



TEACHING | LEARNING | COMMUNITY

Career Launch Endorsement Review (CLER) Application



INSTITUTION: Edmonds College

PROPOSED PROGRAM: Computer Information Systems - Full Stack Developer Certificate

Note: Imbedded in the Technology Career Acceleration Program with T-Mobile and Edmonds School District

PROGRAM CIP: 11.0201

PROGRAM EPC (Legacy): 515N

PLAN CODE (PeopleSoft): ___

NAICS Code: 5173

CONTACT INFORMATION

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/s/Charlie Crawford/

5/15/2020

Chief Academic Officer

Date

Application contact:

Scott A. Copeland
Associate Director, College Relations and Policy
Guidance Education Division
Washington State Board for Community and Technical
Colleges Office: 360-704-4397
Cell: 360-791-6026

PROGRAM CHECKLIST**P1. Program description including length of program in years and total hours (including split between classroom and worksite)**

Technology Career Accelerator Program seeks to recruit students into a program that leads to well-paying Full Stack Developer jobs at T-Mobile. These positions are currently filled by employees with a BA, but through this program can be filled by a 59-credit certificate paired with two **paid**, 6-week summer internships.

Paid internship one occurs right after the junior-year of high school. The certificate program starts as Running Start during the senior-year. Paid internship two occurs the summer after senior-year. The certificate program is completed within an additional 1 to 3 quarters after the second paid internship. In total, the program will be approximately 1,365 hours. This is about 480 hours of internship time and about 885 hours of contact time at the college. There may be some additional mentoring, career exposure, and financial aid support meeting time during the senior year. Students will be encouraged to apply at T-Mobile with 1 to 2 manager recommendations resulting from the paid internships and an approved certificate program on their resume.

The program timeline will consist of two paid, 6-week summer internships, Running Start during Senior-year, and a 4 quarter (59-credit) certificate. Knowing that students will have the opportunity to overlap earning credit with part-time and full-time Running Start, we can only estimate when each student will complete the program. For Cohort 1, all students will start the program together in the summer of 2020. Some may finish by December of 2021, and some by June of 2022. When they are ready to interview for a position at T-Mobile, most students will be about one year out of high school. We will have a better idea of anticipated completion once we have determined the exact student participants and their schedules for senior-year. Cohort 2 will be recruited in February of 2021 and begin the same process. The two cohorts will run simultaneously, but will be at different points in the program.

P2. Estimated number of hours per week at worksite and in classroom (this approach may shift throughout the program).

The 6-week, paid summer internships will be 40 hours per week. The certificate program will start with Running Start. For most students this will be one course each quarter, which is about 3-5 hours per week. When students are enrolled full-time, this will increase to 10 -12 hours per week as they take multiple courses.

P3. Demonstration of labor market demand for specified skills/career in local region

The United States Bureau of Labor Statistics estimates full-stack development employment to increase from 135,000 to over 853,000 by the year 2024. Indeed recently reported that the job of a full-stack developer stands strong at number 2 position according to their scores. There are openings for Full-Stack Developers across many different companies in the Seattle region. In April 2020, Glassdoor had 724 full time positions posted in the Seattle region, with an estimated base salary of \$62,000 to \$99,000. T-Mobile has very aggressive hiring goals for "Early in Career Tech Roles" and will continue to expand these goals. Implementing this program will help T-Mobile fill these positions as students successfully complete the program each year. Given the regional demand, we hope that by the summer of 2021, other companies will also accept this model in place of a BA.

P4. Projected count of student enrollment, student completion, and anticipated employer participation for 5 years, post-pilot.

For the pilot cohort, T-Mobile will accept 10 students into the program. This will increase as the program starts to produce competent Full-Stack Developers into the T-Mobile workforce. The plan is to continue to increase the student numbers year over year. Additionally, Edmonds College will open this certificate

opportunity to other students. This will allow other companies to consider the certificate plus employer on-the-job training as an option to fill Full-Stack Developer roles. 5 years down the road, we plan to have additional partners who see the value in this model, as well as a solid ongoing program at T-Mobile. A short-term goal is to have an additional employer partner for the 2021 summer cohort.

P5. Concise description of development process to create the Career Launch program (e.g. who was involved, when, how was the program piloted, etc.)

