Bachelors of Applied Science in
INFORMATION TECHNOLOGY APPLICATION DEVELOPMENT

EDMONDS COMMUNITY COLLEGE
www.edcc.edu

Program Proposal
February 2019

TABLE OF CONTENTS

COVER SHEET
NEW DEGREE PROGRAM PROPOSAL

Program Information

Institution Name: Edmonds Community College
Degree: IT Application Development BAS CIP Code: 11.0201
Name(s) of the existing technical associate degree(s) that will serve as the foundation for this program:
Degree: Computer Information Systems (CIS) ATA
CIP Code: 11.0301 Year Began: 1987
Degree: CIS Web Application and Cloud Developer ATA
CIP Code: 11.0501 Year Began: 2001
Planned Implementation Date (i.e. Fall 2014): Fall 2020

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

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Charlie Crawford

2.19.19

Chief Academic Officer Date

Introduction

Edmonds Community College (Edmonds CC) is very proud to bring forward this proposal for a new Bachelor of Applied Science in IT Application Development (AD BAS). Inspired by the new AppConnect Northwest NSF grant consortium (described in appendix 8 and below), the explosive growth of the Washington State computer technology sector, and our success with our current BAS program established 2017, Edmonds CC presents this integrated and needed degree pathway into rewarding technology careers. The program start date is slated for Fall of 2019, with flexibility to push it out to Spring of 2020 if approval timelines require the delay.

The labor market need for this degree was described in the Statement of Need, as was how this degree fits with and into the mission of the college. The purpose of this Program Proposal is to demonstrate Edmonds CC's commitment and readiness to offer this baccalaureate pathway. Fortunately, Edmonds CC has experience establishing and implementing a baccalaureate pathway through our BAS degree program in Child, Youth, and Family Studies and in January of this year was fully accredited as a baccalaureate-granting institution. We will leverage the work of our colleagues and their lessons learned to adopt best practices to successfully launch and implement this new BAS program.

The college faculty members involved in developing this proposed degree have taken many steps to ensure that they received appropriate feedback on the program curriculum. In creating the first draft, the faculty used the existing Application Development degrees at other community colleges to see what was common among them, as there is a requirement for common curriculum outcomes among the AppConnect NW consortium. AppConnect NW is an NSF-funded project (NSF DUE #1700629) led by Lake Washington Institute of Technology, where a consortium of community and technical colleges are working in collaboration with the Washington Technology Institute Association (WTIA) and more than a dozen industry partners to address the need for a pipeline of talented developers in the Greater Puget Sound region. Under this project, community colleges with software/application development BAS degrees are coming together to build industry relationships and, with industry input, define a common base curriculum. While not a named member of the grant, Edmonds CC faculty have been participating in the faculty group, with the intent to be part of the consortium as it moves forward beyond the grant life. The benefits of this will be for Edmonds graduates to have access to a larger group of industry employers and for the IT employers to have just one place to go to access all the graduates with this type of degree.

With this in mind, the courses were identified using a crosswalk of courses in the currently-existing Application Development degrees. Next, the curriculum was reviewed by the Computer Information Services (CIS) Advisory Committee, and generated a lively discussion and enthusiastic support. The CIS Advisory Committee members voted to approve the degree. The degree was also sent to the industry members who originally gave input to the Statement of Need for their comment and input. Finally, the degree was

vetted by the faculty of the other institutions for this application. The membership roster for the advisory committee and the minutes from that meeting are included in the appendices.

Standard 1: Curriculum Demonstrates Baccalaureate Level Rigor

Edmonds CC has a set of General Education Learning Outcomes that are common to all degrees and certificates of more than 45 credits, so graduates of the AAS-T degree programs will have met these outcomes prior to being admitted to the BAS program. The college offers multiple opportunities to integrate knowledge and skills throughout its degrees and certificates. Specifically, the college emphasizes this integration through its General Education Learning Outcomes:

- Communication Skills: Communicate and interact effectively through a variety of methods appropriate to audience, context, purpose, and field/discipline.
- Human Relations and Professional Development Skills: Act responsibly in applying professional and academic standards associated with personal wellness; sustainable management of resources; and/or with success in educational, workplace, community, and group settings.
- Quantitative Analysis/Symbolic Reasoning Skills: Reason clearly using academic or professional modes of inquiry; using quantitative or symbolic reasoning; and/or using other discipline/field specific methods to explore and create ideas; identifying information needs; process, evaluate, and use information; and recognize, analyze, and solve problems.
- Cultural Diversity Skills: Explore and apply multiple perspectives in order to examine cultural differences and influences; maintain effective professional/working relationships; and/or interact effectively in multicultural settings.

Key skills and general education learning outcomes will be reinforced by the BAS degree through additional general education coursework and in the curriculum of the BAS described later in this section.

The Program/Degree Outcomes

Prior to entering the program, students will demonstrate core abilities desired for an application developer directly through employment in the IT industry or indirectly through a variety of alternative careers and/or educational experiences that embrace the following skills listed and described below. Students from this diverse range of backgrounds will exhibit a common set of foundational abilities including;

- Analytical and Problem Solving Skills: Application developers must be able to recognize the needs of customers and analyze and assess relevant information to create applications that answer those needs. They must also be able to think critically and make decisions that move the project forward.

- Communication: Application developers must be able to clearly communicate their ideas to coders, teammates, management, and/or customers.
- Creativity: Application developers must think creatively to help invent new ways of approaching problems and developing innovative applications.
- Customer-Service: If dealing directly with clients and customers, application developers need good customer service skills to answer questions and fix issues.
- Attention to Detail: Application developers must understand that applications have many parts and all must work together for the application to function.
- Teamwork: As part of a large team of developers, coders and more, application developers need to work well with others.
- Technical Skills: Application developers must be adept in computer languages and have good technical knowhow.

These foundational abilities can be demonstrated through a successfully completed degree and relevant coursework at the 100 and 200 level at any community or technical college with a Computer Information Systems program. The rest of the BAS outcomes build upon this foundational knowledge.

BAS Outcomes - Students successfully completing the AD BAS will be able to:

- Demonstrate an understanding of the software lifecycle, applying best practices to efficiently deliver and maintain a software product within an agile software environment.
- Identify, evaluate, and create appropriate software, using pertinent algorithms and data structures for the needs of a given enterprise system environment.
- Demonstrate the application of requirements engineering through the evaluation of hardware and software systems, documenting and maintaining specifications in the design process, satisfying the needs of the stakeholders.
- Utilize data analytics to solve complex problems with software development.
- Combine a foundation of software developer knowledge with soft skills and teamwork to excel as an application developer in the field of information technology.
- Utilize effective communication to present complex technical concepts to technical and non-technical audiences.

The AD BAS curriculum will additionally incorporate effective research strategies, appropriate research search tools and techniques, and emphasize important legal and ethical issues relating to information use to help ensure graduates have the research and information literacy skills they need to be successful in the workforce. Graduates from a software/application development BAS program are prepared for roles as software engineers, software developers, software developer engineers in test (SDETs), database administrators, full stack web developers, mobile application developers, technical

program managers, quality assurance analysts, and related technical positions.

Appropriate Rigor

As a basis for establishing and demonstrating baccalaureate level rigor, the AD BAS degree applied the Rigor/Relevance Framework model developed by the International Center for Leadership in Education (ICLE).[1] Figure 1 below illustrates the relationship between complexity of thinking and flexibility of application. The six levels on the X-axis look at increasingly deep application of knowledge through action using Bill Daggett's Application Model.[2] On the Y-axis, Bloom's Taxonomy shows increasingly deep assimilation of knowledge.

Figure 1: Rigor/Relevance Framework

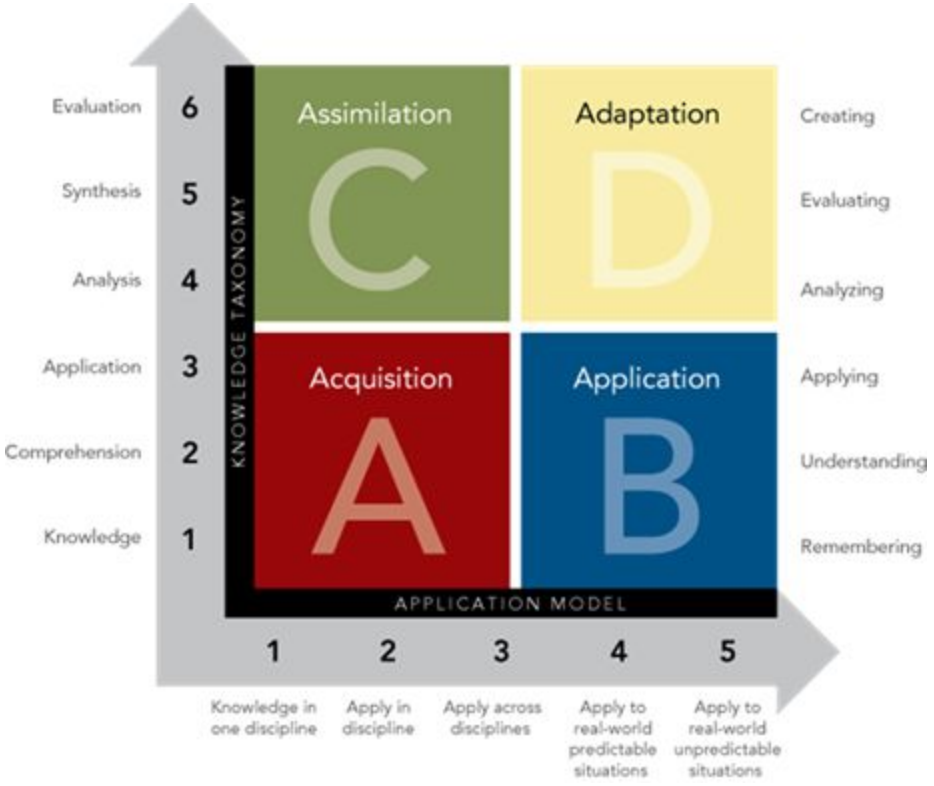


Table 1: Framework Quadrants Defined

A - Acquisition	Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this knowledge.
B - Application	Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply knowledge to new

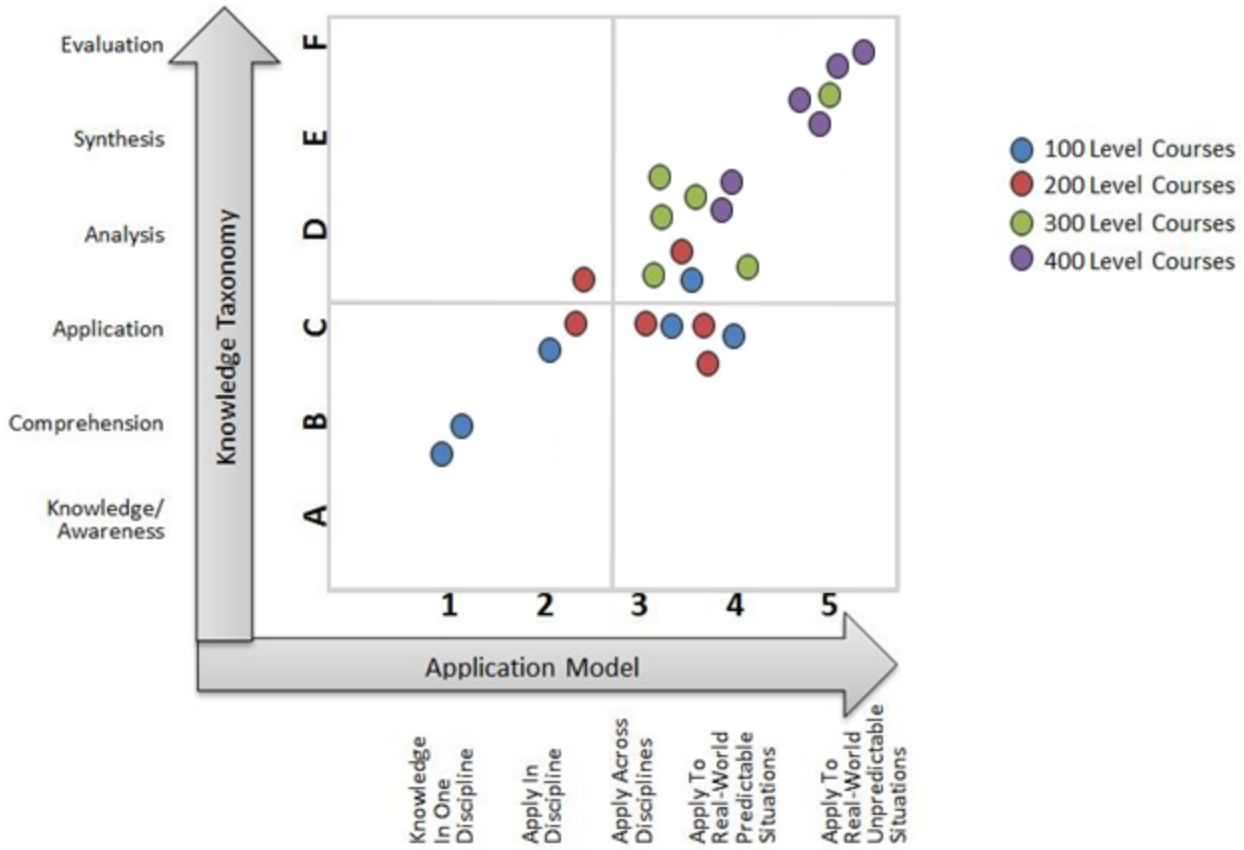
[1] International Center for Leadership in Education (2014) http://www.leadered.com/our-philosophy/rigor-relevance-framework.php

[2] Daggett, B., If Not Common Core, Then What?: Rigor and Relevance: The Foundation of Effective Instruction. International Center for Leadership in Education. (2014).

	and unpredictable situations.
C - Assimilation	Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create solutions.
D - Adaptation	Students have the competence to think in complex ways.

