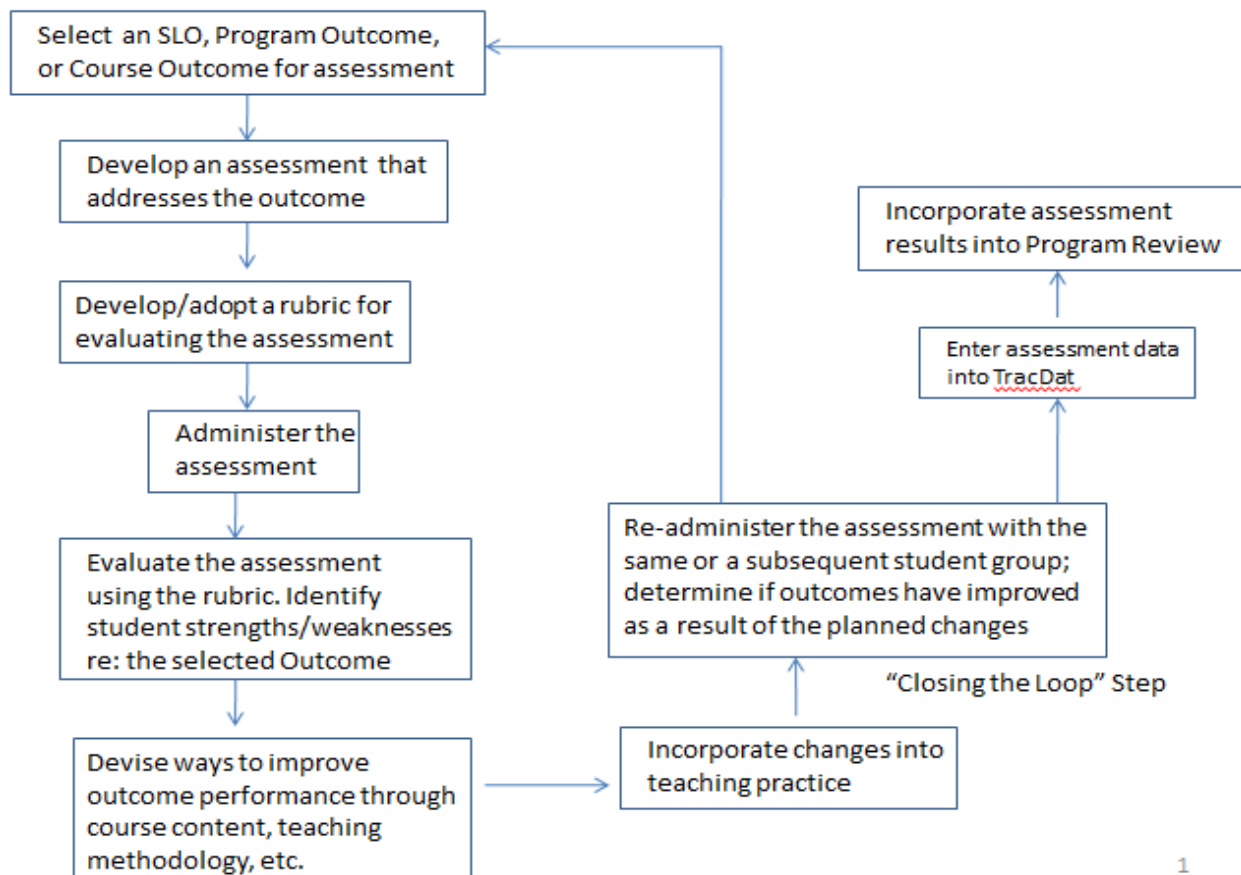
**Figure 1: Overview of the CBC Assessment Model**



**Classroom / Course Level:** At the course level, each BASIT course and general education course will be reviewed and approved by the college Curriculum Committee. Student evaluations of courses will be conducted on a regular basis.

As with other CBC degrees, each CBC SLO is mapped to its location in the BASIT curriculum. Once an SLO is mapped, it is then tracked and assessed (see Figure 2).

**Figure 2: Tracking SLOs**



**Program Level:** The assessment plan for the proposed BASIT program (see Table 1) is based on the comprehensive student achievement and program assessment processes used by all departments and programs at CBC. Program faculty will evaluate the effectiveness of the BASIT program by collecting, analyzing, and trending data on student satisfaction, retention and preparedness; faculty assessment of student preparedness; and effectiveness of courses to meet the stated program outcomes.

Key stakeholders will engage in the review process and provide guidance for curriculum and program elements through the Information Technology Program Advisory Committee. The current AASIT Advisory Committee will continue as the BASIT Advisory Committee. Committee members represent: MEIER Enterprises, &yet, Pay Plus Benefits, Cayuse Technologies, HAPO Credit Union, Lockheed Martin, Pacifica Northwest National Lab, GESA Credit Union, Bechtel, Senske, Washington State University Tri-Cities, and TiLite. All of the companies listed have expressed a willingness to hire BASIT graduates.

The role of the Advisory Committee is to advise the program and make recommendations for curriculum improvements and update faculty on new developments in the IT field.

**Table 1 Program Assessment Plan**

Annual Student Evaluations	<ul style="list-style-type: none"> <li>▪ Completion of computer based summative evaluations of individual courses each year</li> <li>▪ Instructor evaluations using computer based template</li> </ul>
Exit Surveys	<ul style="list-style-type: none"> <li>▪ Student exit survey</li> <li>▪ Effectiveness of skills and knowledge progression</li> <li>▪ Effectiveness of program and institutional support and resources</li> <li>▪ Preparedness to enter workforce</li> </ul>
Graduate/Alumni Surveys	<ul style="list-style-type: none"> <li>▪ Complete annually – seeking additional employment information, return to achieve additional schooling, career satisfaction</li> </ul>
Employer Surveys	<ul style="list-style-type: none"> <li>▪ Effectiveness and preparedness of graduates to achieve program goals</li> <li>▪ Effectiveness and preparedness of graduates to interface with clients and co-workers effectively</li> </ul>
BASIT Program Advisory Committee (Meets two times per year.)	<ul style="list-style-type: none"> <li>▪ Surveyed annually</li> <li>▪ Effectiveness of program in meeting community needs</li> <li>▪ Participation of students/faculty in community service activities</li> <li>▪ Consultation with members to evaluate emerging technology, relevant information in the development for community inter-professional relationships</li> <li>▪ Evaluating relevance, rigor, cohesiveness of curriculum</li> <li>▪ Guidance for changes needed after implementation of the BASIT curriculum</li> </ul>
Quarterly Review of Syllabi and Course Content	<ul style="list-style-type: none"> <li>▪ Computer Sciences Department – update and format review/evaluation</li> <li>▪ Evaluate alignment with current research or changes</li> </ul>
Quarterly Course Evaluation – End of Course Report	<ul style="list-style-type: none"> <li>▪ Quarterly faculty meeting</li> <li>▪ Topics and sequencing evaluated for greatest impact of foundational knowledge</li> <li>▪ Reports submitted to evaluate course effectiveness/textbook/teaching methods</li> <li>▪ Evaluation methods examined for thoroughness, accuracy and meeting program department goals</li> <li>▪ Course comparison completed to evaluate layering of subject content</li> <li>▪ Determine if changes will be made</li> </ul>

Experts from Information Technology and higher education will be engaged throughout the process of curriculum development and implementation phases to ensure content and

teaching/learning strategies meet the rigor required of a baccalaureate program. Curriculum maintenance and revision is an ongoing process by the Information Technology faculty.

Information Science and Technology graduates, who have completed one of the six computer science AAS degrees, will be eligible to begin the BASIT degree.

Using a common set of transferable general education core courses and core computer science/information technology courses offers students the ability to begin the computer science program and consider which focus they will ultimately pursue while taking required courses. The AAS degrees available are the following:

- Information Technology
- Database Administrator
- Help Desk Technician
- Internet Specialist
- Network Administrator
- Programming and Software Development

The BASIT degree will build on the AAS degree foundation.

All prerequisites are completed prior to a student beginning the BAS Information Technology program. This process is consistent with the admissions procedures of Information Technology programs in the state.

The General Education requirements are listed in Table 2. Both upper and lower division general education courses are included in the requirements. When surveyed, many past CBC computer science students responded they were interested in the BASIT program because they would like to advance into management positions. A description of Information Technology Managers from Monster.com lists the following skills first on the list: “Accomplishes information technology staff results by communicating job expectations; planning and monitoring, and appraising job results; coaching, counseling, and disciplining employees; initiating, coordinating, and enforcing systems, policies, and procedures.”<sup>2</sup> This description requires a high level of communication skills which is why the BASIT requires 15 credits of communication courses.

---

<sup>2</sup> Retrieved from <http://hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/job-descriptions/information-technology-manager-job-description-sample.aspx>



**Table 2: General Education Requirements in the BASIT Program**

			Credits
Communication 15 credits			
ENGL&	101	English Composition I (Pre-Requisite)	5
ENGL&	235	Technical Writing or any 5 credit English or Communications course	5
ENGL&	410	Professional & Organizational Communication	5
Quantitative Symbolic Reasoning (select 5 credits)			
MATH&	141, 142, 144, 146, 148, 151, 152, or 153 (Pre-Requisite)		5
Social & Behavioral Sciences (select 15 credits)			
PSYC& SOC&	100+ 101	General Psychology <b>or</b> Intro to Sociology (Pre-Requisite)	5
ECON SOC	305 305	Managerial Economics or Cybercrime: A Sociological Perspective	5
AMGT AMGT	300 320	Management & Organization Theory <b>or</b> Leadership & Organization Behavior	5
Humanities 10 credits			
ICS	310	American Diversity	5
PHIL	305	Professional Ethics	5
Mathematical & Natural Science 10 credits (see program advisor for best selection)			
ENVS	310	Environmental Science <b>or</b> Any course from the distribution list	5
		Choose a lab science from the distribution list	5
Additional Electives from the following distribution lists (select 5 credits) (see program advisor for best selection) Communication, Social & Behavioral Sciences, Humanities, or Mathematical & Natural			5

The BASIT curriculum was developed with the assistance of the BASIT Advisory Committee. Members of the advisory committee felt strongly the name of the degree should not include a specialization for example BASIT Database Design. Many of the committee members hire IT employees. They felt if the degree name was specific a student who could do more than the specialization might not get called for an interview and/or hired. However, course work is included which would provide students specialized skills.