Starting in 2018, T-Mobile and WABS began discussing an internship with current high school students. T-Mobile currently has established internships with high school graduates and college students, but not with students still in high school. In order to increase the retention value of a student so far removed from the workforce, we started to consider an accelerated track for a high demand position at T-Mobile. At the end of July 2019, Edmonds College President, Dr. Amit Singh, and the Superintendent of Edmonds School District, Dr. Kris McDuffy, entered into a partnership to provide instructional resources and recruitment support to an extension of the T-Mobile internship. The current group consists of the following:

- Dale Bennett, Recruiting Manager, Early Careers at T-Mobile
- Cathy Jackson, Sr Manager, Tech Product & Solution | EDS |Enterprise Marketing Products & Capabilities, T-Mobile
- Anne Penny, Director Business Outreach - Career Action Center, Edmonds College
- Kevin Stewart, Dean of Business, Edmonds College
- Mark Madison, Director of College and Career Readiness, STEM/Career and Technical Education, Edmonds School District 15
- Shereen Henry, Deputy Director of WABS, Grant Project Manager

Work through the CCW grant began in September of 2019 and has consisted of monthly meetings of the team to create an experience starting in high school and ending with an interview at T-Mobile for an in-demand position. 59 applicants were recruited for the pilot cohort in April 2020. The pilot internship one will occur in July 2020, with the 59-credit certificate and second internship, being completed by June 2022.

P6. Signed letter of endorsement from all relevant partners, stakeholders and regional networks (including employers, labor organizations, academic institutions, community-based organizations, individuals, and other relevant stakeholders in support of the proposed Career Launch program). Regional network endorsement preferred.

Attached

P7. Description of resources, supports, or other processes to recruit and support students from underserved backgrounds or create an implementation plan to do so.

Through the recruiting process in the school district, we reached students in multiple programs and courses. Edmonds School District serves over 21,765 students with the following characteristics: 53.9% students of color 37.7% low-income, 16% students with disabilities, and 47.2% female.

Recruiting went through the following avenues:

- WABS specifically targeted and worked closely with their network of Natural Leaders - trained immigrant, refugee and underserved parent leaders who are able to provide community outreach and increase awareness of this Career Launch program. We worked closely with high school counselors and Sally Guzmán Reyes, the Family and Community Engagement Coordinator at Edmonds School District, to determine the most grassroots and equitable ways to get the word out and identify students in our target group.
- Through the Edmonds School District College and Career Readiness efforts, information and invites were sent to CTE Computer Courses, Robotics Clubs, and other courses with aligned interests.

- The planning team also attended the Dual Credit Fairs put on at each high school building in the Edmonds School District. This allowed the team to advertise broadly and speak in-person to interested students.

To support students of all backgrounds in the online application process, the team held a family information night to introduce the program, the online application process, and how to create and upload a resume. We wanted all students to start off without any barriers to applying. We introduced each high school's career counselor and handed out their information for additional support. We also had the Running Start Coordinator from Edmonds College attend the meeting as well. We had about 40 students attend this first session. 59 applied by the deadline. Our applicant pool consisted of the following demographics: 48% students of color, 20% low income (based on accessing free & reduced lunch), 2% students with disabilities, and 36% female.

The final step is to help the managers at T-Mobile, who will ultimately pick the final 10 candidates, to understand the audience we are trying to reach. We want to offer this opportunity to students who may not be as competitive initially due to lack of access to services, but will gain competitiveness through this program. By the second internship after their senior-year, we anticipate that students from our cohort can compete with the typical student applying for the T-Mobile internships, which is typically a more privileged student with coding experience. This was a new direction for the managers.

Planning for Recruiting in Future Cohorts:

- WABS Natural Leaders program families are active in 10 districts across Snohomish, King, and Pierce Counties. Grassroot leaders are an effective tool to get messaging out to immigrant and refugee families.
- WABS also leads the CCW Regional Network for King and Pierce County, providing access to additional family and community groups serving underserved populations.
- Advertising at school district career activities was highly successful: Dual Credit Fairs, robotics clubs, computer-related courses, etc. This helped get students from a variety of backgrounds with an aligned interest.

INDUSTRY-RELATED CHECKLIST

I-R1. Address of worksite(s) where Career Launch students will complete supervised training.

T-Mobile Headquarters
3625 132nd Ave SE, Bellevue, WA 98006

I-R2 Hourly wage for Career Launch participants.

During each 6-week summer internship at T-Mobile, students will earn \$15 per hour, or higher as the regional minimum wage increases.