Edmonds CC borrowed the Rigor/Relevance Framework adaptation created by Pierce College to demonstrate that the upper division courses are appropriately rigorous to be numbered in the 300-400 range (Figure 2). On this framework, the faculty mapped the outcomes of the upper division classes, as well as outcomes from a sampling of the lower division classes, to ensure that students would be tasked in 300 and 400 level classes with developing skills that fall in quadrants C and D, the more advanced quadrants which require more complex thought and decision making. The charting below indicates that this is the case.

Figure 2: Map of the Upper Division Class Outcomes on the Rigor/Relevance Framework (with a sampling of lower division courses)



Program Evaluation Criteria and Process

For the first few years this degree and the entire pathway will be scrutinized heavily as the program is built, tried, and adjusted to achieve the best outcomes for students. The faculty will gather input from other faculty in the program and who are teaching the students in general education courses, ask for feedback from the advisory committee and from industry members (once there are graduates), and ask the feedback of the students in the first few cohorts. The faculty will also be connected to the App Connect NW project and faculty from the other consortium colleges teaching application development courses. After that, Edmonds CC has a Program Review process that requires each program area be looked at on a three-year cycle. An advisory committee will be set up for the program, and will meet frequently during the first three years of the program. Many members of the CIS Advisory Committees have given input to this degree and may wish to serve on the new BAS advisory committee.

Edmonds CC has a detailed assessment process for assessing programs and program level outcomes that can be reviewed on the college's Assessment webpage at http://www.edcc.edu/assessment/. The table below shows the enhancements that will be made to the program review process for the BAS Degree:

Table 2: Program review process for BAS

	Standard Edmonds CC Program Review Process	**Enhanced Review Process for AD BAS Program**
Course Review	● One-third of courses reviewed annually ● Updates to course learning objectives and assessment procedures ● Involves faculty, division dean, and curriculum committee (if major changes needed)	● Annually for first three years of program ● Updates to course learning objectives and assessment procedures ● Will involve faculty, BAS Manager, division dean, and curriculum committee
Program Review	● Every three years ● Includes analysis of enrollment trends, industry standards, program learning outcomes, completion rates, and resource allocation ● Involves faculty, division dean, curriculum committee, and Executive Vice President for Instruction	● Annually for first three years of program ● Focus groups of current students will be held annually ● Surveys of current students, graduates, and employers will be conducted annually ● Will include analysis of enrollment trends, library and student services support, industry standards, program learning outcomes, completion rates, employment data, and resource allocation

		● Will involve faculty, BAS Manager, division dean, student services, library representative, curriculum committee, and Executive Vice President for Instruction
Involvement of Advisory Board	Meets twice a year for input and approval	Will meet at least quarterly (or more frequently if needed) for first three years of program for input, detailed review, refinement of courses and degree, and approval

(Note: see Appendix 5 for further details on the Edmonds CC program review process)

Application Development BAS Degree

The AD BAS degree is composed of three general areas, the 60 credits of general education (Gen Ed), 60 credits of upper division courses, and 60 credits of other technical coursework that students will have completed in their two year degree. Over the course of the four years of the baccalaureate pathway, students complete all of the General Education (Gen Ed) requirements for BAS degrees. All of the feeder AAS-T degrees at Edmonds CC include five of these general education classes. Each of these areas is outlined below.

Table 3: BAS IT Application Development Degree Requirements

Computer Information Systems (CIS)			**Web Application & Cloud Developer (WACD)**		
60 Credits Tech Classes			**60 Credits Tech Classes**		
CIS 100	CIS Foundations	5cr	CIS 100	CIS Foundations	5cr
CIS 102	Intermediate Business Computing	5cr	CIS 241	Web Development I	5cr
CIS 220	Enterprise Architecture	5cr	CIS 242	Web Development II: JavaScript and JQuery	5cr
CIS 233	Systems Analysis	5cr	CIS 243	Web Development III: Intro to PHP	5cr
CIS 234	Systems Design and Development	5cr	CIS 244	Web Development IV: Intro to Joomla! and SEO	5cr
CIS 250	Database Theory and Design	5cr	CIS 245	Web Development V: Intro to CSS	5cr
CIS 251	Structured Query Language (SQL)	5cr	CIS 250	Database Theory and Design	5cr
CIS 253	Application and Cloud Development Tools	5cr	CIS 251	Structured Query Language (SQL)	5cr
CS 115	Introduction to Programming	5cr	CS 115	Introduction to Programming	5cr
CS&141	Computer Science I: Java	5cr	CS&141	Computer Science I: Java	5cr

CS 142	Computer Science II : Java	5cr	CS 142	Computer Science II : Java	5cr
CS 143	Computer Science III: Java	5cr	CS 143	Computer Science III: Java	5cr
60 Credits General Education			**60 Credits General Education**		
ENGL& 101	English Composition 1: Communication	5cr	ENGL& 101	English Composition 1: Communication	5cr
ENGL& 235	Technical Writing	5cr	ENGL& 235	Technical Writing	5cr
MATH& 141	Precalculus 1: QSR	5cr	MATH& 141	Precalculus 1: QSR	5cr
CMST& 210	Interpersonal Communications: Humanities	5cr	CMST& 210	Interpersonal Communications: Humanities	5cr
CMST& 220	Public Speaking: Humanities	5cr	CMST& 220	Public Speaking: Humanities	5cr
PHYS&1 14	General Physics I w/Lab: Natural World (Lab Science)	5cr	PHYS&1 14	General Physics I w/Lab: Natural World (Lab Science)	5cr
PHIL& 120	Symbolic Logic: Natural World	5cr	PHIL& 120	Symbolic Logic: Natural World	5cr
General	Social Sciences	5cr	General	Social Sciences	5cr
General	Social Sciences	5cr	General	Social Sciences	5cr
General	General Elective	5cr	General	General Elective	5cr
General	General Elective	5cr	General	General Elective	5cr
General	General Elective	5cr	General	General Elective	5cr
60 Credits Upper Division			**60 Credits Upper Division**		
CIS 300	Software Engineering	5cr	CIS 300	Software Engineering	5cr
CIS 315	Discrete Math for Developers	5cr	CIS 315	Discrete Math for Developers	5cr
CIS 330	Database Models and Design	5cr	CIS 330	Database Models and Design	5cr
CIS 345	Usability Engineering	5cr	CIS 345	Usability Engineering	5cr
CIS 360	Application and Data Integration	5cr	CIS 360	Application and Data Integration	5cr
CIS 375	Cloud Computing	5cr	CIS 375	Cloud Computing	5cr
CIS 400	Mobile Application Development	5cr	CIS 400	Mobile Application Development	5cr
CIS 415	Intro to Machine Learning	5cr	CIS 415	Intro to Machine Learning	5cr
CIS 430	Embedded Systems	5cr	CIS 430	Embedded Systems	5cr
CIS 445	Emerging Trends	5cr	CIS 445	Emerging Trends	5cr
CIS 260	Capstone I	5cr	CIS 260	Capstone I	5cr

CIS 470	Capstone II	5cr	CIS 470	Capstone II	5cr

The General Education course choices that are specifically listed are ideal, however, students coming from other colleges may have completed different courses. Edmonds CC will transfer in as many General Education classes as possible to fulfill the distribution areas. If, for example, a student has completed a transfer Direct Transfer Agreement (DTA) degree or has another bachelor's degree, all of their General Education requirements would be covered. Students applying with a two-year degree from other colleges or those who do not have a CIS or WACD AAS-T will need additional computer programming coursework to qualify for entry to the BAS program. These courses should be equivalent to Edmonds CC's CS 115 (Introduction to Programming), CSC&141 (Computer Programming I: Java), CSC 142 (Computer Programming II: Java), and CSC 143 (Computer Science III: Java). The student's transcript will be evaluated to determine if any of their other coursework could count toward the 'proficiency' requirement.

The upper division coursework is all newly developed and created with input from a variety of sources including the advisory committee, employer survey, industry DACUM, faculty expertise, and AppConnect NW. Although Edmonds CC was not an original founding member of AppConnect NW, Edmonds CC faculty have been invited to participate in this project. Edmonds CC has been given access and authorization to use the research and curriculum that was developed, including a framework of the specific technical skills, programs, processes, and tools that are critical for junior developers in software now and in the future.

These classes build upon the foundational knowledge that students learned in their associate degree program in Computer Information Systems or Web Development. There is a strong emphasis on applied knowledge through projects and hands-on work throughout the junior and senior years of study, as was shown on the Rigor/Relevance grid (see Figure 2). Appendix 6 lists the course outcomes & descriptions. Table 4 below shows the sequencing for the upper division classes, and Appendix 7 offers samples of a full time and part time student schedule.

Table 4: Schedule for AD BAS class offerings

	Fall courses	**Winter courses**	**Spring courses**
First year	CIS 300 CIS 315	CIS 330 CIS 345	CIS 360 CIS 375
Second year	CIS 400 CIS 415	CIS 430 CIS 460	CIS 445 CIS 470

Standard 2: Qualified Faculty

Edmonds CC will open a full-time, tenure-track faculty position to lead and teach in this new degree program, with a minimum educational level of master's degree required, and

doctorate strongly preferred (see Appendix 3 for the drafted job description/posting). A combination of both education and practical experience is extremely important, and the dean is optimistic that Edmonds CC can draw candidates with both a doctorate and field experience. This new faculty member will be the lead instructor teaching many of the core courses in the degree as well as further developing the new program.

The BAS faculty member will work closely with the CIS and CS department faculty who first envisioned the degree and outlined the curriculum, to ensure a smooth transition for students from the AAS-T pathways and to make sure that the feedback collected during the curriculum development process is honored. The new BAS faculty member will also serve as the department head, which means he or she will assist with finding and interviewing part-time faculty, scheduling courses, and advising students. Edmonds CC provides release time for the lead faculty member to do this work.

The General Education courses listed at the 100 to 200 level will be taught by existing college faculty in the specific discipline. Edmonds CC requires that faculty teaching transfer courses hold a minimum of a master's degree. Some of our existing faculty members have earned doctorates. In addition, if any upper division general education courses are developed, the educational requirements for faculty teaching those courses will be increased to require a doctoral degree.

The initial expectation is for there to be a total of about 1.25 FTEF of teaching load needed in the program (including release time for the lead faculty member), increasing to 2.0 with the addition of a second cohort. This does not include the faculty teaching the General Education courses. Students in the program will be taking these already-existing courses with the regular student population. Additional sections will be added if there are specific courses that most of the BAS students need and that are not available at a time that is convenient for them.

Edmonds CC intends to hire the one tenure-track position mentioned before, and cover the other courses with adjunct faculty who specialize in a particular curriculum-content area (for example, data analytics) so that the students are taught by experts. All faculty members who teach at least 10 credits per quarter will be certified as professional-technical instructors, with a professional development plan on file. All faculty who consistently teach 10 credits per quarter or more in the Computer Information Systems program, and all administrators of those programs, meet the professional-technical certification standards as required in the Washington Administrative Code.

Below is a table showing the credentials and departmental affiliation of some of the current Edmonds CC faculty (Table 5), as well as some of the faculty teaching General Education courses (Table 6).

Table 5: Credentials and Departmental Affiliation of Current Edmonds CC Faculty Who May Teach as Adjunct in the AD BAS Program

Faculty Name	Credentials	Edmonds CC Department	Years of Professional/Teaching Experience
Louis Ho	MS - Electrical Engineering	Computer Information Systems (CIS)	25 years professional experience, 15 years teaching.
Mark Einfeld	MSc - Information Technology Certificates - A+, Network +, CCENT, CCNA	Computer Information Systems (CIS)	5 years professional experience, 13 years teaching.
Linda Zuvich	BS Physics, BS Computer Science, MS Physics, MS Software Engineering	Computer Science	20 years professional experience, 13 years teaching.
Haley Benjamins	MS Library Science	Library	8 years teaching experience
Richard Likely	MS Mathematics MS Oceanography Certificates - SQL Server Specialist, Object-Oriented Analysis and Design (Systems Analysis), Advanced Web Application Development, Information Systems Security, Network Engineering, Digital Forensic Examiner	Computer Information Systems (CIS)	6 years teaching experience; 8 years experience specific to advanced data recovery; 35 years of experience in Information Technology (database design & development, Geographic Information Systems, computer programming, data analysis)

Table 6: Small Sample of Edmonds CC Faculty Teaching General Education Courses

Faculty Name	Credentials	Courses Teaching	Years of Teaching Experience
Rachel Wade	PhD- Education MS - Ocean Physics	Physics	20 years
Thomas Murphy	PhD - Anthropology	Anthropology	16 years

Kathleen Murphy	MA - English	English	30 years
Erin Davidson	MA - Communication	Communication	8 years
Patrick Averbeck	PhD - Math Education MS - Applied Mathematics	Math	24 years
Tom Shelly	PhD - Math MS - Math	Math	4 years
Susanne Meslans	MA - English	Humanities	38 years
Maria Kelly	MS - Hydrologic Sciences	Environmental Science	20 years
Frederick Weitz	MS - Psychology	Psychology	32 years

The Edmonds CC faculty are well-qualified to teach in their current roles, and some would be competitive for teaching individual classes within the BAS program.