***BAS Degree in Information Technology Student Outcomes:***

- (1) Protect an organization's critical information systems and assets by ethically integrating best practices in security, risk management and business continuity throughout an enterprise.
- (2) Design, develop and implement database solutions.
- (3) Understand data retrieval, communication and security issues dealing with data assurance.
- (4) Recognize problems and manipulate data using programming techniques, software tools and technologies to solve problems.
- (5) Formulate, update, and communicate short- and long-term organizational strategies and policies.

The curriculum for the BASIT program is listed in Table 3. Full course descriptions are included in Appendix I.

**Table 3: BASIT Curriculum**

Course	No	Course Title	Credits	Program Student Learning Outcomes
<b>Prerequisite Computer Science Courses</b>				
CS	102	Programming Fundamentals <i>or</i>	5	4
CS&	131	Computer Science I C++	5	4
CS	106	Database Systems	5	2
CS	117	Computer Ethics <i>or</i>	2	1
CS	118	Customer Service	3	5
CS&	141	Computer Science I Java	5	4
CS	150	Computer Security	5	1, 5
CS	202	Programming Fundamentals 2 <i>or</i>	5	4
CS	162	C++2	5	4
CS	206	Database Design	5	2, 3, 4
CS	221	SQL Server Administration	5	2, 3, 4
CS	225	SQL Server Programming	5	2, 3, 4
CS	228	Windows Server	5	1, 3
CS	232	Network Security	5	1, 3
CS	236	Advanced Object Oriented Programming	5	4
CS	250	HTML 5- JavaScript/JQuery	5	2, 3, 4
<b>BAS Information Technology Courses</b>				
CSIT	301	Information Systems	5	1, 3, 5
CSIT	306	Big Data and Analysis	5	1, 3, 5
CSIT	311	Python for Data Processing	5	3, 4
CSIT	316	Cloud Computing HTML5 and PHP	5	2, 3, 4
CSIT	401	Information Systems Analysis and Design	5	1, 2, 3, 4
CSIT	411	Information Planning Portfolio	5	1, 2, 3, 4, 5
CSIT	416	Data Visualization	5	2, 3
CSIT	421	IT Capstone	5	1, 2, 3, 4, 5
CSIA	310	E-Commerce Security	5	1, 3
CSIA	410	Cryptology	5	1, 3

BUS&	101	Introduction to Business	5	1, 5
PROJ	101	Introduction to Project Management	5	1, 5

**Subtotal 122-123**

## **BASIT Degree Requirements**

<b>Requirement</b>	<b>No of Credits</b>
AAS General Education Credits	15
BASIT General Education Credits	
Lower Division	35
Upper Division	10
AAS CS 100-200 Level Credits	62-63
BASIT Major Support Credits	10
BASIT CSIT 300-400 Level Credits	50
<b>Total Credits Required for BASIT degree</b>	<b>183-184</b>

## **Standard 2 Qualified Faculty**

All full-time faculty teaching in the BASIT program hold master's degrees. (See Table 4) They are required to complete certification as Washington professional and technical college instructors. All part-time faculty hired to teach in the BASIT program will be required to have a Master's degree in an appropriate field.

<b>Table 4: Information Technology Faculty</b>			
<b>Faculty Name</b>	<b>Credentials</b>	<b>Courses Qualified to Teach</b>	<b>Teaching/ Professional Experience (years)</b>
Bee, Josh	M.I.T. Master Information Technology Heritage University B.S. Computer Science Heritage University	CSIT 301 CSIT 311 CSIT 316 CSIT 401	16
Boehnke, Matthew	M.A.S. Aeronautical Science Embry- Riddle Aeronautical University B.A. Political Science Eastern Washington University	CSIT 301 CSIT 306 CSIT 411	17
O'Brien, Tym	D.I.T Doctor of Information Technology Capella University (Will complete December 2018) M.Ed. Adult Learning Heritage University B.S. Computer Science Washington State	CSIT 311 CSIT 401 CSIT 416 CSIT 421	29

	University— B.Ed. Physics Srinakarinwirot University		
Sako, Tony	M.S. Information Security Assurance Western Governor’s University (will complete June 2016) B.S. Numerical Analysis University of Washington	CSIT 311 CSIT 401 CSIT 416 CSIT 421	30

### Professional Development Plan

Year	Curriculum Development for upper division courses	Technologies used in upper division courses	Upper Division Course Design	Adjunct recruitment
2016-2017	Study the subject matter by taking relevant classes online and/or attending relevant workshops.	Experiment with the tools needed for each upper division course.	Design upper division courses to support the following models:  -face-to-face  -hybrid  -online	Adjunct faculty members who work in IT departments are essential to the program.  Will hire at least four adjunct faculty to teach specialized courses.

### General Education Faculty

The BAS degree in Information Technology general education courses will be taught by qualified CBC faculty. All have advanced degrees and most hold PhD’s in their discipline. Table 5 illustrates the background of faculty who will teach the general education courses. Faculty are very interested in teaching at the 300 and 400 level because the courses are designed not only to build general education knowledge but are also taught within a specific context that is well matched to the instructor’s interest. In addition, the experience with the BAS Applied Management students provides evidence that BAS students are well-prepared and highly motivated at a level that is not always manifested in lower division courses.

Faculty Name	Credentials	Courses Qualified to Teach
Arnold, David	Ph.D., M.A. UCLA -History B.A. Washington State University--History	<b>ICS 310</b> American Diversity
Paddock, Don	M.B.A., Syracuse University B.S., Cornell University	<b>ECON 305</b> Managerial Economics

Kincaid, Matt	Ph.D. Gonzaga-Leadership Studies M.B.A. & B.A. Gonzaga-Business	<b>PHIL 305</b> Professional Ethics
Thonney, Teresa	Ph.D. University of Washington-English M.A. & B.A. Eastern Washington University-English	<b>ENGL 410</b> Professional & Organizational Communication
Omar Bourouh	PhD., & M.A., American University - Sociology	<b>SOC 305</b> Cybercrime: A Sociological Perspective
Chisholm, Robert	Ph.D. University of Pittsburgh B.A., M.A., Queen's University	<b>POLS 305</b> Future of Warfare

### Support Staff

BASIT program support staff are listed in Table 6.

<b>Support Staff</b>	<b>Role</b>	<b>Credentials</b>
Janese Thatcher	Dean Career & Technical Education, Computer Science, Engineering Technology	Ed.D, M.S., B.S., University of Minnesota
Elizabeth Hernandez -Osorio	Outreach and Retention Specialist	Pursuing M.Ed. Washington State University B.A., Eastern Washington University
Deborah Jack	Secretary Lead	

## Standard 3 Selective Admissions Process

### Open Access

Columbia Basin College operates under an open door admission policy granting admission to all applicants who are 18 years of age or older and/or graduated from high schools accredited by a regional accrediting association (Administrative Policy 7-010). The Mission Statement specifically mentions CBC's commitment to diversity, fairness, and equity. This mission extends to the Information Technology BAS program. The College's values also apply to the Information Technology BAS program, and will guide the program's selection process. One of the goals of the selection process is that BASIT participants will mirror or exceed the student diversity in the computer science feeder programs. To help meet this goal, a set of admissions criteria, an applicant selection process, and a participant monitoring and tracking system will support the BASIT admission process. In addition, the Information Technology Outreach and Retention Specialist will develop and begin a recruiting program designed to attract a diverse applicant pool beginning at the two-year level and extending to the 300-400 level.

## Admissions Criteria

The following admissions criteria have been identified as creating opportunities for a broad spectrum of applicants as well as optimizing the likelihood of successful completion of the Information Technology BAS degree.

Admissions Criteria for the Information Technology BAS degree program:

- Completion of a CBC Associate of Applied Science Computer Science degree with a grade of 2.5 or higher in all computer science/information technology courses and a 2.0 or higher in all general education courses.

OR

- Equivalent AAS degree with a GPA of 2.0 and all computer science and/or information technology courses with a grade of 2.5 or higher from an accredited college or university.
- An application packet which includes:
  - Completed CBC Admissions Form
  - Completed BAS Program Application.
    - The application includes
      - an essay outlining career goals and how a BASIT degree will support those goals
      - summary of work experience
      - completed prerequisite courses
  - Official College Transcripts

## Selection Process

If the number of qualified applicants exceeds space availability, the selection committee will proceed to evaluate the individual applicants on specific criteria and identify those to be invited to participate. The selection process for the Information Technology BAS program will be conducted by a committee that includes the BASIT Outreach and Retention Specialist, a BASIT faculty representative, and the dean. The selection committee will first review each application packet to identify those applicants who meet the admissions criteria. (The Admission Process Rubric is located in Appendix I.)

This process includes the following steps:

1. Review each application, including transcripts, admissions forms, essays, and other available documentation.
2. Develop quantified ratings for each applicant based on specific criteria by each committee member. These dimensions will be aligned with Information Technology expectations and may include relevance of career goals, strength of transcripts, relevance of work experience, and strength of the essay. Prior to selection of first

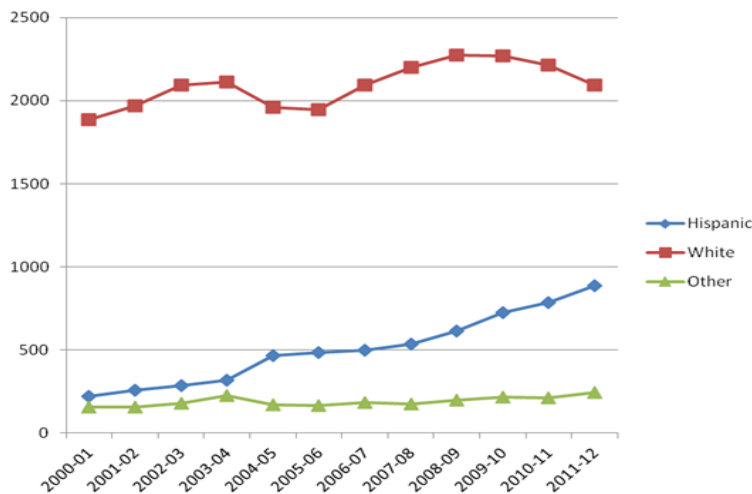
cohort, the selection criteria will be identified, definitions developed, behaviorally-based rating scales developed, and committee members trained to use the criteria in a reliable and valid manner.