I-R3. List of entry-level positions and associated job descriptions for which a Career Launch student would be eligible for upon completion.

At T-Mobile, students will be able to apply for an Associate Software Developer position. This position designs and develops internal and external business systems/applications, systems interfaces, databases, reporting, or business intelligence systems, as required to deliver new systems functionality supporting corporate business objectives. This position is an entry level developer position working under the direction of a Developer, Sr Developer, or Principal Developer, with project complexity limited and commensurate with experience level. *T-Mobile Job description is attached.*

Additional companies have not yet been brought into this project to make this an industry-wide certificate. Being Career Launch Endorsed will go a long way to recruiting other companies that would use this model to fast track students to this in-demand career. In the meantime, companies will have an

option to take students with just the certificate and further their on-the-job learning in whatever format best fits their company. We plan to use our successes to have other companies consider paid internships, a college certificate, and on-the-job training as a viable way to fill this very in-demand position by the summer of 2021.

I-R4. List of specific skills and competencies required for completion of Career Launch program, with demonstrated alignment to entry-level positions, job descriptions, and average local salary ranges.

Students will require a basic level of coding knowledge/skills in one or more of the following languages: Java, Python, SQL, JavaScript, or C. They will also need to show understanding of Software development Life Cycle (SDLC), as well as demonstrate abilities in collaboration, critical thinking, customer focus, relationship building, and influencing.

To help demonstrate mastery, students will have recommendations from one to two T-Mobile managers from the internships, recommendations from one to two different T-Mobile mentors from the internships, two different internship artifacts from assigned projects, and their successful completion of the 59-credits in the certificate program.

These skills all lead to an entry-level full-stack developer position. This position has an average starting wage of \$58,000 at T-Mobile. In April 2020, Glassdoor listed 724 full time positions posted in the Seattle region with an estimated base salary of \$62,000 to \$99,000. The US Bureau of Labor Statistics shows the median wage in 2018 as \$110, 000 for the US with a 21% growth rate from 2018 to 2028. Most occupations are projected at a growth rate of only 5%.

I-R5. Employer attests that Career Launch program is in compliance with required federal, state, and local regulations.

Yes.

I-R6. Employers will outline a student supervision and mentorship model.

For each 6-week, paid summer internship:

- Each manager will have 2-3 interns on their team giving the interns an automatic collaborative environment for their projects
- There will be a mentor set up for each team:
 - Mentor will act as a back-up person of contact for the hiring manager, giving the interns a constant support system
 - Mentors will connect with the interns weekly to encourage questions and to work with them on development opportunities
- Managers and mentors will have an opportunity to provide a student with recommendations during the interview process.

T-Mobile will be in charge of interns as employees during both summer internships. Edmonds School District will offer a .5 work experience credit during the first summer internship. The school district will employ a district Worksite Learning Coordinator who will work with the T-Mobile supervisors on setting up the student learning plans and completing the post-experience evaluation of the learning goals for each student.

Edmonds College will have 4 credits of their 59-total matched up to the internship experiences. The credits will be awarded at the end of the 2nd summer internship.

During the high school senior-year and certificate program at the college, we hope to have more contact with T-Mobile employees in the classroom and in a mentor capacity. This will vary year to year.

I-R7. Description of common career pathway(s) beginning with entry-level position specified with demonstration of likely salary growth

Associate Software Developer (\$58,000) ⇒ Software Developer (\$72,000) ⇒ Senior Software Developer (\$106,000) ⇒ Principle Developer (\$143,000)

**Estimated salaries*

There could also be opportunities to move into Technical Project Manager roles or to become a specialist, meaning they could specialize in a certain aspect of technology such as Big Data, database development, website development, etc. The other possible option is a People Manager.

While it is hard to give a definite timeline for an individual employee to grow in their role as it really depends on the person, work ethic, and ability to learn, on average, 2 to 3 years is a good timeline for an Associate Software Developer to move up to a Software Developer role.

I-R8. Demonstrated competency alignment with relevant professional standards for specified entry-level positions when applicable.

Participants will require a basic level of coding knowledge/skills in one or more of the following languages: Java, Python, SQL, JavaScript, or C. They will also need to show understanding of the Software development Life Cycle (SDLC), as well as demonstrate abilities in collaboration, critical thinking, customer focus, relationship building, and influencing.