Standard 3: Selective Admissions Process

Admissions Philosophy

Admission criteria have been developed to create opportunities for a broad range of applicants, consistent with open door admissions policy of Edmonds CC, while optimizing the potential for successful completion of the BAS in IT Applications Development. The college's commitment to diversity is demonstrated in our Strategic Enrollment Management plan and as part of its long-term strategy. This commitment focuses on attracting a diverse student population by:

- Creating a welcoming place for all students to thrive in our global and intercultural learning environment.
- Bolstering the Adult Basic Education and English as a Second Language infrastructure (technology, staffing, and space) to respond to increasing demand.
- Increasing access, retention, and success for all students facing cultural bias and educational opportunity gaps.
- Enhancing recruitment presence in local communities by adding a bilingual outreach specialist to work with Latinx families and creating a college microsite translated into Spanish.
- Ramping up I-BEST classes by offering a class in Computer Information Systems starting Fall 2019.

An example of our commitment to student diversity is the Center for Cultural Diversity & Inclusion, which serves all students, with a focus on ethnically diverse, homeless, female, gay, lesbian, and other gender-diverse students. In addition to promoting diverse events, the center provides resource assistance to help students understand college life;

connections to a conversation partner program to help second-language speakers with English (in a friendly, casual setting); a resource library with items for loan for a full quarter; and a computer lab with Internet access for students.

Admissions Requirements

Admission to the program is expected to be competitive. Prospective students need to have demonstrated completion of a 90 credit AAS-T or ATA degree in Computer Information Systems (CIS) or Web Development and Cloud Computing, an equivalent degree from another accredited college, or have successfully completed the equivalent of a two-year degree at a foreign institution (as determined by a third-party transcript evaluator). Prospective students completing the Edmonds CC CIS or Web Development and Cloud Computing ATA degree or a two-year degree from another college may have an additional 15 to 20 credits of computer programming courses to complete prior to applying. These courses should be equivalent to Edmonds CC's CS 115 (Introduction to Programming), CSC&141 (Computer Programming I: Java), CSC 142 (Computer Programming II: Java) , and CSC 143 (Computer Science III: Java). A minimum Grade Point Average (GPA) of 2.5 in each prerequisite course and a minimum overall GPA of 2.0 in a 2-year degree is required. Conditional admission may be considered on a case-by-case basis for students who are only one or two courses short of an applicable degree. Meeting minimum requirements will not guarantee admission, as the number of applicants may exceed the number of available enrollment spaces.

In addition, the applicants will turn in:

- A completed application for the BAS IT Applications Development Degree Program.
- Official transcripts showing a minimum 2.5 GPA in pre-requisite courses and minimum overall GPA of 2.0 in a two-year degree.
- A minimum 1- to 2-page personal statement/response to "Day in the Life" video. This video depicts the typical working day of an application developer. Prospective students will be asked to include:
    1. Personal and professional goals and how this degree relates to those goals.
    2. Work experience or specific attributes that relate to the program.
    3. Challenges or hardships that have been overcome in pursuing educational or work goals.
    4. Other special considerations that support being a good candidate for this degree program.
- A resume that describes relevant work and skills, and includes internships, work study, and volunteering activities.

Selection Process

If the number of qualified applicants exceeds space availability, the selection committee will evaluate the individual applicants on specific criteria to determine acceptance into the BAS Program, listed below. Completed applications meeting all required minimum

requirements submitted by the priority deadline will receive first consideration. The selection committee will be comprised of the BAS Manager, two faculty members, a representative from enrollment services, and the division dean.

Prior to selection of the first cohort, the selection committee will develop specific criteria for use in a score rubric that will quantify a final numeric score for each candidate. These criteria will be consistent with the intentions of the AD BAS program, with consideration of professional career goals, strength of transcripts, relevance of work experience, substance of the personal statement, and with diversity in mind. Edmonds CC has a strong commitment to increasing equity and inclusion competencies across campus. A number of trainings are offered throughout the year including; Cognitive Errors Training, Multicultural Competency Interviewing Rubric, and Undoing Institutional Racism. Members of the selection committee will be encouraged to attend these trainings to help minimize bias in the selection process.

The selection process is drafted as follows:

1. Review of each application, and application materials.
2. Committee members will rate each applicant based on the scoring rubric that has been developed.
3. Review and discussion of each applicant by the committee. Should disagreement regarding ratings for an applicant occur, the committee will review the application in question and reach a consensus on the rating.
4. Identification of the top candidates, based on ratings, sufficient to fill available spaces. A waiting list will be developed, should not all of the selected candidates subsequently become enrolled in the program.

Standard 4: Appropriate Student Services Plan

In spring 2016, a BAS Implementation Team (I-Team) was convened as a task force to make sure that the college hit all the milestones and was well-prepared to offer the new BAS programs when the curriculums and programs have been approved. This committee consists of:

- VP of Workforce Development and Training (lead)
- Faculty Representatives from Relevant Instruction Departments
- VP of Finance and Operations
- Exec. VP for Instruction
- VP for Student Services
- Dean of Health and Human Services
- Dean of Student Success - Entry and Enrollment
- Dean of Student Success - Retention and Completion
- Director of Reporting and Records Management
- Director of Financial Aid
- Director of Advising
- Dean of Library Services
- Director of Institutional Research

- Public Information Officer
- Exec. Director of Grants
- BAS Manager(s)
- Staff from the Workforce Development and Training, Instruction, Credentials, and Divisional Offices

This team was charged with sorting out all the details of how to bring bachelor's students on board, and how to best serve them when they arrive. The I-Team continued to meet after Edmonds CC's first cohort BAS began classes until all the policies and procedures related to this new population of students were solidified. The team was reconvened in December of 2018 in preparation for the AD BAS and will continue to review and add support services for new and continuing BAS programs.

Edmonds CC will hire a BAS Manager as soon as the approval process is complete, specifically to help with the forming of the first cohort and to support the students in this program. The AD BAS Manager will provide pre-advising for students who might be interested in the program but are still in their associate degree program, advise students who have completed an associate degree, and do a preliminary review of their transcript to ensure the most seamless transition for the student. The full job description for the BAS Manager position is included in Appendix 4.

The BAS Manager will be in charge of marketing the program, recruiting students, and helping to facilitate agreements with master's degree programs. Further responsibilities of the AD BAS Manager for prospective, new, and ongoing BAS students include: academic planning, helping with financial aid and scholarship opportunities, assisting with registration procedures, and serving as a resource regarding student services at Edmonds CC. The manager will collaborate with the CIS department to maintain consistency of quality and relevance of the career pathway in this BAS degree. The AD BAS Manager is not a faculty member.

The students in the AD BAS program will have access to all Edmonds CC student services, resources, and activities. Examples of student services and resources are described below.

Advising

Advising is available in partnership with the students at each step of their academic experience. Pre-advising and orientation to college procedures and support services are carried out by the BAS Manager. The Edmonds CC full-time faculty load includes 10 hours/quarter of advising to students. Enrolled students will meet regularly for advising and career planning with faculty advisors in the BAS program. This maintains individualized support and guidance for furthering professional goals and opportunities in the AD BAS program. As a matter of best practice, advising is an ongoing process in the early childhood education and social and human services programs.

Enrollment Services

In addition to the individualized support of the BAS Manager, the Enrollment Services staff members assist students with information about college resources and procedures in Registration, Assessment, and Enrollment processes.

Financial Aid

The financial support of the BAS students will be facilitated with the BAS Manager, and specific opportunities for support of the bachelor's degree will be explored in an individualized manner. Part of a Financial Aid specialist position (.25 FTE) will be supported by the BAS. Students have access to the Financial Aid in the form of scholarships, Worker Retraining funds, grants, and loans. Each new BAS budget supports a quarter of an FTE, over time allowing for a dedicated staff person just for BAS students.

Learning Support Center

The Learning Support Center provides supplementary academic support to students in strengthening their college-wide abilities in math, the sciences, the humanities, and social sciences. Assistance is available in three ways: drop-in at the Learning Support Center, enrollment in WRITE, a learning support class, and through e-tutoring, available 24/7. Tutors will be hired to help students in the BAS pathway and the tutoring will be offered either just before or after classes or as part of the e-tutoring services, depending on the wishes of the cohort.

Library

The library has multiple resources that include: books, eBooks, academic searches, and extensive databases that provide access to articles and periodicals in a large range of subjects that would be appropriate for the BAS students' research and learning process. BAS funds will be used to enhance the collection on an ongoing basis, and to help pay the salary of a librarian (.25 FTE). The designated library faculty member will be available for student support throughout the bachelor's program, and will also serve as a research guide for the capstone project of the BAS students. Desktop computers are provided in the library, and laptop computers can be checked out. All students have access to the wireless network in the library and throughout the campus. Rooms are available in the library for group projects, video-taping, and study sessions.

Credentials and Evaluation

The BAS Manager and BAS faculty will work with the credentials evaluators to determine appropriate course equivalencies for students coming from other institutions. The Registrar's Office staff will conduct degree evaluations for incoming students where needed.

Other Student Service Offices

Several other service areas will be available to BAS students. These offices include the Diversity Student Center; the Services for Students with Disabilities office (SSD); the Center for Student Engagement & Leadership; the Veterans Resource Center; the Counseling Center, and Academic Computer Services. Each of these offices is robust enough to offer their services to this new population of students without needing additional support, and their service offerings are appropriate for baccalaureate students. As the program proceeds, if a specific need is identified to increase the services in one of these areas to better support baccalaureate-level students and learning, the college is committed to providing the service level needed.

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

The college is committed to resourcing this degree appropriately so that the program will be successful. This includes significant investment to date and continuing through until the program becomes self-sustaining. The expected demand for this program, and for program graduates, is high. The college expects that this program will be quick to fill and estimated revenues show that it could reach sustainability in Year 2.

To estimate revenues, we started by defining how many we expect in each cohort, and when we expect them to finish:

Estimated Number of Students per Cohort					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Cohort 1 - fall 2019	22	*17	**5	0	0
Cohort 2 - fall 2020		30	24	10	0
Cohort 3 - fall 2021			30	24	10
Cohort 4 - fall 2022				30	24
Cohort 5 - fall 2023					30
	22	**47**	**59**	**64**	**64**
* Assumes 80% retention rate					
** Assumes some students will take into the 3rd year to complete					

Next, we estimated how many students are expected to be taking a full load of 15 credits, how many might be part-time, and how many international students we expect in the program:

Estimated Number of Students at Each Credit Load					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**

# of students at FT resident tuition (annual)	15	25	33	33	33
# of students at FT non-resident tuition (annual)	5	10	10	10	10
# of students at 10 credits/qtr (annual)	2	10	11	15	15
# of students at 5 credits/qtr (annual)		2	5	8	8

Using the Tuition Calculator on the State Board's website, we can estimate the annual tuition revenue for each type of student. To account for the part of tuition that goes for fees, the total for each type of student was decreased by 10%:

Tuition at Differing Credit Loads					
	Year 1	Year 2	Year 3	Year 4	Year 5
	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Tuition - FT student (15 cr/qtr)	$5,811	$5,811	$5,811	$5,811	$5,811
Annual Tuition - FT non-resident (15 cr/qtr)	$16,594	$16,594	$16,594	$16,594	$16,594
Annual Tuition - PT student (10 cr /qtr)	$5,670	$5,670	$5,670	$5,670	$5,670
Annual Tuition - PT student (5 cr/qtr)	$2,800	$2,800	$2,800	$2,800	$2,800

Finally, we can take the number of expected students of each type and multiply that by the expected annual tuition rate, to get an estimate of the tuition revenue for the program in each year:

Total Revenue Estimate					
Calculation (#students * tuition rate)	Year 1	Year 2	Year 3	Year 4	Year 5
	2019-20	2020-21	2021-22	2022-23	2023-24
FT resident	$87,165	$145,275	$191,763	$191,763	$191,763
FT non resident	$82,970	$165,940	$165,940	$165,940	$165,940
resident 10 credits	$11,340	$56,700	$62,370	$85,050	$85,050
resident 5 credits	$ 0	$5,600	$14,000	$22,400	$22,400
TOTALS	**$181,475**	**$373,515**	**$377,973**	**$465,153**	**$465,153**

Note that this revenue projection is only including tuition revenue. While it is likely that the college will also receive state funding for the FTEs (Full Time Equivalent Students), that money will be absorbed into the college's operating budget. Estimating revenues in

this manner allows the college to look at the additional revenue associated with the program that will consistently come to the college. It also works nicely as a comparison to the incremental cost of adding the program to the college's offerings. The chart below is a good estimate of the additional expenses the college is prepared to bear related to this program:

Projected Expenses						
Expense	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
FT Faculty (Instruction - 1.0 FTE after Year 1)	$ -	$20,460	$62,000	$63,860	$65,776	$67,749
PT Faculty (Instruction - .66 FTE after Year 1)	$ -	$4,303	$23,839	$24,554	$25,291	$26,050
Curriculum/ Program Development	$20,000	$ 10,000	$10,000	$ -	$ -	$ -
BAS Manager (1 FTE)		$ 30,000	$60,000	$62,000	$63,860	$65,776
Librarian (.25 FTE)		$15,500	$15,500	$15,965	$16,444	$16,937
Financial Aid (.25 FTE)		$5,000	$9,500	$9,785	$10,079	$10,381
Credentials (.25)		$5,000	$9,500	$9,785	$10,079	10,381
Consortium fee for internship placement		$ 5,000	$10,000	$10,000	$10,000	$10,000
Personnel (wages)		***$95,263***	***$200,339***	***$195,949***	***$201,528***	***$207,274***
Benefits (30%)		*$28,579*	*$60,102*	*$58,785*	*$60,458*	*$62,182*
Total personnel		**$123,842**	**$260,441**	**$254,734**	**$261,986**	**$269,456**
Library Resources	$ -	$20,000	$20,000	$15,000	$15,000	$15,000
Goods and Services*		$2,000	$2,000	$2,000	$2,000	$2,000
Equipment purchases and replacement		$ 5,000	$15,000	$15,000	$15,000	$15,000
Professional Development, Research, and Travel		$ -	$5,000	$5,000	$5,000	$5,000
Projected Expenses	**$20,000**	**$150,842**	**$302,441**	**$291,734**	**$298,986**	**$306,456**
*Marketing dollars will be allocated by the WDT office at $3,000 per year.						
Salaries are assumed to increase by 3% in years 3, 4, and 5						

The college will hire new personnel for the program; two full time positions will be funded as soon as the program is approved - a tenure-track faculty member, and a BAS Manager. Part-time faculty (presumably several people with specific areas of expertise) will be added as needed depending upon the expertise of the FT faculty member, but for sure by Year 2 when the second cohort comes on board. Other areas heavily impacted by the

additional program will also be given extra funds to hire more personnel (financial aid, the library, and the credentials office). Funds and staffing will be leveraged in other areas, such as in the Career Action Center.

The college is prepared to continue to operate this program for the first three years even if the enrollment is not as high as anticipated. Given the high interest in this pathway expressed by students in the early days of development of this degree, we expect to see strong enrollment fairly quickly.

Standard 6: Program Specific Accreditation(s)

College faculty and staff looked into a program-specific accreditation by checking with the other AD BAS colleges in the AppConnect NW project. It was determined that there is not an appropriate accrediting body that should be used for AD BAS programs at this time. However, if appropriate credentials are identified at a later date, they will be evaluated for their usefulness to the graduates and will be incorporated if deemed advantageous.

Edmonds CC has received accreditation by the Northwest Commission on Colleges and Universities to offer degrees at the Baccalaureate level.

Standard 7: Pathway Options Beyond the Baccalaureate Degree

Edmonds CC administrators sent information about the proposed degree to directors/deans of graduate programs at local universities. Three responses were returned. The first came from Larry Geri, Curriculum Dean at the Evergreen State College and expressed interest in speaking to us about pathways to their three master's programs; the second came from Dr. Bernadette M.E. Jungblut, an Associate Provost at CWU expressing interest from their Information Technology and Administrative Management (ITAM) department for articulations into their Master's degree. We also heard from Dr. Mary Wack, Vice Provost at WSU who requested more information on the degree to see if it would fit with their pathways.

Finally, we have the specific statewide articulation with WGU, which allows all BAS degrees to articulate to their Master's programs, and their Master's degree in Information Technology Management will be a great option for our placebound students.

Standard 8: External Expert Evaluation of the Program

Expert evaluations were provided by three representatives from three different universities:

Reviewer	Biography
Western Governors University Pubali Banerjee, Ph.D., M.S. Senior Faculty, Software Development	Pubali Banerjee currently works as Program Chair for Software Development at Western Governor's University. She earned her PhD and MS in Computer Engineering from Iowa State University and BEng in Electronics Engineering from Oxford Brookes University, UK. She has taught several undergraduate and graduate computer science and information technology classes at Western Governors University, Texas A and M and Iowa State and at a few other online universities. Pubali has over 15 years of experience working in the IT field in software development, databases and network security. She has developed gaming software for giant software companies like Disney and Pixar.
Washington State University Nella Ludlow, Ph.D. Clinical Professor of Computer Science Director of Data Analytics	Dr. Nella Ludlow is a full Clinical Professor of Computer Science and is the Director (Chair) of the Data Analytics for Washington State University. She was a first-gen student and won a 4-year ROTC scholarship to pay for her undergrad schooling at WSU in Mathematics , and Masters in Computer Science at Wright State University. She did a PhD in Artificial Intelligence at Edinburgh Scotland and a Post-Doc at University of Cambridge England. She served in the Air Force as a fighter pilot, an intel officer, and a research scientist. After retiring from the Air Force, she worked as Chief Technical Officer for a Microsoft-funded start-up, and later was CEO of three companies—one she took public on NYSE and rang the opening bell. She has taught at five universities and holds ten patents, and has served as advisor to the Governor and a US Senator on Information Technology.
University of Washington, Bothell William Walter Erdly, Ph.D. Chair, Division of Computing & Software Systems School of Science, Technology, Engineering and mathematics (STEM)	Dr. William Erdly is a graduate of the University of Washington Seattle where he received his Ph.D. in social/organizational psychology. He is the Chair and Founder of the Division of Computing and Software Systems in the School of STEM and has been a member of the UW Bothell faculty since 1991. He has held research and leadership positions in a variety of industry and government technology organizations such as The Boeing Company (Defense and Space Group), Internap Network Services, various hospitals (Seattle VA Medical Center, Overlake Hospital Medical Center, and the University of Washington Medical Center), The Tulalip Tribes, and continues his involvement in entrepreneurship and software innovation. His on-going connection between academia and industry/government/community serves as a baseline for his research interests in social computing/analytics, knowledge management systems, human-computer interaction, game design/mechanics, wide area network (WAN) design/broadband access, computer science research methods, health care informatics, VR/AR simulation tools, and software engineering/project management. He is also the

	Director of the EYE Center for Children's Vision, Learning and Technologies at UWB.

We requested reviews from three faculty members to ensure we got the requisite two completed for this application and to our delight all three completed the reviews for us. The full reviews are included in Appendix 1. The reviews were quite positive, particularly from Dr. Banerjee and Dr. Ludlow. All three reviewers recommended that this program be approved. They offered valuable commentary and ideas and we truly appreciate their input. All of them had some suggestions about the math requirements of the program, and their comments will be taken under consideration as we move forward. We know that the new faculty member that Edmonds CC hires for this pathway will have a tremendous amount of development work to do to get this program up and running. These insights will be extremely helpful during that final development. The college has responded back to the reviewers with responses to their inquiries and concerns, as shown in the appendix.

The reviewers all agreed there is great need for this program, and were positive about how we were developing the program. Dr. Ludlow comments, "I give this program very high marks. The curriculum is well-thought out." Dr. Banerjee is very positive about the program as well, saying, "This is a very practical degree plan and it targets current opportunities in the job market. It provides an opportunity for students with associate degrees and prior job experience to obtain baccalaureate degrees in the computer tech field. The curriculum includes trending technologies and emphasizes on learning a programming language in detail with three courses dedicated to learning Java which makes this degree quite marketable." Dr. Erdly, while being more cautious with his commentary, also supports the approval. "Overall, I support the further refinement and development of this degree."

The full evaluation Rubrics are located in Appendix 1.

Appendices

Appendix 1: External Evaluator Reviews

Instructions for colleges submitting a BAS degree proposal:

1. As part of completing a program proposal, colleges must select two external experts to review the program.
2. Reviews should be completed by an independent, third-party person or team with subject/discipline expertise.
3. At least one, preferably two, of these external expert reviewers should come from a university level institution, i.e. departmental professor, academic dean or department head.
4. A second external expert reviewer may be a professional/practitioner who works for a private or public organization other than the university.
5. External Expert Reviewers should be instructed by colleges to address the criteria listed in this rubric.

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. Reviewers need not provide responses to every criteria listed in the Rubric. If reviewers feel that they cannot adequately address any one of the criteria, they may simply state that this is the case.
6. 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.

College Name:	Edmonds CC	**BAS Degree Title:**	BAS Information Technology Application Development
Reviewer Name/ Team Name:	Pubali Banerjee	**Institutional or Professional Affiliation:**	Western Governors University
Professional License or Qualification, if any:		**Relationship to Program, if any:**	
Please evaluate the following Specific Elements			
a) Concept and overview	Is the overall concept of the degree program relevant and appropriate to current employer demands as well as to accepted academic standards? Will the program lead to job placement?		
	Comment This innovative baccalaureate degree has a modern and up to date curriculum. The lower level classes will lay down the groundwork and prepare students with many skills including analytical, problem solving, communication and creativity; while the upper level classes will teach students current topics and technologies which are of demand in the job market. Students pursuing this degree will be proficient in Java and will have ample exposure to databases, embedded systems, software engineering design, machine learning, cloud computing and mobile computing which will make them ready for work.		
b) Degree Learning Outcomes	Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?		
	Comment		

	As demonstrated in the Map of the Upper Division Class Outcomes on the Rigor/Relevance Framework, most of the upper level classes require not only acquisition and application but also assimilation and adaptation of knowledge. The learning outcomes listed in the draft document indicate the need for assimilation and adaptation of knowledge also.
c) Curriculum Alignment	Does the curriculum align with the program's Statement of Needs Document?
	Comment As stated in the Statement of Need, the current higher education system in the state is graduating less than 20% of the baccalaureate degrees needed in the local job market in the computer field. This has created the unique opportunity for local community colleges to offer baccalaureate degrees which will target this gap. The curriculum includes current technology topics like cloud computing, mobile apps and advanced programming. At the same time there is enough focus on soft skills like public speaking and technical writing. This makes the curriculum align well with the needs of the job market in the computer tech sector.
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?
	Comment The upper level courses are relevant to the current needs of the industry. The inclusion of cloud computing in a Software Degree is excellent and in accordance with the current trends in the industry. The mobile computing class will also be very helpful. I would suggest teaching students Xamarin technology so that students learn to write apps for both iOS and Android platforms.
e) General Education Requirements	Are the general educations requirements suitable for a baccalaureate level program? Do the general education courses meet breadth and depth requirements?
	Comment The general education requirements seem adequate. The curriculum emphasizes on communication, creativity and public speaking which is very practical. The precalculus class will provide students with most of the math

	background that will be required in the upper level classes. I would suggest Including some calculus topics in this class and going a little beyond precalculus. This will be most helpful for students who will pursue graduate degrees in engineering or similar fields. I would also suggest including a basic probability class which will be required for Discrete Math and Machine Leaning courses later in the degree.
f) Preparation for Graduate Program Acceptance	Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?
	Comment The proposed curriculum will adequately prepare students for graduate studies. Students intending to pursue advanced degrees in computer science or engineering later may need to take more math and statistics classes.
g) Faculty	Do program faculty qualifications appear adequate to teach and continuously improve the curriculum?
	Comment All of the existing faculty members at Edmonds Community College at least hold master's degrees in their teaching areas. As mentioned in the plan, the college intends to hire one tenure-track lead faculty for this program with PhD and industry experience and cover the other courses with adjunct faculty who specialize in a particular curriculum-content area so that the students are taught by experts. This is adequate for teaching and continuously improving the curriculum.
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?
	Comment As demonstrated in the draft document, the estimated projected revenue from tuition exceeds the estimated expenses without taking into account any state funding which is very probable. This implies that the program will be well funded. In the draft, it is documented that a BAS program manager and a library personnel dedicated to this program will be hired which should provide adequate support to students.

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?
	Comment The minutes from the Advisory committee meeting in Appendix 2 in the draft document state that the need for this degree plan was approved by the committee. The minutes also indicate that the areas of specialization in the degree plan were discussed among the committee members via email.
j) Overall assessment and recommendations	Please summarize your overall assessment of the program.
	Comment This is a very practical degree plan and it targets current opportunities in the job market. It provides an opportunity for students with associate degrees and prior job experience to obtain baccalaureate degrees in the computer tech field. The curriculum includes trending technologies and emphasizes on learning a programming language in detail with three courses dedicated to learning Java which makes this degree quite marketable. I have recommended adding a basic probability and statistics course to the curriculum which will help students succeed in a few upper level courses. This curriculum is heavily focused on Java. The C# job market has many opportunities, considering a parallel C# track might be worthwhile. C# has a very bright future especially since Xamarin, Azure and Unity all use this programming language. Overall, this degree plan will help fill the gap in the job market and help many students obtain undergraduate degrees.

Reviewer Bio or Resume

Pubali Banerjee currently works as Program Chair for Software Development at Western Governor's University. She earned her PhD and MS in Computer Engineering from Iowa State University and BEng in Electronics Engineering from Oxford Brookes University, UK. She has taught several undergraduate and graduate computer science and information technology classes at Western Governors University, Texas A and M and Iowa State and at a few other online universities. Pubali has over 15 years of experience working in the IT field in software development, databases and network security. She has developed gaming software for giant software companies like Disney and Pixar.