3. Review and discuss the ratings of each applicant by the committee. Where significant disagreement exists regarding ratings for an applicant, the committee will review the applicant’s data and reach a consensus on the rating.
4. Identify the top candidates, based on the ratings, sufficient to fill available spaces. A waiting list of candidates will also be developed in case not all of those selected subsequently enroll in the program.

### Program Support for Diversity

CBC is a designated Hispanic Serving Institution. Franklin County, one of the counties in CBC’s service district, is the first Washington State County where the percentage of Hispanic citizens exceeds the white non-Hispanic population.<sup>3</sup> Because of the area’s large Hispanic population, the program typically recruits and serves many Hispanic students. Figure 3 illustrates CBC’s student ethnicity and reflects the changes in the composition of the CBC student population with respect to ethnicity. The number of Hispanic students is increasing, while the number of non-Hispanic students is decreasing. We expect initially the BASIT program diversity demographics will be similar to those of the BAS Cyber Security program (See Figure 4).

**Figure 3: CBC Student Ethnicity 2000-2012**



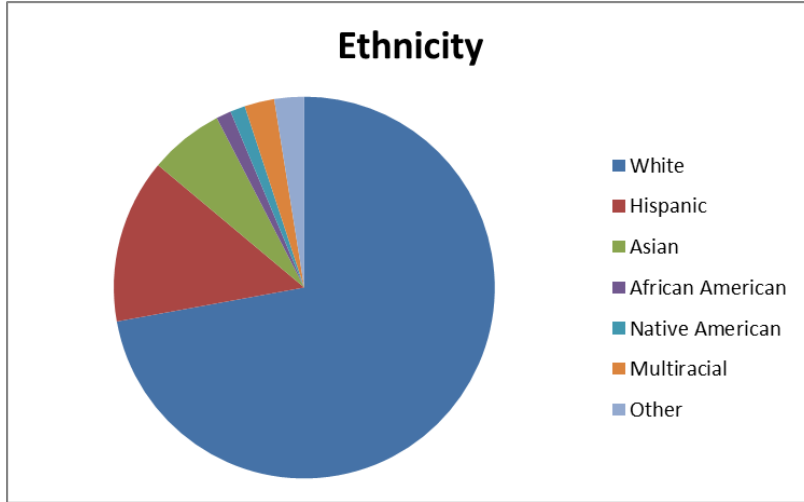
**Figure 4: BAS Cyber Security Student Ethnicity 2013-2015**

### BAS Cyber Security Student Ethnicity 2013-2015

White	57
Hispanic	11

<sup>3</sup> Retrieved from <http://quickfacts.census.gov/qfd/states/53/53021.html>

Asian	5
African American	1
Native American	1
Multiracial	2
Other	2



A key goal for the BASIT program is to continue to increase diversity in the Information Technology student population. Activities to recruit diverse students include: participation in Multi-Cultural College Night; developing key relationships within the local community; BASIT-focused presentations with school districts that maintain large, diverse student populations; and hosting BASIT information events to inform students, parents and the community. Additionally, efforts will be made to qualify and register BASIT students into federally funded support programs that best fit their needs.

#### **Standard 4 Appropriate Student Services Plan**

To support the information technology BAS students, CBC currently has an Outreach and Retention Specialist (ORS) for the program to provide a focused student support system and recruiting program. The new program and students will be included in the duties of the current ORS. The BAS Information Technology Outreach and Retention Specialist will assist in identifying future information technology BAS students, maintain student records, provide program advising, provide retention services, identify and support internships and shadowing experiences, and assist information technology students in accessing other student support services as needed.



	BAS Cyber Security Student Load	BAS Information Technology Student Load	Total
2016-2017	60	25	85
2017-2018	60	40	100
2018 and after	60	45	105

The ORS also advises many AAS Computer Science students who are planning to pursue a BAS. The ORS provides student advising in person as well as online using a variety of technologies such as videoconferencing. Regular information sessions are held in the day and evening. They are led by the ORS or department lead. Counselors are also trained to advise AAS Computer Science students and participate in information sessions.

The information technology BAS student service efforts are specifically designed to meet the needs of the adult BAS student who is working, going to school in the evenings, and/or taking hybrid courses. The BASIT Outreach and Retention Specialist and the program instructors will participate in academic advising and educational planning for the BASIT student. These program experts will ensure that students receive clear, consistent, and accurate information. A specific BASIT advising website, to be used with the current CBC online advising site, will also be designed for the students. Students will be trained how to use the site giving them 24/7 access to online advising/registration services.

The retention strategies will emphasize both “high touch and high tech.” The “high touch” strategy will begin with one-on-one time with the BASIT Outreach and Retention Specialist and the BASIT faculty members. The staff and faculty for the BAS program will get to know each student so students will know the program staff understands them and are committed to their success. The BASIT ORS will be the main contact for students so that they will have a single point of contact. The Specialist will either offer personal help or coordinate with other student services staff to provide what is needed. In addition, the BASIT ORS will try to anticipate what the students individually, or as a group, might need and provide options for them. At the beginning of each year, the BASIT Outreach and Retention Specialist will coordinate an orientation to provide an initial opportunity for students to get to know each other, meet instructors and administrative support staff, and help the students plan for their BAS experience.

The “high tech” efforts will come in many ways. As a high tech program, eLearning tools will be integrated into each course. The BASIT Outreach and Retention Specialist will also integrate the use of technology in advising and communication. CBC uses degree audit software to support the advising process. Students will use technology seamlessly throughout the program. Social

media will be used for communication, and a program specific webpage will be developed to support BAS Information Technology students.

The Outreach and Retention Specialist will report directly to the BAS Information Technology director and the program dean. She will provide information to the information technology instructional staff, and liaison with campus student services departments. This unique student support model will provide student services continuity for evening students and will ensure that information technology students receive assistance from a staff person that is an expert on the CBC BAS Information Technology program.

BASIT students will have access to all student services, resources, and activities available at CBC. Examples of student services and resources are as follows:

**Hawk Central:** Hawk Central is a one-stop service area for prospective and current students. Student services provided include: resource information about the college and getting started, financial aid office, registration, and cashier. Students can visit Hawk Central during hours of operation or they can contact specialists online for assistance. Specialists are available to help students navigate the college system, get help with problems and gain any additional information they need. CBC strives to efficiently provide excellent customer service while helping students succeed.

**Counseling:** Counselors provide academic, career, and personal counseling. The services are free, voluntary, and confidential for CBC students. Counselors are dedicated to supporting students in their pursuit of academic and personal growth.

**Academic Success Center:** The Academic Success Center provides CBC students with free drop-in instructional support in subject areas for which there is high demand such as math and English. The Academic Success Center is equipped with computers and printers for student use, as well as whiteboards and group study areas. Students do not need an appointment for drop-in tutoring.

**Transcript Evaluation:** Full-time evaluators have extensive experience evaluating transcripts from accredited institutions. They will evaluate incoming students for compliance with admission requirements and student records for degree requirements when students near graduation. CBC is committed to providing efficient time-to-degree for students and makes every effort to accept prior learning when appropriate.

**Online Services:** CBC's website provides online access to campus services such as career information, online registration, financial aid support, student records, and eTutoring. Services are available 24/7 for students not able to drive to campus for face-to-face services. To ensure all BAS students have tutoring available for upper division courses CBC has partnered with The

Connecticut Distance Learning Consortium to provide online tutoring assistance to students through eTutoring. All CBC students have free access to eTutoring's online professional tutoring services.

**Financial Aid:** The CBC Financial Aid Office assists students in applying for and accessing financial assistance, including grants, work-study, scholarships, and student loans. Some of the programs available to our students include: Federal Pell Grant, Federal Supplemental Education Opportunity Grant, Washington State Need Grant, Federal and State Work Study and Federal Direct Student Loans.

**Resource Center:** The Resource Center at CBC provides support and referral services to current and prospective students of the Benton-Franklin county area. The Center addresses the needs of individuals with personal or educational barriers that may interfere with their pursuit of an education. Staff work with returning adult learners, individuals with disabilities, single parents, displaced homemakers, and beginning college students who need support early in the educational process. Services are provided in three major areas: Financial Assistance, Student Support, and Disability Services. Should a student report a learning disability, they are referred to the Resource Center for counseling and evaluation. If it is determined a student has a verifiable disability, the department will consult with the Resource Center to determine what accommodations may be made to assist the student to remain in the program and be successful. A minimum standard must still be met in all academic, laboratory and clinical work.

**Veteran's Education and Transition Services:** The Veterans Education and Transition Services (V.E.T.S.) office opened Fall quarter 2013. The V.E.T.S. office is dedicated to supporting student veterans in their transition to CBC, through academic advising, education benefits certification, and mental health counseling. The office hosts a variety of services including math and English tutoring, a study area, and access to computers.

**Library Services:** Students have access to resources available at the main library on the Pasco campus. Students can also access on-line library databases. These databases include articles appropriate for use by all BAS students conducting research. As with other BAS programs at CBC, BASIT students will be required to consult with a librarian to discuss research needs for their capstone projects. Remote assistance through email or telephone is available for students needing help when off campus. Lap top computers are available for student checkout from the main Library Circulation Desk. The librarian provides support to the Information Technology Program by teaching classes on database searches, APA formatting, online resources, and other topics as requested.

**Internet Access and Technology Support:** All CBC students have access to the campus Wi-Fi network. Computer labs are available for student use on campus. STAIRS-IT is a student focused, student run, information technology helpdesk created to assist with basic

computer/tablet operations, email setup and use, basic canvas operations, installation of software, and cleaning up viruses or malware. Assistance is available in person, by phone, or via email.

**eTutoring, eChat, eWriting, eQuestion:** This is a free tutoring service for students that provides one-on-one help in Math, Writing, Statistics, Life Sciences and Accounting. eQuestions can be left and an eTutor will respond within 24 – 48 hours. eChat is a real-time tutoring service. eWriting received draft versions of student papers. It evaluates and supplies students with suggestions for improvement for the papers.

**eLearning:** CBC utilizes *Canvas* for its online learning platform and *Panopto* for lecture capture. A campus eLearning director and team provide training and support for faculty and students.

**Student Study Space:** There are many study spaces throughout the campus. And, private study rooms are available in the campus library which students may reserve.

**Academic success:** and obtaining a degree and transferable courses is a high priority for CBC. Students new to the college complete a program called SOAR (Student Orientation Advising and Registration) followed by FYI (For Your Information). FYI is a full week of orientation activities including the creation of a plan for students' academic load. While BAS students are not required to participate in the FYI or SOAR programs, students new to CBC are strongly encouraged to participate.

**Crisis counseling:** If a student is having difficulty academically, the appropriate faculty member will counsel the student. If needed, remedial assistance can be assigned to bring a student's grades up to a minimal passing level. Students with personal issues or problems are referred to the Counseling Department.

## **Standard 5 Commitment to Build and Sustain a High Quality Program**

Columbia Basin College has been very successful developing and sustaining instructional programs that contribute to the growth of the region by leveraging non-traditional resources such as grants, contracts, and donations through the CBC Foundation. CBC has been able to develop and enhance six workforce programs since 2009. Examples include: A Department of Energy funded grant to develop a two and four-year degree program in Project Management which is running successfully. Multiple NRC grants and support from the local nuclear industry led to the development of an A.A.S. degree in Nuclear Technology. CBC's Cybersecurity program was launched with the support of the Battelle Memorial Institute Foundation. CBC will build on the track record of success in launching new workforce programs by seeking additional non-traditional resources to build and enhance the proposed Bachelor of Applied Science in Information Technology program.

The BASIT program will be funded with tuition and fees.

<b>Table 7 BASIT Enrollment Projections</b>					
Year	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Full-Time Students	15	25	30	30	30
Part-Time Students	10	15	15	15	15

*Projected Program Expense*

<b>Table 8 BASIT Budget Expenditures</b>					
	FY2017	FY2018	FY2019	FY2020	FY2021
F/T Faculty	50,000	50,000	50,000	50,000	50,000
Hourly/Temp Faculty	27,000	27,000	27,000	27,000	27,000
PT Director	30,000	30,000	30,000	30,000	30,000
Benefits	54,500	54,500	54,500	54,500	54,500
Goods & Services	10,000	10,000	10,000	10,000	10,000
Software	2,500	2,500	2,500	2,500	2,500
Equipment	32,000	10000	10000	10000	10000
Training	10,000	10,000	10,000	10,000	10,000
Travel	5,000	5,000	5,000	5,000	5,000
Total Expenditures	\$221,000	\$199,000	\$199,000	\$199,000	\$199,000

*Projected Program Revenue*

<b>Table 9 BASIT Budget</b>					
	FY2017	FY2018	FY2019	FY2020	FY2021
FT Tuition	150,630	251,050	301,260	301,260	301,260

PT Tuition	97,540	146,310	146,310	146,310	146,310
Total Income	248,170	397,360	447,570	447,570	447,570
Total Expenditures	221,000	199,000	199,000	199,000	199,000
Total Revenue	\$27,170	\$198,360	\$248,570	\$248,570	\$248,570

### **Program Facilities, Equipment, Technology, and Instructional Resources**

The BAS Information Technology program will be housed in the Lockheed Martin Department of Information Science and Technology instructional facilities. The instructional space was completely remodeled in 2005 specifically for the computer science instructional program. Included in the 10,000 square foot computer science space are instructional offices, conference room, workroom, reception area, two dedicated classrooms, five computer labs and storage space. Two of the computer labs have new computers, one lab in 2011-2012 and the other lab in 2012-2013. The third lab has a mix of PC and Apple computers allowing two platforms to support the BAS Information Technology program. The computer labs are updated on a regular replacement schedule so students and instructors have continuously updated hardware. The campus and the Information Science and Technology department participate in the Microsoft Software Program to ensure software matches the newest version available.

The program has five computer labs containing hardware and software comparable to equipment graduates will find on the job. During the summer of 2015, the department installed server virtualization equipment. Making sure students learn using the latest hardware and software is a priority for the program. Because of the program's strong ties to the community, private industry has provided support in many ways. Local companies such as GESA Credit Union, Pacific Northwest National Lab, Lockheed Martin, PayPlus Benefits, ANR Group Inc., and Washington River Protection Solutions provide internship opportunities for students and have committed to taking BASIT interns. Many IT professionals volunteer time to participate on the advisory committee and other events that promote the Information Science and Technology department. In 2007 and in recognition of the support that Lockheed Martin had extended to CBC in the way of hardware and network infrastructure, the computer science department was renamed the Lockheed Martin Department of Information Science and Technology.

The Information Science and Technology facilities are intentionally located in the 154,666 square foot Lee Thornton Science, Diversity, and Technology building. The campus Information Services support office is located across the hallway from the Information Science and Technology instructional area providing opportunity for shared efforts. This arrangement both

maximizes the interaction and support between these departments and provides access to CBC programs supporting diverse and underserved populations.

The program will utilize existing classrooms for the BASIT program. CBC already uses the web-based learning platform *Canvas* and a lecture capture system *Panopto* to enhance online/hybrid teaching and learning. CBC is committed to supporting ongoing faculty development through faculty participation in national workshops and conferences. New and advanced software and hardware are continually being introduced in the work place. Because of this, faculty regularly receive training on new software and hardware so they can prepare students to work with the latest technologies.

### **College Commitment to the BASIT Program**

CBC is committed to developing and maintaining a BAS degree in Information Technology. The need for the program is especially acute in CBC's service district; it is a natural progression for many of CBC's two-year computer science graduates; and students, employers; and advisory committee members are strongly supportive of the degree.

### **Standard 6 Program Specific Accreditation.**

The institution will not be seeking specialized program accreditation for the BAS in Information Technology.

Upon approval of the BASIT by the state board, CBC will submit a substantive change application and proposal to the NWCCU.

### **Standard 7 Pathway Options Beyond Baccalaureate Degree**

Graduates from CBC's BASIT program will be prepared to pursue a master's degree in Information Technology and may also pursue other possible graduate pathways.

Central Washington University Information Technology and Administrative Management (MS-ITAM) program offers three IT management specializations and fully accepts students with completed BAS degrees.

Currently, CBC and WSU have an academic agreement, the Bridges Program, which supports CBC students in taking the first two years of computer science courses at CBC and then transferring to a BS or BA in Computer Science at WSU. As a theory-based program, the WSU computer science degree remains an alternative for CBC AA students. Currently, WSU does not offer a graduate degree in Information Technology.

However, many graduate programs at numerous universities have expressed interest in articulating the BASIT with their master's degree programs:

Eastern Washington University  
 Western Governor’s University  
 City University  
 Kaplan University  
 Walden University  
 Capella Online University

## Standard 8 External Expert Evaluations

Expert reviews were provided by two university professors from different universities. Both evaluations with reviewer biographies are located in Appendix II.

The first evaluation is from Dan Li, PhD., Associate Professor of Computer Science, Eastern Washington University. Notable comments and recommendations along with CBC’s responses are listed in Table 10. The evaluation in its entirety is located in Appendix II.

<b>Table 10</b>	
Faculty	<i>Do program faculty members appear qualified to teach and continuously improve the curriculum?</i>
	<p>Comment</p> <p>The faculty appears to be adequate and qualified to teach the curriculum. The evaluator has two suggestions:</p> <ul style="list-style-type: none"> <li>(1) Add years of teaching and/or professional experience to the faculty list to further demonstrate their qualifications.</li> <li>(2) Address faculty development plan in “Qualified Faculty” section to ensure continuous development and improvement to the curriculum.</li> </ul>
	<p><b>Response</b></p> <p><b>(1) Teaching/Professional years of experience have been added to Table 4.</b></p> <p><b>(2) Professional development plan has been added.</b></p>
Overall assessment and recommendations	<i>Please summarize your overall assessment of the program.</i>
	<p>Comment</p> <p>Overall, the evaluator does not know of any weaknesses of the proposed BAS in Information Technology degree program.</p> <p>The main recommendation is to make connections between the proposed curriculum (in Table 3) and the degree learning outcomes</p>



	(on Page 9).
	<p><b>Response</b></p> <p><b>Degree learning outcomes have been added to each course in Table 3.</b></p>

The second evaluation is from Robert Lupton, Professor and Chair, Information Technology and Administrative Management Department, Central Washington University. Notable comments and recommendations along with CBC’s responses are listed in Table 11. The evaluation in its entirety is located in Appendix IV.