College Name:	Edmonds CC	**BAS Degree Title:**	IT Applications Development
Reviewer Name/ Team Name:	Nella Grace Ludlow	**Institutional or Professional Affiliation:**	Washington State University
Professional License or Qualification, if any:	PhD, 30 years in teaching Computer Science, WSU Director(Chair) of Data Analytics	**Relationship to Program, if any:**	None
Please evaluate the following Specific Elements			
a) Concept and overview	Is the overall concept of the degree program relevant and appropriate to current employer demands as well as to accepted academic standards? Will the program lead to job placement?		
	Comment **Yes. This program focuses on application development, which is in the top 3 of all national major job listing sites for 2019. The overall curriculum will prepare graduates for jobs in the software industry and graduates should have very high job placement rates.**		
b) Degree Learning Outcomes	Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?		
	Comment **Yes, this is commensurate with Software Engineering programs at Washington State University and University of Washington. This program focuses on Application Development but still maintains the core of courses in IT needed and the rigor of a baccalaureate degree.**		

c) Curriculum Alignment	Does the curriculum align with the program's Statement of Needs Document?
	Comment **Yes. Very much so. Washington state recruits more Software/IT/Application Developer people from other states than any other state in the US. Industry needs these type of graduates and this curriculum will provide the right skills.**
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?
	Comment **Yes. Relevant languages used. Web, Mobile, Cloud development are critical needed skills, and this program specifically addresses those skills. I particularly am happy to see Machine Learning and Usability Engineering which many other programs lack. My work with industry these are two often-overlooked skills that I am glad are included in this program.** **One minor comment is Discrete Mathematics (an important skill for this program is a 300-level course). Often this is a 100 or 200-level course.** *Edmonds CC Response: We do currently have discrete math listed as a 300 level course and considered many options before we decided on this level. Math can be a barrier for some of our students and we really wanted to ensure our students had the knowledge and skills needed to succeed in this course. However, we understand your concerns that some of the concepts in this class may be better introduced earlier in order to support other core concepts. We will assess students as they progress through the program and will consider changes as needed. We also understand that students may need to take additional math classes if they intend to pursue a masters degree, depending on the area being pursued and the institution.*
e) General Education Requirements	Are the general educations requirements suitable for a baccalaureate level program? Do the general education courses meet breadth and depth requirements?
	Comment **Yes. Edmonds CC has a strong program in existing degrees and I believe it meets the General Education Requirements.**
f) Preparation for	Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?

Graduate Program Acceptance	**Comment** **Yes, with one minor caveat. There are a wide-variety of Masters Degree programs in our state: from a business oriented IT program, to teaching Computer Science to non-CS bachelor degree students and counting this as a masters degree, to traditional Computer Science. If a student attempts a traditional CS Masters they will need courses in Algorithms, Formal Language and Automate, and Operating Systems.**

g) Faculty	Do program faculty qualifications appear adequate to teach and continuously improve the curriculum?
	Comment **Yes. I do recommend that this program add an Advisory Board. I serve as a member of Ohio Wright State University's Computer Science advisory board. We include members of academia at other universities, industry leaders, and curriculum experts. This will help ensure this program adapts to the ever-changing state of Information Technology.** ***Edmonds CC Response:*** *We agree that an active advisory board is extremely important and plan to recruit industry experts as we develop the program. In the meantime, we have joined the AppConnect network. They have a robust technology industry advisory board that meets regularly to support curriculum development, partnership opportunities, internships, etc. One of the reasons we joined the AppConnect network was to ensure we were able to develop a program that meets industry requirements and continues to remain relevant as the program evolves. We will be adding new advisory board members to our current CIS advisory committee but were not sure how feasible it was to get a new advisory board up and running as we develop the program. As you noted, industry partnerships are extremely important for the capstone classes which require real world problems. We felt the current alignment with AppConnect would provide the connections needed at this time to ensure we could provide relevant industry experiences. A separate advisory board for this program is something we will consider as we develop more contacts and industry partnerships moving forward. You mentioned you would be interested in helping with curriculum development and possibly in an advisory board capacity so I will reach out to you in the near future as we would definitely love your input and support.*
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?
	Comment **Yes. Edmonds Community College has all the necessary educational support facilities including online capability, student help centers, library, and computer laboratory support services.**
i) Membership and	Has the program received approval from an Advisory Committee? Has the program responded appropriately to it Advisory Committee's recommendations?

	Advisory Committee	**Comment** **Unknown. I do not if this has happened. I do recommend creation of a Advisory Committee in sync with comments in section g. I would be glad to assist with this.** *Edmonds CC Response: The program was approved by our current CIS advisory board during the Fall 2018 meeting. The meeting minute are provided in the program approval appendix but we didn't provide that document with the rubric.*
j)	Overall assessment and recommendations	Please summarize your overall assessment of the program.
		Comment I give this program very high marks. The curriculum is well-thought out. Edmonds CC currently has a strong program at the 2-year Associates level, and many of their students attend WSU and UW programs. All of the Edmonds students I have had in class were well prepared, confident, and succeeded at our advanced 300 and 400-level courses at UW and WSU. I have met with some of their faculty in person. They have excellent facilities. Their faculty care and have a student-centric approach. I have provided the program some minor recommendations in course offerings and minor clarification questions about the Capstone and Emerging Trend courses. Overall: I highly recommend approval of this program. Please feel free to contact me at Nella.Ludlow@wsu.edu or 360.202.8757 regarding this statement.

Reviewer Bio or Resume Evaluator, please insert a short bio here

Dr. Nella Ludlow is a full Clinical Professor of Computer Science and is the Director (Chair) of the Data Analytics for Washington State University. She was a first-gen student and won a 4-year ROTC scholarship to pay for her undergrad schooling at WSU in Mathematics , and Masters in Computer Science at Wright State University. She did a PhD in Artificial Intelligence at Edinburgh Scotland and a Post-Doc at University of Cambridge England. She served in the Air Force as a fighter pilot, an intel officer, and a research scientist. After retiring from the Air Force, she worked as Chief Technical Officer for a Microsoft-funded start-up, and later was CEO of three companies—one she took public on NYSE and rang the opening bell. She has taught at five universities and holds ten patents, and has served as advisor to the Governor and a US Senator on Information Technology.

College Name:	Edmonds Community College	**BAS Degree Title:**	BAS Information Technology Application Development
Reviewer Name/ Team Name:	William W. Erdly, Ph. D.	**Institutional or Professional Affiliation:**	Chair and Founder, Computing & Software Systems Division School of STEM, University of Washington Bothell
Professional License or Qualification, if any:		**Relationship to Program, if any:**	Partner Transfer Institution
Please evaluate the following Specific Elements			
a) Concept and overview	Is the overall concept of the degree program relevant and appropriate to current employer demands as well as to accepted academic standards? Will the program lead to job placement?		
	Comment Yes, there is indeed employer demand in these areas as organizations require internal application development for unique, customized projects and services. The degree requirements and expected outcomes surpass those of individuals seeking IT support roles within organizations. Industry literature and demand for IT support/technicians may be waning due to a variety of cloud service offerings such as PaaS (platform as a service), SaaS (software as a service), and IaaS (Infrastructure as a service) – as examples of many services being offered by industry. The numbers of IT staff will likely diminish; however, the qualifications of those that remain will increase. I believe that the new BAS in IT Application Development fills an emerging gap in providing a workforce with the necessary competencies to be effective. Also, the demand for graduates for this program will likely increase in those companies providing these cloud-based applications. Other niches that are important is the high dependence on mobile application development and interfaces to data stores of many types and purposes. Having a solid understanding of what I call the “care and treatment” of data, data provenance, access control, security and data visualization are now essential skills.		

b) Degree Learning Outcomes	Do the degree learning outcomes demonstrate appropriate baccalaureate degree rigor?
	Comment As this proposal is still in the earlier stages of development, it is difficult to provide an in-depth assessment at this time. It appears that the topics and general competencies that are discussed appear to be sound. It will be important to have specific assessment methods and rubrics available to assure that the appropriate level of rigor is provided. It is important to note that to provide a high level of rigor requires significant time and effort in terms of assignment creation, testing, group projects, and other work. Each of these requires a significant amount of effort by faculty for grading/detailed assessment that oftentimes must be customized/adapted to the specific needs of the course and students in a given course. Again, the load on faculty will likely be very high in these areas. Also, faculty need to continue their own personal development to address changes in courses – particularly many of the more advanced topics/courses outlined in the proposal. *Edmonds CC Response: As you noted, the Application Develop BAS degree is still in the early stages of development and there will be many iterations as we continue to move forward. We agree that appropriate assessment methods and rubrics are essential to ensure the appropriate level of rigor as we continue developing the courses and the program. As you noted, the process will take significant time and effort and the college must be prepared to support the faculty. We will support faculty professional development throughout the process and help facilitate connections with industry and other faculty throughout the community.*
c) Curriculum	Does the curriculum align with the program's Statement of Needs Document?

Alignment	**Comment** While I wholeheartedly agree with the importance of the need for this type of degree – and the many topics/courses that are covered, I am concerned that the curriculum may be trying to do too much, too soon. It may be prudent to further refine the curriculum and create something that might be more focused and in alignment with the initial proposed staff and faculty resources. Also, it is not clear to me at what the level students will be in terms of their programming competencies. What language(s) will they know (and at what level?), what experience will they get in terms of the use of an integrated development environment/code management system (IDE/CMS), what systems-level knowledge will they gain/require, and how will essential design, architecture and documentation/modelling skills be developed? How will the software engineering principles be learned and reinforced throughout the curriculum? How are the students prepared to be successful in such programming-intensive courses such as embedded systems – and is this course essential for this degree? There is a lot to think about and decide on, so further discussion and drilling into these details is recommended in mapping the curriculum to the statement of needs. I am sure iteration will occur as this important process happens. *Edmonds CC Response: The current curriculum is broad and it will be refined as we continue to move through the development process and hire new faculty. The state board approval process requires the college to submit the program proposal well in advance. However, the college is not willing to commit to hiring a full time faculty position for this program without approval from the board. EdCC has a relatively large computer science and computer information systems department. The faculty are experts in their respective fields, however we do not currently have a faculty member with this area of expertise. As a result, we joined the AppConnect network, an NSF consortium developed to support partnerships between the technology industry and education through curriculum development, tech partnership opportunities, internships, etc. One of the reasons we joined the AppConnect network was to ensure we were able to develop a program that meets industry requirements and continues to remain relevant as the program evolves.*

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?

	Comment As described in b) and c) this is a challenging curriculum to develop and deploy, requiring a substantial breadth and depth of knowledge by faculty – and specific expertise by staff. Also, I applaud the consideration of having a capstone project/course; however, the preparation and resources required to do this well is always a concern. We are now in our 23rd year of offering our computer science and software engineering baccalaureate degree, and the capstone effort continues to be demanding – and of great benefit to our students, industry, and the program overall. *Edmonds CC Response: The capstone class is a critical component of the program and, as you noted, it can be challenging to do capstone classes well. We do have an advisory board and they have been very involved in the development process. We will tap into those industry connections but we do not currently have experts in this area so our connection with AppConnect will help provide the industry contacts needed to help develop relevant industry experiences. We will continue working closely with our advisory board and actively recruit new members with relevant industry experience as we move forward.*
e) General Education Requirements	Are the general educations requirements suitable for a baccalaureate level program? Do the general education courses meet breadth and depth requirements?
	Comment They are appear consistent with expectations for the first and second year program of study. I do think that having more electives at the junior- and senior-level would also be important so that students may explore some general education topics at a more advanced level. While I understand the challenges of doing this at a CC, perhaps combining some advanced general electives with a computing-related topic would provide such opportunities for students – such as a course on business analytics, scientific computing, social computing, etc. These courses might be taught jointly by BAS IT AD faculty and faculty from other departments. *Edmonds CC Response: Additional courses such as business analytics, scientific computing, ethics and computing, social computing, etc. would be great options for students in this program. Developing the courses and/or partnering with other departments both in and outside EdCC are something we definitely want to explore in the future. However, we don't have the resources to offer multiple pathways for students in the degree while we are developing it.*
f) Preparation for	Do the degree concept, learning outcomes and curriculum prepare graduates to enter and undertake suitable graduate degree programs?

Graduate Program Acceptance	**Comment** One concern might be the level of mathematics and statistics that are required – and the depth of knowledge/experience in more advanced programming techniques and languages. Also, as mentioned above, the level of experience in other domain areas may be a concern by some programs. In my review of this program at this time, I would likely require the students to take all (or some portion of) our Graduate Certificate in software Design and Development (GC SDD). Upon successful completion, they would clearly be competitive for admission to our MS in Computer Science and Software Engineering (CSSE). As the BA IT AD further develops, I would be happy to discuss explore this degree pathway further. Also, there are many forms/types of advanced degree programs that may be suitable such as an MBA, MA Health Informatics, various "Analytics-related" degrees, etc. *Edmonds CC Responses: Math can be a barrier for some of our students. We understand your concerns about the level of statistics and mathematics required and will assess students as they progress through the program and beyond. We will also consider changes as needed. We understand that students will probably need to take additional math classes if they intend to pursue a masters degree, depending on the area being pursued and the institution.* *You've asked great questions in terms of curriculum alignment - i.e. what level of student knowledge is required when entering the program; what experience will they get in the use of integrated development environment/code management system; how essential design, architecture and documentation/modelling skills will be developed, etc. The approval process does not require this level of detail but these questions (and others) will be answered as we continue to further develop and refine the program with the new faculty and the program coordinator. Program mapping will be a essential component of the development process. The initial classes*
g) Faculty	Do program faculty qualifications appear adequate to teach and continuously improve the curriculum?