<b>Table 11</b>	
Concept and overview	<p><i>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?</i></p> <p><b>Comment</b></p> <p>The Columbia Basin College proposed BAS IT appears to meet the IT demands of the local industry and WA State. The proposal presents documentation, data, and commentary on the needs of the local and regional industry for IT prepared graduates with a 4 year degree. The survey of current students and local business leaders confirm a gap in supply and demand – an opportunity for CBC.</p> <p>Based on the proposal, industry and state research, and feedback from current students and business leaders, I do believe the BAS IT program is robust with current and relevant high demand IT type skills. It would be the dream team of IT professionals – capable of meeting many different IT job areas/skill sets for an employer. The graduate from this program will indeed be able to bring diverse IT skills to the job especially smaller businesses that rely on employees who practice many different areas under the IT umbrella.</p> <p>While this appears to help with entry level job placement, the BAS IT may be limited in preparing students for job advancement in the long run in the areas of management, supervision, and leadership.</p> <p>As stated in the proposal, “Information Science and Technology graduates, who have completed one of six computer science AAS degrees, will be eligible to begin the BASIT degree.” And, for example, “When surveyed, many past CBC computer science students responded they were interested in the BASIT program because they would like to advance into management positions.”</p> <p>I also feel the BAS IT proposal does a good job identifying the needs to</p>

	prepare place bound students of diversity for education leading to a four year degree as well as an entry level job in the region. "Rural, first generation, non-traditional and second-career students who typically stay and work in the community attend CBC."
	<p><b>Reponses to several comments, throughout the proposal, regarding the lack of course work in management, supervision, and leadership, are addressed as follows:</b></p> <ul style="list-style-type: none"> <li>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements. Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></li> <li>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></li> <li>❖ <b>The upper division courses include real world projects which will require research, writing, planning, and critical thinking to complete the project successfully.</b></li> </ul>
Degree Learning Outcomes	<p><i>Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?</i></p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT student outcomes capture the key IT related areas building on the strength of the existing two year AAS programs. Four of the five program outcomes (listed below) are IT driven goals covering curriculum in big data/analytics, data processing, basic web coding, systems analysis and design, data visualization, and security.</p> <ul style="list-style-type: none"> <li>• Protect an organization's critical information systems and assets by ethically integrating best practices in security, risk management and business continuity throughout an enterprise.</li> <li>• Design, develop and implement database solutions.</li> <li>• Understand data retrieval, communication and security issues dealing with data assurance.</li> <li>• Recognize problems and manipulate data using programming techniques, software tools and technologies to solve problems.</li> <li>• Formulate, update, and communicate short- and long-term organizational strategies and policies.</li> </ul> <p>While these outcomes appear to help with entry level job placement meeting local and regional industry IT needs, the BAS IT may be missing</p>

	<p>coursework/curriculum that will prepare students for job advancement in the long run in management, supervision, and leadership. The intent of the fifth outcome appears to capture the need but I don't clearly see the classes/curriculum addressing this goal.</p>
	<p><b>To address the need for leadership and management in the program:</b></p> <ul style="list-style-type: none"> <li>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements. Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></li> <li>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></li> </ul>
<p>Curriculum Alignment</p>	<p><i>Does the curriculum align with the program's Statement of Needs Document?</i></p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT meets the high demand areas as listed in the U.S. Bureau of Labor Statistics, "...eight out of the ten occupations listed in the category of Computer and Information Technology need a bachelor's degree to enter the occupation." It is recognized that one challenge we all have is finding government data on IT since the focus is on specific elements/content areas within including the use of Computer Science as a surrogate for IT. This is evident in table 2 and accompanying comments, "Table 2: High Employer Demand Fields at Baccalaureate Level and Above." Indeed, the school and program serve the local region well. The proposal also addressed the demand in WA State as it meets the mission of the SBCTC.</p> <p>The CBC Mission and Student Learning Outcomes (SLOs) provide the foundation for areas of 1) Think Critically, 2) Reason Quantitatively and Symbolically, 3) Communicate Effectively, 4) Apply Information Tools and Resources, 5) Develop Cultural Awareness, and 6) Master Program Learning Outcomes. The proposal also included this statement "...A description of Information Technology Managers from Monster.com lists the following skills first on the list: Accomplishes information technology staff results by communicating job expectations; planning and monitoring, and appraising job results; coaching, counseling, and disciplining employees; initiating, coordinating, and enforcing systems, policies, and procedures." It would be good to review how the BAS IT will meet those job skills above with the SLOs at the junior and senior level. These skills and knowledge are inherent in management, supervision, and leadership.</p> <p>Criteria 3 in the needs statement, "Employer/community demand for</p>

	<p>graduates with baccalaureate level of education proposed in the program” has the opportunity for the BAS IT degree to add more value to the local industry. The BAS IT does a good job covering eight out of the ten occupations listed in the category of Computer and Information Technology, U.S. Bureau of Labor Statistics. Economic Modeling Specialists Inc. drill down even deeper for the regional IT demands. It may be limited on preparing students for long term advancement especially if demand in the region for IT graduates drops in the future. Will the CBC BAS IT degree prepare students for mobility in job advancement and jobs outside the region especially in geographic areas where there is more competition for IT related job openings and more competition from graduates with IT skill sets? This is addressed in section d) Academic Relevance and Rigor, and the solutions to this would support the CBC mission/goals as well as industry and student needs.</p> <p>When reviewing the foundation courses – AAS degree foundation – “Criteria 4: Applied baccalaureate program builds from existing professional and technical degree program offered by the institution,” indeed does continue to build on the IT skills taught during the AAS. Missing in the third and especially the fourth year may be courses/curriculum that will add value to students beyond the entry level job. Indeed, “The BASIT degree will build on the AAS degree foundation. Employers in the area want a well-rounded employee who can be hired to work in entry level positions of several different areas and then as their career grows he/she can focus on a specialty.”</p> <p>The BAS IT proposal does a great job detailing research on student demand for programs within the region (Criteria 5) but recognizing one of the top reasons cited was “Career Advancement” at 80%. How is career advancement defined? And what managerial skills (soft skills) are needed for career advancement?</p> <p>The BAS IT appears to be addressing the place-bound student. “Criteria 6: Efforts to maximize state resources to serve place-bound students.” Will the program be sustainable with just a part time cohort?</p>
	<p><b>Response</b></p> <p><b>An addition has been made to Table 3, Program Courses, listing which Student Learning Outcomes are addressed in each course.</b></p> <p><b>The projected program revenue (Table 9) includes tuition from full-time and part-time students. The program will be sustainable when both full-time and part-time tuition is calculated.</b></p> <p><b>To address the need for leadership and management in the program:</b></p> <p>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements.</b></p>

	<p><b>Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></p> <p>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></p>
<p>Academic Relevance and Rigor</p>	<p><i>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?</i></p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT courses offer the current high demand areas in IT and indeed is robust with a mix of applied IT related skills and knowledge. The limitation of the program maybe the lack of management related/supported courses especially those that include the important soft skills demanded by industry (e.g. communication skills, interpersonal skills, leadership and supervision skills, analytical skills, statistics and research design, cross-cultural understanding, and a general business acumen). Outside of two level 100 classes in the BAS IT program (BUS 101 Introduction to Business 5 and PROJ 101 Introduction to Project Management 5), the degree may be missing an opportunity for students and employers to see the value of the four year degree in career advancement locally and outside the region. Something to review/consider. The upper division classes CSIT 401 Information Systems Analysis and Design, CSIT 411 Agile Methodology &amp; ePortfolio Planning, and CSIT 401 Information Systems Analysis and Design imply some managerial context, but is that enough education for advancement in an organization beyond the entry level position.</p> <p>For example, the goal of the BAS IT is to "...provide the knowledge necessary for students to access multiple types of entry-level IT jobs in Benton and Franklin Counties" and "...provide a pathway for students to be prepared to complete junior and senior level coursework in the field of Information Technology." In addition, "Students who graduate from the Computer Science program are consistently hired by local companies. However, to advance in their careers they need to obtain a bachelor's degree."</p> <p>The fifth program outcome "Formulate, update, and communicate short- and long-term organizational strategies and policies" implies advance managerial and leadership skills. One could argue that we have this newly minted CBC BAS IT graduate with defined, specific IT skills - current and relevant for today's industry – but limited in the major soft skills to grow/advance into a leadership position in management. As stated in the proposal, "When</p>

	<p>surveyed, many past CBC computer science students responded they were interested in the BAS IT program because they would like to advance into management positions.”</p> <p>The statement of need also highlight industries where career advancement in management with a four year degree would be important. “Business leaders see job growth ahead in the categories of tourism, health care, retail, manufacturing and agriculture.” And a survey of local employers echo these soft skills such as “...various factors such as richness of knowledge, critical thinking skills, writing/communication skills, proven expertise are the most common reasons,” “They tend to perform better in unscripted situations,” “Depth of problem solving and analysis skills tend to be more mature,” and “Employee's with Bachelors degrees have a better grasp and understanding of an enterprise environment.”</p> <p>The BAS IT does include 15 credits of communication courses but only one, ENGL410, is an advance level writing class.</p> <p>The upper division classes appear to have academic rigor from an IT perspective. I would recommend replacing/adding several classes in management, supervision, and leadership and/or expanding the current proposed classes with those soft skills. The program name BAS IT is still a strong brand and connotes “value” with the diverse IT related skills (hard skills).</p>
	<p><b>Response</b></p> <p><b>To address the need for leadership and management in the program:</b></p> <ul style="list-style-type: none"> <li>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements. Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></li> <li>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></li> </ul>
<p>Preparation for Graduate Program Acceptance</p>	<p><i>Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?</i></p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT as is would not fully prepare a student for success in a traditional graduate program. The most logical pathway would be an applied master’s degree to complement or build upon the AAS/BAS IT tech skill focus. There are several options.</p>

	<p>One way to better add value to the students of the BAS IT would be to enhance the BAS IT upper division coursework/curriculum with projects that prepare for the intellectual demands of graduate studies such as applied research and writing, critical analysis especially business case studies, strategic planning and policy to mention a few. More relevant with a four year BAS IT program is one that does more than just IT hard skills but infuses those soft skills within every course.</p> <p>Another option is develop pathways to applied graduate programs that enhance the tech skills (hard skills) with graduate course work heavy in IT management.</p>
	<p><b>Response</b></p> <p><b>To address the need for leadership and management in the program:</b></p> <ul style="list-style-type: none"> <li>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements. Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></li> <li>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></li> </ul>
Faculty	<p><i>Do program faculty members appear qualified to teach and continuously improve the curriculum?</i></p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT appears to have faculty with the necessary degree credentials in IT, Computer Science and Information Assurance and Security. Without their CVs, assessing their current skills and expertise is not possible. Based on the faculty qualification table, there appears to be no one with the credentials to teach CSIA 310 E-Commerce Security 5 and CSIA 410 Cryptology 5. Two of the four faculty have terminal degrees.</p>
	<p><b>Response</b></p> <p><b>A faculty development plan is in place to make sure instructors have the skills needed to teach the CSIA courses. Also, adjunct faculty will be utilized to teach courses in specialized topics.</b></p>
Overall assessment and recommendations	<p><i>Please summarize your overall assessment of the program.</i></p> <p><b>Comment</b></p> <p>It is obvious that the leaders at Columbia Basin College have researched and discussed the needs of a BAS IT to meet the IT demands in the region. The</p>

	<p>BAS IT related curriculum is robust, relevant and current. The proposed BAS IT was vetted by the advisory board, industry leaders, and current students. Regardless if the management, supervision or leadership areas are enhanced, this is an exciting program.</p> <p>The four year degree is a commitment to prepare students for short and long term success. While the allure of entry level jobs heavy in IT today or in the future is evident, the BAS IT graduates will someday be called upon to lead and supervise. How will this degree meet that goal? Moreover, software and hardware products/specs change often so the value of the BAS IT would be transferable skills and the soft skills would ensure that these graduates have options such as management.</p> <p>To add value to the BAS IT, I recommend:</p> <ol style="list-style-type: none"> <li>1) Adding several upper level management type classes and/or rework the proposed upper division classes to have some management related focus.</li> <li>2) Perhaps include project based assignments in as many upper level courses as possible to replicate the role of a manager or supervisor in industry.</li> <li>3) Adding some advance academic curriculum to upper division classes to help prepare the students for a pathway to graduate school. This sells value and a commitment to the student by CBC for their success in the future. Industry may also see the value.</li> <li>4) When hiring an IT employee, what level of degree do employers really want? While some respondents indicated a bachelor's degrees, program sustainability requires a commitment from the area business leaders to build capacity for IT graduates. This may be part of the marketing message and outreach programs from CBC – to educate regional and local business leaders on the value of advancement for employees within the company, and thus, the value of the CBC four year BAS IT degree.</li> </ol>
	<p><b>Response</b></p> <p><b>To address the need for leadership and management in the program:</b></p> <ul style="list-style-type: none"> <li>❖ <b>An additional upper division course in management has been added to the program see Table 2, General Education Requirements. Students can choose from AMGT 300 Management &amp; Organization Theory or AMGT 320 Leadership &amp; Organization Behavior.</b></li> <li>❖ <b>When creating the curriculum, local IT professionals who will be hiring the BASIT graduates were consulted. They need applicants for IT positions who can advance in IT careers which may not include management or supervisory responsibilities.</b></li> </ul> <p><b>Advisory committee members have pledged to assist CBC to get the</b></p>



	<p><b>word out about the new program. Since the committee members assisted with creating the curriculum, they are committed to the success of the BASIT graduates.</b></p>
--	--

## Appendix I BASIT Admission Process Rubric

Admission process rubric for a Bachelor of Applied Science Degree in Information Technology

Abbreviations: CS - Computer Science, IT – Information Technology, and AAS - Associate of Applied Science degree in IT.

If applicants exceed available program capacity, the following rubric will be used.

Criteria	Unqualified or Low Performance	Qualified /Completed
Completion of an AASIT or an approved CS degree from an accredited college with a 2.5 or higher grade in the CS and/or IT courses.  <b>40 Points</b>	Student does not obtain an AAS IT or an approved CS degree.  <b>0 Points</b>	Completed AASIT or an approved CS degree from an accredited college with a 2.5 or higher grade in the CS or IT courses.  Points based on grades in CS and/or IT courses.  <b>0-40 Points</b>
BASIT Program Application completed and submitted by deadline.  <b>20 Points</b>	Student does not complete a BASIT Program Application  <b>0 Points</b>	BASIT Program Application completed and submitted by deadline.  <b>20 Points</b>
Career Goals Essay  <b>20 Points</b>	Student partially completes an essay discussing career goals.  <b>10 points</b>	Student completes an essay discussing career goals.  <b>0-20 Points</b>
Official Transcript by the deadline.  <b>20 Points</b>	Student does not submit an official transcript by the deadline.  <b>0 Points</b>	Student submits an official transcript by the deadline.  <b>20 Points</b>

A student is evaluated for 85-100 points using the rubric above to be accepted into the program of the BAS IT.

## Appendix II Examples Full-Time and Part-Time Schedule

Student Name: Full-Time BASIT Student

Student ID: Sample Plan

Degree or Certificate: BAS IT

QTR 1

Course No Cd

CSIA310		5
CSIT301		5
PROJ100		5

Total: 15

QTR 2

Course No Cd

GEN ED		5
CSIA410		5
CSIT306		5

Total: 15

QTR 3

Course No Cd

CSIT311		5
CSIT316		5
CSIT401		5

Total: 15

QTR 4

Course No Cd

BUS&101		5
GEN ED		5
GEN ED		5

Total: 15

QTR 5

Course No Cd

CSIT411		5
GEN ED		5
GEN ED		5

Total: 15

QTR 6

Course No Cd

CSIT416		5
GEN ED		5
GEN ED		5

Total: 15

QTR 7

Course No Cd

CSIT421		5
GEN ED		5
GEN ED		5

Total: 15

QTR

Course No Cd


Total:

QTR

Course No Cd


Total:

Degree or Certificate: BAS IT

**QTR 1**

Course      No      Cd

CSIA310		5
CSIT301		5

Total: 15

**QTR 2**

Course      No      Cd

CSIA410		5
CSIT306		5

Total: 15

**QTR 3**

Course      No      Cd

CSIT311		5
CSIT401		5

Total: 15

**QTR 4**

Course      No      Cd

BUS&101		5
GEN ED		5

Total: 15

**QTR 5**

Course      No      Cd

CSIT411		5
GEN ED		5

Total: 15

**QTR 6**

Course      No      Cd

CSIT316		5
CSIT416		5

Total: 15

**QTR 7**

Course      No      Cd

CSIT421		5
GENED		5

Total: 15

**QTR 8**

Course      No      Cd

PROJ100		5
GEN ED		5

Total:

**QTR 9**

Course      No      Cd

GENED		5
GEN ED		5

Total:

**QTR 10**

Course      No      Cd

GENED		5
GEN ED		5

Total: 15

**QTR**

Course      No      Cd


Total:

**QTR**

Course      No      Cd


Total:

## Appendix III Proposed BASIT Curriculum

### BAS IT Upper Division Course Descriptions

#### **COURSE TITLE**

CSIT 301 Information Systems

#### **CATALOG DESCRIPTION**

The course is designed to help students understand importance and elements of today's information technology (IT) systems. Topics include actual and contemporary examples to clearly illustrate how they can be applied to improve and strengthen IT organizations, IT security, and hands-on scenarios for class projects. Prerequisites: ENGL&101 or above, CS 206 and CS 250. All CS prerequisites must be passed with a 2.5 or better.

#### **PREREQUISITES**

ENGL&101 or above, CS 206 and CS 250. All CS prerequisites must be passed with a 2.5 or better.

#### **CREDITS AND HOURS**

5 credits, 55 hours

---

#### **COURSE TITLE**

CSIT 306 Big Data and Analysis

#### **CATALOG DESCRIPTION**

The course provides a comprehensive view on computing architectures in data analytics and data mining. Topics covered include: big data characteristics & algorithms, analyzing tools, data mining techniques, massive databases processing, implementation of machine learning algorithms, and analytics environments. Students learn to conceptualize an analytic environment that is suited to the challenges of today's analytics demands. Prerequisites: CS 206, CS221, and (CS236 or CS260). All CS prerequisites must be passed with a 2.5 or better.

#### **CREDITS AND HOURS**

5 credits, 55 hours

---

#### **COURSE TITLE**

CSIA 310 E-Commerce Security

#### **CATALOG DESCRIPTION**

This course provides students with tools and resources they need to develop a thorough understanding of four major aspects of security: policies and procedures, technology orientation, computer and network security, and managing organizations

securely. Prerequisites: MATH& 141 or better and CS 150 and 206 with a 2.5 or better and CS 232 with a 2.0 or better. .

**PREREQUISITES**

MATH& 141 or better and CS 150 and 206 with a 2.5 or better and CS 232 with a 2.0 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIA 410 Cryptology

**CATALOG DESCRIPTION**

This course provides students with an operational understanding of basic cryptographic systems. Students learn about symmetric cryptography, block ciphers and secure hash functions, asymmetric cryptography, key exchange and public-key systems, and authentication and encryption in an adversarial model.

**PREREQUISITES**

MATH& 141 or better, CS 102 or CS& 131 or CS& 141, and CS 228. All CS courses must be passed with a 2.5 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIT 311 Python for Data Processing

**CATALOG DESCRIPTION**

This course is designed for students who have object oriented programming background. Students learn to use built-in data structures in Python computer language to perform complex data analysis. Students also learn to work with HTML, XML, and JSON data in Python to do basic data visualization. Prerequisites: CS 250 and (CS236 or CS260). All CS prerequisites must be passed with a 2.5 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CS 316 - Cloud Computing HTML5 and PHP

**CATALOG DESCRIPTION**

This course in database driven websites will give students an understanding of HTML5 with PHP (Hypertext Preprocessor). Students will acquire web development techniques that use

---

databases to create content with HTML form objects, database connections, and server side programming. Use of HTML5, MySQL and PHP5 for programming will turn simple static websites into dynamic, database-driven web applications. Course projects will involve developing, debugging, PHP and SQL. Prerequisites: CS206, CS250 and CSIA 310. All CS prerequisites must be passed with a 2.5 or better.

**PREREQUISITES**

CS 206, CS 250 and CSIA 310. All prerequisites must be passed with a 2.5 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIT 401 Information Systems Analysis and Design

**CATALOG DESCRIPTION**

This course covers web development, service-oriented architecture, traditional, UML, and object-oriented approaches to information technology systems analysis and design. Real world case projects and technologies will be provided throughout the course for hands-on exercises. Students apply the concepts learned to develop a conceptual, technical, and managerial foundation for systems analysis design and implementation as well as project management principles for systems development. Prerequisites: PROJ 100 and CSIT 306. CSIT 306 and PROJ 100 classes have to be passed with a 2.0 or better.

**PREREQUISITES**

PROJ 100 and CSIT 306. CSIT 306 and PROJ 100 classes have to be passed with a 2.0 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIT 411 Agile Methodology & ePortfolio Planning

**CATALOG DESCRIPTION**

This course represents the integration of previous course work and practical experience with a focus on authentic demonstration of competencies outlined by the program. This course also covers Agile Methodology practices for team work using Scrum techniques. Students will use an open source ePortfolio to collect information on performance-based artifacts combined with metacognitive reflection and a professional statement of purpose that reflects their ability to make globally, socially, and ethically responsible information technology and systems decisions that are aligned with the legal and organizational policy requirements. Students will also reflect on a previous project and describe in writing how Scrum techniques could have been used to

make their project more successful. Prerequisites: BUS& 101, PROJ 100, and CSIT 401. All prerequisites must be passed with a 2.0 or better.