	Comment Faculty hiring is one of the greatest challenges in offering such degrees. With high demand and competition from industry, it is challenging to find someone with both the technical and teaching skills necessary to be a great instructor/faculty member. As community college faculty have a high teaching load, it may be challenging for faculty to have the time to continue their own personal and technical development to keep up in such a fast-paced discipline. Also, with many new delivery mechanisms/options that we have as faculty, much effort needs to be expended on modifying/modernizing courses to meet new expectations (e.g., on-line, hybrid). Finding faculty willing and able to take on this important role can be challenging given their other job (and compensation-level …) options. *Edmonds CC Response: We do realize it could be difficult to find a faculty member with the desired industry and teaching experience. As you noted, individuals make significantly more money working in industry so we will need to think strategically about how and where the position is advertised.*
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?
	Comment Essential resources are critical to the success of such a program including proper admissions methods, career ad vising, student care, and review to assure that students have met all degree requirements. Implementing these processes and procedures necessary for a baccalaureate program is complex – and advising students and their expectations is paramount to student success. Computing-related degrees are in high demand, but having students that are prepared for success in such programs is challenging. Having advising in place to ensure that critical mathematical and statistical/quantitative competencies are satisfied is challenging. Also, in a degree that is also built on the identified foundational competencies of communication, human relations/professional development, and cultural diversity skills is critical. It is these latter skills that are oftentimes more challenging for students than the technical skills – and take much more effort to develop. Ensuring that an effective "continuum of student care" that leverages staff and faculty will be essential. *Edmonds CC Response: Essential resources are critical to student success in this program. The program proposal includes a program manager position (in addition to the tenure track faculty position). Both positions have been approved by the college and will be posted in the near future. The program manager will be focused on this program only, they will be the contact point for students and the community. They will focus heavily on advising and other elements essential for student success in the Application Development program.*
i) Membership and Advisory	Has the program received approval from an Advisory Committee? Has the program responded appropriately to it Advisory Committee's recommendations?

	Comment It appears that the Advisory Committee has been very involved in identifying the needs and desired competencies/outcomes for this degree. Industry feedback that determined the original statement of need was addressed – and the resulting degree proposal was then sent to them for comments. This iterative process appears to have resulted in a creative degree program that leverages existing strengths of EdCC's general education course offerings. A wide array of more advanced, junior-/senior-level courses are proposed that address contemporary areas of computer science and software engineering practices. These proposed courses and details of the curriculum should now be looked at again by the advisory board/industry panel.
j) Overall assessment and recommendations	Please summarize your overall assessment of the program.
	Comment Overall, I support the further refinement and development of this degree. It is important to hire some of the initial faculty so that they may work on the details of the curriculum – and efficient rollout/phasing of the degree and course offerings. There is clearly a need within the workforce for students with this intended level of expertise. As a side note, I am not certain that the degree has the best name for what it is intended to accomplish, and recommend that the faculty and advisory board explore options/refine the title. *Edmonds CC Response: We agree that further development and refinement of this degree is needed and we look forward to incorporating your suggestions and input as we work with a new tenure track faculty and additional associate faculty to refine and develop the program.*

Reviewer Bio or Resume

Dr. William Erdly is a graduate of the University of Washington Seattle where he received his Ph.D. in social/organizational psychology. He is the Chair and Founder of the Division of Computing and Software Systems in the School of STEM and has been a member of the UW Bothell faculty since 1991. He has held research and leadership positions in a variety of industry and government technology organizations such as The Boeing Company (Defense and Space Group), Internap Network Services, various hospitals (Seattle VA Medical Center, Overlake Hospital Medical Center, and the University of Washington Medical Center), The Tulalip Tribes, and continues his involvement in entrepreneurship and software innovation. His on-going connection between academia and industry/government/community serves as a baseline for his research interests in social computing/analytics, knowledge management systems, human-computer interaction, game design/mechanics, wide area network (WAN) design/broadband access, computer science research methods, health care informatics, VR/AR simulation tools, and software engineering/project management. He is also the Director of the EYE Center for Children's Vision, Learning and Technologies at UWB.

Appendix 2. AAS-T Degrees

Students can come through the general Computer Information Sciences Associate of Technical Arts program (CIS ATA program), which will be adapted into an AAS-T. The CIS Department plans to revamp the CIS ATA program into an AAS-T program that will include CS Department courses and general education requirements for students to easily transfer into the IT Application Development BAS program. Alternately, the Web Application and Cloud Developer (WACD) ATA program will provide an alternative pathway for students to enter into the proposed IT Application Development BAS program.

Proposed Program Sheets:

Computer Information Systems AAS-T

General Education Requirements (26 credits)		
ENGL&101	English Composition	5 cr
ENGL&235	Technical Writing	5 cr
PHYS&114	General Physics I with Lab	5 cr
PHIL& 120	Symbolic Logic	5 cr
CMST&210	Interpersonal Communication	5 cr
CIS 280	Career Planning	1 cr
Quantitative Analysis/Symbolic Reasoning (5 credits)		
MATH&141	Precalculus	5 cr
Program Requirements (60 credits)		
CIS 100	CIS Foundations	5 cr
CIS 102	Intermediate Business Computing	5 cr
CIS 220	Enterprise Architecture	5 cr
CIS 233	Systems Analysis	5 cr
CIS 234	Systems Design and Development	5 cr
CIS 250	Database Theory and Design	5 cr
CIS 251	Structured Query Language (SQL)	5 cr
CIS 253	Application and Cloud Development Tools	5 cr
CS 115	Introduction to Programming	5 cr
CS&141	Computer Science I: Java	5 cr
CS 142	Computer Science II: Java	5 cr
CS 143	Computer Science III: Java	5 cr

Web Application and Cloud Developer AAS-T

General Education Requirements (26 credits)		
ENGL&101	English Composition	5 cr
ENGL&235	Technical Writing	5 cr
PHYS&114	General Physics I with Lab	5 cr
PHIL& 120	Symbolic Logic	5 cr
CMST&210	Interpersonal Communication	5 cr
CIS 280	Career Planning	1 cr
Quantitative Analysis/Symbolic Reasoning (5 credits)		
MATH&141	Precalculus	5 cr
Program Requirements (60 credits)		
CIS 100	CIS Foundations	5 cr
CIS 241	Web Development I	5 cr
CIS 242	Web Development II: JavaScript & jQuery	5 cr
CIS 243	Web Development III: Into to PHP	5 cr
CIS 244	Web Development IV: Intro to Joomla! & SEO	5 cr
CIS 245	Web Development V: Intro to CSS	5 cr
CIS 250	Database Theory and Design	5 cr
CIS 251	Structured Query Language (SQL)	5 cr
CS 115	Introduction to Programming	5 cr
CS&141	Computer Science I: Java	5 cr
CS 142	Computer Science II: Java	5 cr
CS 143	Computer Science III: Java	5 cr

Appendix 3. Tenure-Track Faculty Announcement

Full Time Faculty - Application Development (AD) BAS Degree Program (Draft Position Announcement)

Salary: ~$62,500 Annually *(Estimated)*

Location: Lynnwood, WA

Job Type: Full-Time Faculty

Department: STEM (Science, Technology, Engineering, and Math)

Closing: TBD *(Will be updated when posting date is determined)*

Edmonds Community College is committed to diversity, equity and social justice. The college values its talented, diverse workforce and seeks to attract, hire, and support employees who consistently and actively embrace diversity and equity. We are intentional about social justice – the active engagement toward equity and inclusion that addresses issues of institutional, structural, and environmental inequity, power and privilege.

Full Time Faculty - Application Development (AD) BAS Degree Program

DESCRIPTION: Edmonds Community College is recruiting for a full-time, tenure-track faculty to teach in the interdisciplinary Bachelor of Applied Science program in Application Development. This individual will take a leadership role in building a new program within the college and the community and will serve as department head for this degree. This instructor will teach upper division courses that integrate and build on the skills and knowledge developed from both the computer information systems and computer science disciplines.

The teaching load for this position will include coursework in the Application Development (AD) program such as: CIS 300, Software Engineering; CIS 330, Database Models and Design; CIS 345, Usability Engineering; CIS 360, Application and Data Integration; CIS 375, Cloud Computing; CIS 400 Mobile Application Development; CIS 415, Intro to Machine Learning; CIS 430 Embedded Systems; CIS 445, Emerging Trends, and CIS 470 Capstone. This instructor may also teach core courses in the two year computer information systems degrees, as required.

Candidates with an interest and/or experience in developing programs focusing on growing the IT workforce pipeline, increasing diversity and minimizing the equity gap within the IT community are especially encouraged to apply.

Full-time faculty are responsible for supporting student learning by teaching assigned classes to a diverse student body in on-campus, hybrid and lab environments; developing and revising curriculum and researching new trends in application development; assisting with program approval, articulation and accreditation processes; preparing teaching materials; developing and assessing student learning outcomes to evaluate student work; assigning grades and maintaining required records; assisting with development of practicum sites, working with members, and providing academic and career advising to prospective and current students to support their success.

For information on how to apply, please see **Application Procedures and Required Documents**, below.

This is a full time, tenure track position reporting to the Dean of STEM (Science, Technology, Engineering and Math).

QUALIFICATIONS:
MINIMUM QUALIFICATIONS:

- Master's degree in computer science, application or software development, web development, information technology, or a closely related field.
- One year of relevant IT industry or training experience related to application/software development, software engineering, web development, cloud computing, or a closely related field.
- One year of leadership experience in a professional capacity that may include: work experience, work with professional and community organizations, grant research and writing, or applied academic research.
- One year of recent full-time or equivalent part-time college teaching experience in a related field of application or software development or a similar field in IT.
- Excellent writing and critical thinking skills as demonstrated in application material.

DESIRED QUALIFICATIONS:

- Doctorate degree in computer science, application or software development, web development, information technology, or a closely related field.
- Two years of administrative or supervisory experience with a leadership role in a technology based field, preferably related to application/software development, software engineering, web development, cloud computing or a closely related field.
- Demonstrated ability to form active industry partnerships that support program development, recruitment and collaboration to provide internship and student employment opportunities.
- Demonstrated expertise through applied academic research in an area related to IT, preferably related to application development, software development, or a closely related field.
- Two years of equivalent full-time teaching experience in a community college or university setting with demonstrated understanding of current, student-centered pedagogy focused

on active learning and effective assessment of teaching methods to support student engagement and success.
- Demonstrated instructional experience with online learning management systems, such as Canvas or Blackboard, and skills that support student use of eLearning technologies.
- Knowledge of and current affiliation with industry associations and/or professional organizations that support innovation, recruitment, and diversity in the IT industry sector.
- Demonstrated commitment to inclusivity and respect for a diverse community college environment comprised of students, faculty, and staff of varying social, economic, cultural, ideological and ethnic backgrounds.

ADDITIONAL INFORMATION:
COMPENSATION:
The starting salary will be $62,500 (estimated) annually for a 172-day appointment. The college provides an excellent benefits package which includes medical, dental, life insurance, and a retirement plan.

PHYSICAL WORK ENVIRONMENT:
Work is typically performed in a classroom and office and requires standing and/or sitting for extended periods of time. The ability to speak clearly and fully comprehend written and spoken English is essential. Instructors are required to use a computer in the work environment.

CONDITIONS OF EMPLOYMENT:

- You must document your citizenship or employment authorization within three days of hire.
- Criminal background check**.** *Prior to a new hire, a background check including criminal history will be conducted. Information from the background check will not necessarily preclude employment but will be considered in determining the applicant's suitability and competence to perform in the position.*
- All new positions are contingent upon funding.
- At this time, Edmonds Community College does not sponsor H1-B Visas.

APPLICATION PROCEDURES AND REQUIRED DOCUMENTS:

All applicants must apply online. No paper submissions or emailed materials will be accepted. Your online application must include the following documents in order to be complete:

1. Cover letter that addresses the required and preferred qualifications (Please provide thorough responses detailing how your experience relates to the position.)
2. Current resume.
3. Names and contact information for three references.
4. For veterans' preference, please scan and attach your DD214, Member-4 Form.
5. Responses to supplemental questions.

If you are selected for an interview, we will ask that you bring one copy of the following with you:

- Two current letters of recommendation.
- Transcripts(s) of your collegiate courses. Examples of your instructing resources (lectures, quizzes, projects, exams, etc.) from a course that you feel best reflects your instructional style.

Important, if this posting is on an external website other than www.edcc.edu/hr or https://www.governmentjobs.com/careers/edcc please select one of these links to apply. Applying via an external webpage will not enter our application system.

ABOUT THE COLLEGE:
Established in 1967, Edmonds Community College is a public, two-year, state community college. It focuses on academic excellence, student success, and community engagement, which reflect the three aspects of its mission: Teaching | Learning | Community. It serves about 20,000 students annually, including more than 1,000 international students from more than 60 countries. The college offers nearly 70 associate degrees and 60 professional certificates in about 30 programs of study. Its highest enrolled programs are the Associate of Arts/Associate of Science degrees, Paralegal, Allied Health (pre-nursing degree), Business/Accounting, Construction Management, and Culinary Arts. The college is located in the center of the growing south Snohomish County communities of Edmonds, Lynnwood, Mountlake Terrace, Brier, Mill Creek, Mukilteo, and Woodway. For more information, visit www.edcc.edu.