**PREREQUISITES**

BUS& 101, PROJ 100, and CSIT 401. All prerequisites must be passed with a 2.0 or better.

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIT 416 Data Visualization

**CATALOG DESCRIPTION**

This course introduces a data analytics tool used to prepare and analyze data for effective visualizations. Students learn theory and concepts of data analytics and how to display and share data in a meaningful way. Students also learn the principles of preparing, analyzing, and processing data to create desired data visualizations. Prerequisites: CSIT 306 with a 2.0 or better.

**PREREQUISITES**

CSIT 306 with a 2.0 or better

**CREDITS AND HOURS**

5 credits, 55 hours

---

**COURSE TITLE**

CSIT 421 IT Capstone

**CATALOG DESCRIPTION**

This course integrates all IT knowledge and skills learned in previous courses into a project. Emphasis is placed on secure information system design, process planning, procedure definition, business continuity, and systems security architecture. Students will design and implement a comprehensive information system from the planning and design phase through execution. Prerequisites: CSIT 411 or concurrent enrollment.

**PREREQUISITES**

CSIT 411 or concurrent enrollment.

**CREDITS AND HOURS**

5 credits, 55 hours

---



## Appendix IV External Reviews

### *Instructions for External Expert Reviewers:*

1. External Expert Reviews provide critical feedback to colleges so that they may address potential concerns, issues or criticisms prior to final submission of a program proposal to the State Board of Community and Technical Colleges.
2. Reviewers should be independent, third-party persons or teams with subject/discipline expertise.
3. The goal of a review is to assess the credibility, design, relevance, rigor, and effectiveness of the proposed BAS program.
4. Reviewers should also validate the congruency and consistency of the program's curriculum with current research, academic thinking and industry standards.
5. This form is designed to assist External Expert Reviewers to complete assessments of baccalaureate degree program proposals. External Expert Reviewers are not restricted to the use of this rubric template. Reviewers may choose, instead, to provide a college with a written narrative. In whatever format they choose, reviewers should address the criteria outline in the rubric.

<b>College Name:</b>	Columbia Basin College	<b>BAS Degree Title:</b>	Applied Science Degree in Information Technology
<b>Reviewer Name/ Team Name:</b>	Dan Li	<b>Institutional or Professional Affiliation:</b>	Eastern Washington University
<b>Professional License or Qualification, if any:</b>		<b>Relationship to Program, if any:</b>	
<b>Please evaluate the following Specific Elements</b>			
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? Will the program lead to job placement?		
	<b>Yes, the proposed degree program is designed to meet current and future employment needs. In</b>		

	<b>particular, it will lead to job placement within college’s service district of Benton and Franklin Counties. The program is relevant and appropriate to the academic standards.</b>
b) Degree Learning Outcomes	Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?
	<b>Yes, the learning outcomes outlined in the proposal demonstrate appropriate Bachelor of Applied Science degree rigor.</b>
c) Curriculum Alignment	Does the curriculum align with the program’s Statement of Needs Document?
	<b>Yes, the curriculum aligns well with the program’s Statement of Needs Document.</b>
d) 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?
	<b>It is unclear which courses are core courses and which are electives, but overall, the courses in the curriculum are in line with employer needs and demands. The upper level courses are relevant to industry, and demonstrate standard academic rigor for baccalaureate degrees.</b>
e) General Education Requirements	Are the general education requirements suitable for a baccalaureate level program? Do the general education courses meet breadth and depth requirements?
	<b>Yes, the general education requirements are suitable for a baccalaureate level program, and they meet breadth and depth requirements.</b>
f) Preparation for Graduate Program Acceptance	Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?
	<b>Yes, the degree concept, learning outcomes and curriculum will prepare graduates to pursue a master’s degree in Information Technology.</b>
g) Faculty	Do program faculty members appear qualified to teach and continuously improve the curriculum?
	<b>The faculty appears to be adequate and qualified to teach the curriculum. The evaluator has two</b>

	<p><b>suggestions:</b></p> <p><b>(3) Add years of teaching and/or professional experience to the faculty list to further demonstrate their qualifications.</b></p> <p><b>(4) Address faculty development plan in “Qualified Faculty” section to ensure continuous development and improvement to the curriculum.</b></p>
h) Resources	<p>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?</p> <p><b>Yes, the college seems to be committed to developing and maintaining the proposed degree program. The college demonstrates adequate resources to sustain and advance the program.</b></p>
i) Membership and Advisory Committee	<p>Has the program received approval from an Advisory Committee? Has the program responded appropriately to its Advisory Committee’s recommendations?</p> <p><b>Yes, the degree program is proposed based on the recommendations of the current Information Technology Program Advisory Board and input from other local businesses.</b></p>
j) Overall assessment and recommendations	<p>Please summarize your overall assessment of the program.</p> <p><b>Overall, the evaluator does not know of any weaknesses of the proposed BAS in Information Technology degree program.</b></p> <p><b>The main recommendation is to make connections between the proposed curriculum (in Table 3) and the degree learning outcomes (on Page 9).</b></p>
<p><b>Reviewer Bio</b></p> <p>Dr. Dan LI received her Ph.D. in Computer Science from University of Nebraska – Lincoln in 2005. She is currently an Associate Professor in Computer Science Department at Eastern Washington University. Her current research interests include large-scale databases, spatio-temporal data mining, information security, and computer science education.</p>	

# Applied Baccalaureate External Review Rubric

## Instructions for External Expert Reviewers:

6. External Expert Reviews provide critical feedback to colleges so that they may address potential concerns, issues or criticisms prior to final submission of a program proposal to the State Board of Community and Technical Colleges.
7. Reviewers should be independent, third-party persons or teams with subject/discipline expertise.
8. The goal of a review is to assess the credibility, design, relevance, rigor, and effectiveness of the proposed BAS program.
9. Reviewers should also validate the congruency and consistency of the program’s curriculum with current research, academic thinking and industry standards.
10. This form is designed to assist External Expert Reviewers to complete assessments of baccalaureate degree program proposals. External Expert Reviewers are not restricted to the use of this rubric template. Reviewers may choose, instead, to provide a college with a written narrative. In whatever format they choose, reviewers should address the criteria outline in the rubric.

<b>College Name:</b>	Columbia Basin College	<b>BAS Degree Title:</b>	Applied Baccalaureate Information Technology Degree Program
<b>Reviewer Name/ Team Name:</b>	Bob Lupton	<b>Institutional or Professional Affiliation:</b>	CWU
<b>Professional License or Qualification, if any:</b>	None	<b>Relationship to Program, if any:</b>	None
<b>Please evaluate the following Specific Elements</b>			
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? Will the program lead to job placement?		

## Applied Baccalaureate External Review Rubric

	<p><b>Comment</b></p> <p>The Columbia Basin College proposed BAS IT appears to meet the IT demands of the local industry and WA State. The proposal presents documentation, data, and commentary on the needs of the local and regional industry for IT prepared graduates with a 4 year degree. The survey of current students and local business leaders confirm a gap in supply and demand – an opportunity for CBC.</p> <p>Based on the proposal, industry and state research, and feedback from current students and business leaders, I do believe the BAS IT program is robust with current and relevant high demand IT type skills. It would be the dream team of IT professionals – capable of meeting many different IT job areas/skill sets for an employer. The graduate from this program will indeed be able to bring diverse IT skills to the job especially smaller businesses that rely on employees who practice many different areas under the IT umbrella.</p> <p>While this appears to help with entry level job placement, the BAS IT may be limited in preparing students for job advancement in the long run in the areas of management, supervision, and leadership.</p> <p>As stated in the proposal, “Information Science and Technology graduates, who have completed one of six computer science AAS degrees, will be eligible to begin the BASIT degree.” And, for example, “When surveyed, many past CBC computer science students responded they were interested in the BASIT program because they would like to advance into management positions.”</p> <p>I also feel the BAS IT proposal does a good job identifying the needs to prepare place bound students of diversity for education leading to a four year degree as well as an entry level job in the region. “Rural, first generation, non-traditional and second-career students who typically stay and work in the community attend CBC.”</p>
b) Degree Learning Outcomes	<p>Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?</p> <p><b>Comment</b></p>

## Applied Baccalaureate External Review Rubric

	<p>The CBC proposed BAS IT student outcomes capture the key IT related areas building on the strength of the existing two year AAS programs. Four of the five program outcomes (listed below) are IT driven goals covering curriculum in big data/analytics, data processing, basic web coding, systems analysis and design, data visualization, and security.</p> <ul style="list-style-type: none"> <li>• Protect an organization's critical information systems and assets by ethically integrating best practices in security, risk management and business continuity throughout an enterprise.</li> <li>• Design, develop and implement database solutions.</li> <li>• Understand data retrieval, communication and security issues dealing with data assurance.</li> <li>• Recognize problems and manipulate data using programming techniques, software tools and technologies to solve problems.</li> <li>• Formulate, update, and communicate short- and long-term organizational strategies and policies.</li> </ul> <p>While these outcomes appear to help with entry level job placement meeting local and regional industry IT needs, the BAS IT may be missing coursework/curriculum that will prepare students for job advancement in the long run in management, supervision, and leadership. The intent of the fifth outcome appears to capture the need but I don't clearly see the classes/curriculum addressing this goal.</p>
<p>c) Curriculum Alignment</p>	<p>Does the curriculum align with the program's Statement of Needs Document?</p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT meets the high demand areas as listed in the U.S. Bureau of Labor Statistics, "...eight out of the ten occupations listed in the category of Computer and Information Technology need a bachelor's degree to enter the occupation." It is recognized that one challenge we all have is finding government data on IT since the focus is on specific elements/content areas within including the use of Computer Science as a surrogate for IT. This is evident in table 2 and accompanying comments, "Table 2: High Employer Demand Fields at Baccalaureate Level and Above."</p>

## Applied Baccalaureate External Review Rubric

Indeed, the school and program serve the local region well. The proposal also addressed the demand in WA State as it meets the mission of the SBCTC.