EEO/AFFIRMATIVE ACTION STATEMENT:
Edmonds Community College is an equal opportunity employer and assures equality of treatment in educational and employment opportunities without regard to race, color, religion, national origin, sex (gender), disability, sexual orientation, age, citizenship status, marital status, veteran status, or genetic information. Applicants with disabilities who require assistance with the recruitment process may call 425-640-1470 or 425-640-1832, and accommodations will be made to the extent reasonably possible. The Human Resources Office is accessible to persons with disabilities.

Instructor - Application Development
BAS Degree Program - Supplemental Questions

1. The position will teach in an integrated, interdisciplinary program that focuses on the knowledge and acquisition of skills within the application development program. How has your professional and academic experience prepared you to develop, build, and teach in an applied bachelor program focused on application development.

2. Describe how your background and experience reflect your commitment to equity and inclusion. How will you apply this in the classroom, in the development of curriculum, and in program development and recruitment to ensure you are creating an inclusive environment that supports Edmonds CC's diverse student body, the campus community, and beyond.

3. Describe your pedagogy for supporting adult learners. Since instruction will be both online and on-campus, give specific examples of how you have engaged and assessed students in both modalities.

4. As the department head of the first IT focused Bachelor of Applied Science (BAS) program at the college, give us examples of how you will encourage and support student success through collaboration within our college community and with local industry and state partners.

Appendix 4. BAS Manager Job Description

BAS Manager - Application Development (AD) BAS Degree Program (Draft Position Announcement)

Salary: $55,887.00 - $61,703.00 Annually *(Estimated)*

Location: Lynnwood, WA

Job Type: Full-Time

Department: STEM (Science, Technology, Engineering, and Math)

Job Number: Exempt *(Specific number will be determined when posted)*

Closing: TBD *(Will be updated when posting date is determined)*

Edmonds Community College is committed to diversity, equity and social justice. The college values its talented, diverse workforce and seeks to attract, hire, and support employees who consistently and actively embrace diversity and equity. We are intentional about social justice – the active engagement toward equity and inclusion that addresses issues of institutional, structural, and environmental inequity, power and privilege.

BAS Manager - Application Development (AD) BAS Degree Program

DESCRIPTION: The BAS Manager works to support the college mission and goals, and to recruit and retain students into the applied baccalaureate program. As the first point of contact for students and community members, this position promotes excellence, facilitates student recruitment and success, and helps to maintain a cooperative and inclusive learning community. This position will be the liaison and primary point of contact for all students, employers, alumni, campus departments, faculty and staff for the BAS in Application Development Degree Program. It requires some evening and occasional weekend commitments.

For information on how to apply, please see **Application Procedures and Required Documents**, below.

Responsibilities of the BAS Manager include:

- Engaging in recruitment and outreach of students
- Coordinating student information sessions; developing and managing the application process for the program, coordinating and managing program admissions, student orientation and student intake

- Tracking program outcomes
- Developing and maintaining marketing and web site materials Working closely with faculty to advise students for registration
- Tracking budgets and enrollment reports
- Supervising work-study and program interns
- Coordinating quarterly class schedules with faculty
- Working closely with faculty to monitor practicums
- Performing outreach to the campus at large and to the general community Managing the BAS graduation process
- Attending local, college and state meetings
- Performing general office and program operations in support of the BAS program

This is an exempt position, reporting to the Dean of STEM (Science, Technology, Engineering and Math).

QUALIFICATIONS:
MINIMUM QUALIFICATIONS:

- Bachelor's degree in student services, counseling, communication, IT or other applicable area.
- One year experience in program management, including program development, budgeting and tracking of program outcomes.
- One year of providing direct services to students such as advising, counseling, or navigating.

DESIRED QUALIFICATIONS:

- Master's degree in student services, counseling and advising, or other related area.
- Understanding of the local IT industry - through work history or education.
- Excellent English speaking, listening, problem-solving, critical thinking, research, editing and writing skills.
- Two years experience working within the community college environment or higher education, particularly in advising, enrollment services or instruction.
- Demonstrated commitment to inclusivity and respect for a diverse community college environment comprised of students, faculty, and staff of varying social, economic, cultural, ideological and ethnic backgrounds.
- Collaborative experience working with departments and agencies to meet program goals, and with community members in an advisory board capacity.
- Successful student recruitment and outreach experience, tracking of program outcomes, and development of appropriate marketing materials, application process, etc.; experience with employer engagement and outreach for internship and student employments.
- Familiarity with Bachelor of Applied Science program development either in Washington state or nationally.
- Knowledge of and current affiliation with IT industry associations and/or professional organizations that support programming and recruitment in application development, software development, information technology, computer information systems, etc.
- Experience with budget development, tracking and management.

- Evidence of ability to use technologies, including web development, social media, word processing, spreadsheet and presentation software, email, and learning management systems, and to incorporate and assess efficacy of new technologies in work-flow assessment and daily practice.

Additional Information
PHYSICAL WORK ENVIRONMENT:

Work is typically performed in an office setting, and requires the use of a personal computer. The ability to use a telephone, personal computer, and other electronic technology is required. The ability to make sound judgments is essential. The ability to speak, hear, and write effectively is required. The ability to effectively communicate with multiple agencies, stakeholders, and program participants is essential.

COMPENSATION:

Salary is $55,887 - $61,703 per year and is based on the Edmonds CC administrative/exempt salary schedule, plus a full state benefits package, which includes tuition waivers for college classes, medical, dental, retirement options and more. Vacation and leave package includes 12 sick days per year, 10 scheduled holidays, 1 personal holiday, and 24 vacation leave days per year.

CONDITIONS OF EMPLOYMENT:

- You must document your citizenship or employment authorization within three days of hire.
- Criminal background check**.** *Prior to a new hire, a background check including criminal history will be conducted. Information from the background check will not necessarily preclude employment but will be considered in determining the applicant's suitability and competence to perform in the position.*
- All new positions are contingent upon funding.
- At this time, Edmonds Community College does not sponsor H1-B Visas.

APPLICATION PROCEDURES AND REQUIRED DOCUMENTS:

All applicants must apply online. No paper submissions or emailed materials will be accepted.
Your online application must include the following documents in order to be complete:

1. Cover letter that addresses the required and preferred qualifications (Please provide thorough responses detailing how your experience relates to the position.)
2. Current resume.
3. Names and contact information for three references.
4. For veterans' preference, please scan and attach your DD214, Member-4 Form.

Important, if this posting is on an external website other than www.edcc.edu/hr or https://www.governmentjobs.com/careers/edcc please select one of these links to apply. Applying via an external webpage will not enter our application system.

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Appendix 5. Program Review Template

Program Review

Name of Program:

Program Goals

1. What were your program goals last year?

2. How were these goals met or why were they not met?

3. How do program goals align with or relate to the College Mission and/or to the college's Strategic Plan or other relevant goals?

Review and Assessment of Student Learning

1. List program learning outcomes (PLOs) and other relevant standards and indicators.

2. Describe areas where students are doing well and where improvements are needed. Please provide evidence.

Student Enrollment and Persistence

1. Review and analyze data to identify any trends or patterns in student enrollment, retention, completion, demographics, etc. that might affect your program.

2. Describe how educational and employment trends might affect the program.

3. What additional data would the program like to review to evaluate student success?

Action and Summary Plan

1. Identify changes in your program and curriculum based on assessment of student learning outcomes or other factors.

2. What are your program goals for the next year?

3. Identify next steps, set a timeline, and include resource needs. Indicate if resource needs are tied to the college's mission, strategic plans, and/or other factors.

Appendix 6. BAS Course Descriptions and Course-Level Objectives

Course Title

CIS 300 Software Engineering

Catalogue Description

The course journeys through multiple facets of software engineering, including software process models, software testing, requirements engineering, and systems engineering. Additionally, analysis is given of software development including release and user testing and understanding conceptual designs.

Course Learning Outcomes

1. Explain software process models.
2. Examine agile software development, understanding its relevance in software engineering, exploring techniques and also approaches to project management.
3. Describe critical components of requirements engineering, detailing the process from defining to documenting and maintaining requirements for the software design.
4. Analyze various stages of software testing, including development, release and user testing.
5. Break down systems engineering, investigating sociotechnical systems, conceptual design, system procurement, development, operation and evolution.
6. Discuss ethical issues in software engineering

Prerequisites

CS 143 or equivalent

Credits

5

Course Title

CIS 315 Discrete Mathematics for Developers

Catalogue Description

Students are introduced to logic and proof, structures and algorithms, and number theory. Focus is also given to induction and recursion, counting and discrete probability providing an essential foundation and framework for software development.

Course Learning Outcomes

1. Utilize propositional logic, inference, and proof.
2. Define structures, sets, functions, and matrices.

3. Make use of mathematical induction and recursion definitions on arithmetic sequences.
4. Examine counting theory and its application on a series of events, to determine all possible outcomes.
5. Define discrete probability and its purposes for determining outcomes of individual events.

Prerequisites
Math&141
Credits
5

Course Title
CIS 330 Database Models and Design
Catalogue Description
This course examines the functional design and operation of relational databases in a computing environment. Attention to database theory and appropriate modelling is given. The class additionally looks at the inner workings of connecting software applications to the designed databases.
Course Learning Outcomes

1. Define requirements found in the information gathering process from critical stakeholders to successfully design a database.
2. Identify best practices utilized in designing relational databases, its various forms of normalization, in order to prevent redundancies and anomalies.
3. Demonstrate knowledge of the structure of database tables, its records, keys and indexing.
4. Design and implement software connections to databases using programming languages.

Prerequisites
CIS 300, CIS 315
Credits
5

Course Title
CIS 345 Usability Engineering
Catalogue Description

The class explores foundational components of usability engineering. Subjects range from defining usability engineering to establishing a sound usability engineering lifecycle. Attention is given to usability heuristics and also analyzes usability testing and methods.

Course Learning Outcomes

1. Define usability, examining examples, and considering tradeoffs, including analyzing differences in users.
2. Examine the usability engineering lifecycle, detailing goal setting, prototyping, and follow up.
3. Understand usability heuristics, learning the user dialogue and language, to develop consistency and efficiency.
4. Analyze usability testing, selecting appropriate test subjects, maintaining ethics with the test users, utilizing interviews and questionnaires.

Prerequisites

CIS 300, CIS 315

Credits

5

Course Title

CIS 360 Application and Data Integration

Catalogue Description

This course examines the principles and practices of developing solutions that manipulate data in a variety of forms and structures for the purposes of enterprise integration, data analytics or other data-intensive applications.

Course Learning Outcomes

1. Understand the uses and types of Application Programming Interface (API) Architectures.
2. Design and work with application programming interfaces (APIs).
3. Analyze application design principles for working with big data sets.
4. Create and manipulate data in Relational Database Management Systems (RDBMS) and manage multiple data sources.
5. Work with unstructured data and manage data in motion.

Prerequisites

CIS 330, CIS 345

Credits

5

Course Title

CIS 375 Cloud Computing

Catalogue Description

The class takes a requisite look at the cloud computing landscape and offers insight to software as a service, platform as a service, and infrastructure as a service. An analysis of creating scalable systems in elastic environments is made through the lens of software engineering.

Course Learning Outcomes

1. Define software as a service, platform, and infrastructure as a service.
2. Define public, private, and community cloud computing, noting strengths and weaknesses for each.
3. Analyze, compare and contrast, and use different current cloud platform services.
4. Determine and implement best security practices for cloud computing environments.
5. Work with unstructured data and manage data in motion.

Prerequisites

CIS 330, CIS 345

Credits

5

Course Title

CIS 400 Mobile Application Development

Catalogue Description

The class inspects the necessary procedures required in developing software for various mobile platforms. A survey analysis includes creating imperative user designs and interfaces for software applications which run on mobile devices and utilizes a network connection or executes natively. Considerations for security in a mobile application are additionally examined.

Course Learning Outcomes

1. Define user requirements for mobile applications and develop appropriate user interface design.
2. Design mobile software applications for native and network environments.
3. Compare and contrast the requirements for mobile software application development and architectures in differing platform environments.
4. Utilize various technologies and programming languages to solve problems through the means of mobile applications.

5. Discover and implement best practices for securing mobile applications.

Prerequisites

CIS 360, CIS 375

Credits

5

Course Title

CIS 415 Introduction to Machine Learning

Catalogue Description

The course takes an introductory look at machine learning, beginning with analyzing problems, and creating appropriate tasks for training computing systems. Probability and similarities are utilized to aid in understanding and programming for the machine learning process. Artificial neural networks are discussed, and how they are implemented to garner artificial intelligence. Decision trees, computational learning theory, and performance evaluation are additionally covered.

Course Learning Outcomes

1. Select the appropriate search problem to use for a machine learning task.
2. Analyze the use of probability and similarities for machine learning.
3. Examine artificial neural networks; how they mimic biological neural networks, in order to assist in machine learning from various inputs.
4. Demonstrate knowledge of decision trees, foundational mechanisms that machine learning builds upon.
5. Assess performance evaluation methodologies and measurement techniques implemented in machine learning.