The CBC Mission and Student Learning Outcomes (SLOs) provide the foundation for areas of 1) Think Critically, 2) Reason Quantitatively and Symbolically, 3) Communicate Effectively, 4) Apply Information Tools and Resources, 5) Develop Cultural Awareness, and 6) Master Program Learning Outcomes. The proposal also included this statement "...A description of Information Technology Managers from Monster.com lists the following skills first on the list: Accomplishes information technology staff results by communicating job expectations; planning and monitoring, and appraising job results; coaching, counseling, and disciplining employees; initiating, coordinating, and enforcing systems, policies, and procedures." It would be good to review how the BAS IT will meet those job skills above with the SLOs at the junior and senior level. These skills and knowledge are inherent in management, supervision, and leadership.

Criteria 3 in the needs statement, "Employer/community demand for graduates with baccalaureate level of education proposed in the program" has the opportunity for the BAS IT degree to add more value to the local industry. The BAS IT does a good job covering eight out of the ten occupations listed in the category of Computer and Information Technology, U.S. Bureau of Labor Statistics. Economic Modeling Specialists Inc. drill down even deeper for the regional IT demands. It may be limited on preparing students for long term advancement especially if demand in the region for IT graduates drops in the future. Will the CBC BAS IT degree prepare students for mobility in job advancement and jobs outside the region especially in geographic areas where there is more competition for IT related job openings and more competition from graduates with IT skill sets? This is addressed in section d) Academic Relevance and Rigor, and the solutions to this would support the CBC mission/goals as well as industry and student needs.

When reviewing the foundation courses – AAS degree foundation – "Criteria 4: Applied baccalaureate program builds from existing professional and technical degree program offered by the institution," indeed does continue to build on the IT skills taught during the AAS. Missing in the third and especially the fourth year may be courses/curriculum that will add value to students beyond the entry level job. Indeed, "The BASIT degree will build on the AAS degree foundation. Employers in the area want a well-rounded employee who can be hired to work in entry level positions of several different areas and then

## Applied Baccalaureate External Review Rubric

	<p>as their career grows he/she can focus on a specialty.”</p> <p>The BAS IT proposal does a great job detailing research on student demand for programs within the region (Criteria 5) but recognizing one of the top reasons cited was “Career Advancement” at 80%. How is career advancement defined? And what managerial skills (soft skills) are needed for career advancement?</p> <p>The BAS IT appears to be addressing the place-bound student. “Criteria 6: Efforts to maximize state resources to serve place-bound students.” Will the program be sustainable with just a part time cohort?</p>
<p>d) Academic Relevance and Rigor</p>	<p>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?</p> <p><b>Comment</b></p> <p>The CBC proposed BAS IT courses offer the current high demand areas in IT and indeed is robust with a mix of applied IT related skills and knowledge. The limitation of the program maybe the lack of management related/supported courses especially those that include the important soft skills demanded by industry (e.g. communication skills, interpersonal skills, leadership and supervision skills, analytical skills, statistics and research design, cross-cultural understanding, and a general business acumen). Outside of two level 100 classes in the BAS IT program (BUS 101 Introduction to Business 5 and PROJ 101 Introduction to Project Management 5), the degree may be missing an opportunity for students and employers to see the value of the four year degree in career advancement locally and outside the region. Something to review/consider. The upper division classes CSIT 401 Information Systems Analysis and Design, CSIT 411 Agile Methodology &amp; ePortfolio Planning, and CSIT 401 Information Systems Analysis and Design imply some managerial context, but is that enough education for advancement in an organization beyond the entry level position.</p> <p>For example, the goal of the BAS IT is to “...provide the knowledge necessary for students to access multiple types of entry-level IT jobs in Benton and Franklin Counties” and “...provide a pathway for</p>



## Applied Baccalaureate External Review Rubric

	<p>students to be prepared to complete junior and senior level coursework in the field of Information Technology.” In addition, “Students who graduate from the Computer Science program are consistently hired by local companies. However, to advance in their careers they need to obtain a bachelor’s degree.”</p> <p>The fifth program outcome “Formulate, update, and communicate short- and long-term organizational strategies and policies” implies advance managerial and leadership skills. One could argue that we have this newly minted CBC BAS IT graduate with defined, specific IT skills - current and relevant for today’s industry – but limited in the major soft skills to grow/advance into a leadership position in management. As stated in the proposal, “When surveyed, many past CBC computer science students responded they were interested in the BAS IT program because they would like to advance into management positions.”</p> <p>The statement of need also highlight industries where career advancement in management with a four year degree would be important. “Business leaders see job growth ahead in the categories of tourism, health care, retail, manufacturing and agriculture.” And a survey of local employers echo these soft skills such as “...various factors such as richness of knowledge, critical thinking skills, writing/communication skills, proven expertise are the most common reasons,” “They tend to perform better in unscripted situations,” “Depth of problem solving and analysis skills tend to be more mature,” and “Employee's with Bachelors degrees have a better grasp and understanding of an enterprise environment.”</p> <p>The BAS IT does include 15 credits of communication courses but only one, ENGL410, is an advance level writing class.</p> <p>The upper division classes appear to have academic rigor from an IT perspective. I would recommend replacing/adding several classes in management, supervision, and leadership and/or expanding the current proposed classes with those soft skills. The program name BAS IT is still a strong brand and connotes “value” with the diverse IT related skills (hard skills).</p>
e) General	Are the general educations requirements suitable for a baccalaureate level program? Do the general

## Applied Baccalaureate External Review Rubric

<p>Education Requirements</p>	<p>education courses meet breadth and depth requirements?</p> <hr/> <p><b>Comment</b></p> <p>The CBC proposed BAS IT meets the 60 credit general education curriculum. There is depth and breadth including one advance writing class.</p>
<p>f) Preparation for Graduate Program Acceptance</p>	<p>Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?</p> <hr/> <p><b>Comment</b></p> <p>The CBC proposed BAS IT as is would not fully prepare a student for success in a traditional graduate program. The most logical pathway would be an applied master's degree to complement or build upon the AAS/BAS IT tech skill focus. There are several options.</p> <p>One way to better add value to the students of the BAS IT would be to enhance the BAS IT upper division coursework/curriculum with projects that prepare for the intellectual demands of graduate studies such as applied research and writing, critical analysis especially business case studies, strategic planning and policy to mention a few. More relevant with a four year BAS IT program is one that does more than just IT hard skills but infuses those soft skills within every course.</p> <p>Another option is develop pathways to applied graduate programs that enhance the tech skills (hard skills) with graduate course work heavy in IT management.</p> <p>Information Note:</p> <p>For Standard 7 Pathway Options Beyond Baccalaureate Degree, the Central Washington University MS-ITAM (Information Technology and Administrative Management) offers three IT management specializations and fully accepts students with completed BAS degrees.</p> <p><a href="http://www.cwu.edu/it-management/ms">www.cwu.edu/it-management/ms</a></p>

## Applied Baccalaureate External Review Rubric

g) Faculty	Do program faculty members appear qualified to teach and continuously improve the curriculum?
	<p><b>Comment</b></p> <p>The CBC proposed BAS IT appears to have faculty with the necessary degree credentials in IT, Computer Science and Information Assurance and Security. Without their CVs, assessing their current skills and expertise is not possible. Based on the faculty qualification table, there appears to be no one with the credentials to teach CSIA 310 E-Commerce Security 5 and CSIA 410 Cryptology 5. Two of the four faculty have terminal degrees.</p>
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?
	<p><b>Comment</b></p> <p>The CBC leadership has invested in the required infrastructure and partnerships with industry and education to create synergy. The school has in place student support through online library services, internet access and tech support, and student eTutoring, eChat, eWriting, eQuestion systems. The BAS IT program will be housed in the Lockheed Martin Department of Information Science and Technology instructional facilities that includes computer lab support.</p>
i) Membership and Advisory Committee	Has the program received approval from an Advisory Committee? Has the program responded appropriately to it Advisory Committee's recommendations?
	<p><b>Comment</b></p> <p>The CBC proposed BAS IT curriculum was developed with the assistance of the BAS IT Advisory Committee. There is evidence that the community supports the program. The BAS IT Advisory Committee is represented by local and regional organizations.</p>

## Applied Baccalaureate External Review Rubric

<p>j) Overall assessment and recommendations</p>	<p>Please summarize your overall assessment of the program.</p> <p><b>Comment</b></p> <p>It is obvious that the leaders at Columbia Basin College have researched and discussed the needs of a BAS IT to meet the IT demands in the region. The BAS IT related curriculum is robust, relevant and current. The proposed BAS IT was vetted by the advisory board, industry leaders, and current students. Regardless if the management, supervision or leadership areas are enhanced, this is an exciting program.</p> <p>The four year degree is a commitment to prepare students for short and long term success. While the allure of entry level jobs heavy in IT today or in the future is evident, the BAS IT graduates will someday be called upon to lead and supervise. How will this degree meet that goal? Moreover, software and hardware products/specs change often so the value of the BAS IT would be transferable skills and the soft skills would ensure that these graduates have options such as management.</p> <p>To add value to the BAS IT, I recommend:</p> <ol style="list-style-type: none"> <li>1) Adding several upper level management type classes and/or rework the proposed upper division classes to have some management related focus.</li> <li>2) Perhaps include project based assignments in as many upper level courses as possible to replicate the role of a manager or supervisor in industry.</li> <li>3) Adding some advance academic curriculum to upper division classes to help prepare the students for a pathway to graduate school. This sells value and a commitment to the student by CBC for their success in the future. Industry may also see the value.</li> <li>4) When hiring an IT employee, what level of degree do employers really want? While some respondents indicated a bachelor's degrees, program sustainability requires a commitment from the area business leaders to build capacity for IT graduates. This may be part of the marketing message</li> </ol>

## Applied Baccalaureate External Review Rubric

	and outreach programs from CBC – to educate regional and local business leaders on the value of advancement for employees within the company, and thus, the value of the CBC four year BAS IT degree.
<b>Reviewer Bio</b>  Robert Lupton is a professor of Retail Management and Technology in the Information Technology and Administrative Management Department at Central Washington University. Since 2008, he has also been the department chair. ITAM offers high demand IT programs online and on campus using multi-modal deliveries.	