Prerequisites

CIS 360, CIS 375

Credits

5

Course Title

CIS 430 Embedded Systems

Catalogue Description

The course introduces students to programming embedded systems. It details the underlying development of system components, namely, boot up, memory management,

peripherals, and bus interfaces. Focus is also given to topics including power management, distributed computing, and the IoT.

Course Learning Outcomes

1. Analyze and create the boot up procedure, using startup code and bootloaders , allocated in memory, in order to load the image.
2. Implement memory management, utilizing the address space, creating stack and heap storage for program usage.
3. Configure and design peripheral interrupts and general purpose I/O for the embedded system.
4. Develop distributed systems and understand and IoT architecture.

Prerequisites

CIS 400, CIS 415

Credits

5

Course Title

CIS 445 Emerging Trends

Catalogue Description

The course discusses current and emerging trends in the industry. It provides an opportunity for students to research and interact with technologies that are changing the programming landscape.

Course Learning Outcomes

1. Discuss and analyze emerging trends within the industry.
2. Classify and compare current and emerging trends, determining the magnitude in which it affects the profession at present.
3. Evaluate current trends and formulate what future trends might develop as a result within the industry.

Prerequisites

CIS 430, CIS 460

Credits

5

Course Title

CIS 460 Capstone I

Catalogue Description

The 1st part of the capstone practicum series. Students implement their acquired knowledge through the creation of defined projects, portfolios and established internships in order to refine and master software development skills and abilities.

Course Learning Outcomes

1. Distinguish best software development model to implement for the capstone programming project.
2. Select appropriate software application type, differentiating between mobile, cloud and traditional programming applications for development for the capstone programming project.
3. Decide best data algorithms to be used for the capstone programming project.
4. Determine whether local or remote database storage will be used for the capstone programming project.

Prerequisites

CIS 400, CIS 415

Credits

5

Course Title

CIS 470 Capstone II

Catalogue Description

The 2nd part of the capstone practicum series. Students implement their acquired knowledge through the creation of defined projects, portfolios and established internships in order to refine and master software development skills and abilities.

Course Learning Outcomes

- Distinguish best software development model to implement for the capstone programming project.
- Select appropriate software application type, differentiating between mobile, cloud and traditional programming applications for development for the capstone programming project.
- Decide best data algorithms to be used for the capstone programming project.
- Determine whether local or remote database storage will be used for the capstone programming project.

Prerequisites

CIS 445, CIS 460

Credits

5

Appendix 7. AD BAS Sample Curriculum Sequence

Full Time Sample Schedules:

CIS AAS-T BAS Pathway				
	Summer	Fall	Winter	Spring
Year 1		ENGL&101	ENGL&235	CMST&210
		CIS 102	MATH&141	CS 115
		CIS 100	CIS 233	CIS 234
Year 2	CIS 220	CIS 250	Social Science	CIS 253
		CS&141	Lab Science	CS 143
		CIS 251	CS 142	CIS 280
Year 3		CIS 300	CIS 330	CIS 360
		CIS 315	CIS 245	CIS 375
		Humanities	Social Science	Natural World
Year 4		CIS 400	CIS 430	CIS 445
		CIS 445	CIS 460	CIS 470
		General Elective	General Elective	General Elective

Web Dev and Cloud Developer AAS-T BAS Pathway				
	Summer	Fall	Winter	Spring
Year 1		CIS 100	CIS 242	ENGL&101
		CIS 102	CIS 244	CS 115
		CIS 241	CIS 245	CIS 243
Year 2	CMST&210	CIS 250	CS 142	ENGL&235
		CIS 251	MATH&141	CS 143
		CS&141	Social Sciences	CIS 280
Year 3		CIS 300	CIS 330	CIS 360
		CIS 315	CIS 245	CIS 375
		Humanities	Social Science	Natural World
Year 4		CIS 400	CIS 430	CIS 445
		CIS 445	CIS 460	CIS 470
		General Elective	General Elective	General Elective

Part-Time Sample Schedules (10 credits per quarter):

CIS AAS-T BAS Pathway				
	Summer	Fall	Winter	Spring
Year 1		CIS 100	CIS 233	CIS 234
		CIS 102	ENGL&101	Math&141
Year 2		CIS 250	ENGL&235	CIS 253
		Social Science	CMST&210	CS 115
Year 3	CIS 220	CIS 251	General Elective	Lab Science
	Social Science	CS&141	CS 142	CS 143
		CIS 280		
Year 4	Humanities	CIS 300	CIS 330	CIS 360
	General Elective	CIS 315	CIS 245	CIS 375
Year 5	General Elective	CIS 400	CIS 430	CIS 445
	Natural World	CIS 445	CIS 460	CIS 470

Web Dev and Cloud Developer AAS-T BAS Pathway				
	Summer	Fall	Winter	Spring
Year 1		CIS 100	CIS 102	CIS 243
		CIS 141	CIS 242	ENGL&101
Year 2		CIS 250	CIS 244	CS 115
		CIS 251	CIS 245	Math&141
Year 3	Social Science	CS&141	CS 142	CS 143
	General Elective	Social Science	Lab Science	CMST&210
		CIS 280		
Year 4	Humanities	CIS 300	CIS 330	CIS 360
	General Elective	CIS 315	CIS 245	CIS 375
Year 5	General Elective	CIS 400	CIS 430	CIS 445
	Natural World	CIS 445	CIS 460	CIS 470

Appendix 8: AppConnect NW

AppConnect NW is a consortium of five community and technical colleges in the Puget Sound region. Each college offers an applied baccalaureate degree in application/software development. The faculty have joined together to collaborate on developing industry partnerships and common curriculum in order to create more opportunities for graduates to succeed. While not an official consortium member, Edmonds CC has partnered with AppConnect NW to develop the AD BAS with support and expertise from the AppConnect NW faculty and industry partners.

AppConnect NW is funded through the National Science Foundation.

Website: http://www.appconnectnw.org/

Project Abstract

The Northwest Network for Application Development and Technology Connections (AppConnect NW) project is a faculty-led coordination network across five colleges. AppConnect NW will engage with information technology (IT) industry leaders, regional employers and local high school teachers and counselors to develop and support a technician pathway from an associate's degree to a Bachelor of Applied Science (BAS) degree in Software Development. Data produced through AppConnect NW activities will inform states and community colleges that are creating new BAS degrees in software development. Best practices will be disseminated nationwide through the ATE network including college consortium collaboration strategies that meet industry expectations, curriculum development strategies that prepare under-served students with technical and soft skills to succeed in a competitive, fast-changing industry, and recruitment strategies that successfully support bringing under-served students into software development programs.

AppConnect NW serves the national interests by growing a diverse software development BAS student body, preparing the students to succeed upon graduation, and expanding regional recognition of an emerging applied degree. The project will educate and engage regional employers on the value of Bachelor of Applied Science (BAS) degrees and BAS graduates to meet high-demand software development, programming and web development workforce needs in the greater Seattle area. AppConnect NW will create a professional network that brings together BAS software development faculty members and industry to develop, enhance and validate industry-relevant BAS technical training curriculum and standards ingrained with the philosophy that intelligence and talent are traits that can be fostered to achieve success rather than being inherited and static traits. This approach has the potential to enable non-traditional students to understand IT culture and thrive within the industry. Finally, the project will educate and engage local high school faculty and counselors to encourage students who would benefit from earning a bachelor's degree in software development at lower cost than a traditional computer science baccalaureate program and in a smaller-classroom setting. This project network will engage stakeholders in the pipeline from K12 through post-secondary education and industry to support student success in software development.

Appendix 9: Minutes from Advisory Meeting

COMPUTER INFORMATION SYSTEMS
ADVISORY COMMITTEE AGENDA
November 30, 2018
7:00-8:30 pm
SNH 338

Attendees:
Employees: Kyle Helt, Ben Samuelson, Cathy Smith, David Matthews, Kiefer Atkins,
Employers: Adrian DuPre, David Chapin, Marc Milstein, Andrew Healey
Faculty/Staff: Mike Andrew, Mark Einfeld, Louis Ho, Kristi Ingram, Nelson Lopez, Carey Schroyer, Eva Smith

Call to Order: 7:00 pm

Dave Matthews: General Welcome and Introductions
Dave announced he will be resigning from the CIS Advisory Committee effective November 30, 2018.
DACUM Reports
Edmonds CC / STEM / CIS recently hosted a DACUM session to determine what skills and knowledge are required for certain job titles. The following two primary questions were addressed:

What's involved for the current industry jobs?
How does that fit with what and how we are teaching?

A review of the resulting reports showed that current CIS classes offered by Edmonds CC are pretty on-track with the DACUM results.

Kyle Helt stated that Edmonds CC students are hired by Boeing and Boeing contractors because our students have a good understanding of fundamentals. He feels our program is meeting industry needs.

Bachelor of Applied Science (BAS) Degree Development
Carey Schroyer (STEM Division Dean) shared an overview of Edmonds CC's proposed BAS Degree.
BAS degrees are designed to bridge the gap between BA (theoretical knowledge based) and AA (skills based) education in order to better prepare students to enter into the skilled workforce. The BAS will build on existing CIS two year degrees but requires the development of new courses for the 3rd and 4th year curriculum.

Carey briefly outlined the approval process required by the state board and indicated the statement of need had been approved, the public comment phase had been completed, and the SBCTC had approved Edmonds CC's plan to submit the final document (program approval document). Edmonds CC intends to submit the final document in February 2019 with an anticipated program start date of Winter 2020 (staff and faculty dependent).

Advisory board members agreed there is a demonstrated need for these skills and this degree. A "show of hands" vote was taken. The majority of the CIS Advisory Board members support the development of the BAS Degree in Software Development at Edmonds CC.

Labor market data (in Snohomish and King county) identified a significant labor market shortage for this field. The data confirms the need for these skills/degree and similar degrees will be offered by 5 other WA schools (including nearby campuses).

Discussion Focus: What can Edmonds CC do to make our program unique and attractive relative to the "competition"?
This can be addressed by class offerings. While most of the curriculum is set, there is room for 3 more classes. Committee members offered the following suggestions:

Artificial Intelligence / Machine Learning / Integration
Automation – Concept and Application
Software Development Quality Assurance
Security (especially transactional in support of e-commerce)
Risk Assessment
Data Analytics (more powerful title than "Data Mining")
This is a very hot area right now; could be THE course that sets us apart.

Discussion around these topics supported what is currently being offered in CIS (and CS) classes and how these items can be addressed in existing classes and new classes developed in support of the BAS degree.

Mark Einfeld requested members to email ideas and supporting textbook recommendations to him so he can build a scaffolding for potential courses.

There was additional discussion around Internships (very important to the relevance of the program). The suggestion was made to look at and possibly partner with curriculums developed by Amazon and Google.

PYTHON Course
Edmonds CC is offering this scripting class beginning Winter Quarter 2019 through the Computer Science (CS) department. The course will involve students completing projects. CIS can suggest 2 projects; these need to be challenging but also within the capabilities of the students. Please submit any ideas to Mark Einfeld. Due to timing, Spring Quarter 2019 will be the first opportunity for these projects to be incorporated. No prior programming experience is required for students entering the Python course.

CIS 280 Course Revision
CIS department is looking at merging CIS 116 (Portfolio development) with exam certification participation. This should position our out-going students favorably for entering the workforce. The course will encompass: portfolio and resume development, interview skills, LinkedIn presentation, and preparation for certification exams.
Edmonds CC has licenses to Transcender (test prep software). The goal is to add accountability on the part of the students to take advantage of this resource.
Committee members agree there is significant value in industry certifications.

They are seeing a trend away from degrees and towards certifications.

CIS Advisory Board Leadership

Current chairperson Dave Matthews is retiring.

Mark Einfeld challenged the committee to reflect on their next leader.

Nominations will be solicited at the next Committee meeting.

General:

Carey Schroyer suggested next Fall Quarter meeting be held prior to the Thanksgiving break.

The question was raised if the Committee should have a special meeting to focus on the BAS degree once final approval is received.
There was consensus that this is a good idea; group may be a subset of current Committee members and include additional participants who have significant insight/input or vested interest in the BAS degree.

Adjourned: 8:30 pm

Recorder: Kristi Ingram

Appendix 10. Advisory Committee Membership

Last Name	First Name	Title	Company
Atkins, MBA	Kiefer	IT Analyst	Bloodworks Northwest
Beauvais, CDMP, DGSP, TOGAF 9	Chan J.	Director of Business Info Services	Costco Wholesale
Chapin	David	Security & Services	Evergreen Recovery Centers
Helt (Derrick)	Kyle	Network Designer	Boeing
Dupre	Adrian	Sr. Manager of IT	Adaptive Biotechnologies
Healey	Andrew	CTO	ISOutsource
Houser	Elizabeth	Security Operations Manager	DefenseStorm
Matthews	David	Principle	Drmatthews, LLC
Milstein	Marc	Sr. Investigator/Analyst	T-Mobile
Moore	Jesse	Security Engineer	UW Medicine
Samuelson	Ben	Security Service Engineer	Microsoft
Skelton	Maryellen	Director of e-discovery and hosted solutions	Baluster Discovery, LLC
Smith	Cathy	IT Engineer	Pacific Northwest National Laboratory
Smith	Eva	Director of IT Service	Edmonds CC