Skills gained during the two 6-week internships:

- Work scope of the business department at T-Mobile and overall corporate employee experience
- Technical language exposure
- Application of STEM skills in a business environment
- Business meetings and how business works with formal communications, meetings, all-hands meetings, planning meetings, etc.
- Participate in a project with a team, overseen with a manager or mentor

The goal for participants is to demonstrate a level of success to generate manager and mentor recommendations. On-the-job experience paired with the certificate program below helps to create the foundation of this entry-level position.

Learning gained during the 59-credit certificate at the college:

- Foundation in Java, Python, SQL, Cloud is the focus
- Front-end foundation would include: HTML, JavaScript

The 59-credit certificate program was created with input from T-Mobile to ensure it meets the industry standards needed for entry-level work at T-Mobile. T-Mobile offers an extensive professional development program for their employees to further their job training once hired.

I-R9. Signed letter from employers partners attesting that Career Launch completers will be ready for specified entry-level jobs, including an optional, non-binding commitment estimating number of Career Launch completers they plan to interview/hire over the first three years of the program.

- Letter of Support Attached-Cody Sanford, Executive Vice President & Chief Information Officer, T-Mobile

ACADEMIC-RELATED CHECKLIST

A-R1. List of academic institution(s) providing career-aligned instruction for Career Launch program.

1. Edmonds College, 20000 68th Ave W, Lynnwood, WA 98036
 - a. 59-Credit Certificate Program
2. Edmonds School District, 20420 68th Ave W, Lynnwood, WA 98036

a. K-12 CTE elective work experience credit during summer internship one

A-R2. Curriculum scope and sequence aligned to skills and competencies provided in employment checklist.

Program Description: This Full Stack Developer Certificate prepares students for a career in full stack software development. The required coursework successfully develops students' skills teaching them introductory web programming, client-side scripting, structured and object-oriented programming, and database programming and design. This certificate requires successful completion of a minimum of 59 credits as outlined. 4 of the 59 credits will occur during the summer internships, about 120 hours. The Edmonds School District will add a .5 work experience elective credit for the high school transcript during internship 1.

Outcomes:

- Understand database design and implementation using different database management systems.
- Demonstrate knowledge of web programming, including markup languages, and client-side scripting.
- Examine and understand various programming languages, differentiating between declarative, structured, object-oriented, and scripting.
- Demonstrate basic proficiency in programming, selecting appropriate algorithms and coding routines to solve business problems

**A more complete description of the Edmonds College certificate is attached.*

A-R3. Demonstration of student supports (e.g. mentoring, advising, financial aid, tutoring) available for Career Launch students enrolled in the course.

Education Partner Support:

Dr. Amit Singh, the President of Edmonds College, is securing financial scholarship support for the 10 students going through this first cohort. Since most students will complete 15 credits in Running Start, at little or no cost to themselves, they will only have about 30 credits left to cover. This money will help ensure that students have program access and that even financial aid will not be a barrier. Edmonds College is committed to finding ways for students to complete their programming. One example is the Complete the Dream Scholarship which supports students who recently experienced an unforeseeable financial hardship that would prevent them from completing the last quarter of their program.

Edmonds College also has a very extensive support system for students that are enrolled with a STEM focus.

- The Relationships in STEM Education (RiSE) Program is a student support program for Edmonds College students interested in Science, Technology, Engineering, and Math (STEM). Through personalized support and community building, RiSE aims to increase the number and the diversity of students successfully earning degrees in STEM fields. Below are a few supports that are essential to the project:
 - Staff or faculty mentor with quarterly mentor reviews on goals
 - Leadership opportunities with a STEM focus
 - Career explorations and field trip events
- The STEM Study Room is a place for Edmonds CC students to get free, drop-in academic support from tutors and STEM faculty. The tutors are current Edmonds College students who have taken advanced coursework in Math, Biology, Chemistry, Physics, Computer Science, and Engineering. In addition to the free tutoring, the STEM Study Room is equipped with white board tables, LCD screens, textbooks, headphones, Engineering laptops, and Chromebooks for in-room use. Free snacks and drinks are also provided for students using the study room.
- Edmonds College also has a Learning Support Center and a Computer Resource Room, both of which provide services that will provide access to successful experiences in students' course work.

As well as, Edmonds College provides food, transportation and emergency support with items like a food pantry, low cost ORCA bus pass, and emergency funds to help with critical needs like unexpected car repairs or rent assistance.

Both Edmonds School District and Edmonds College have guidance counselors and career counselors to help support career choices, post-secondary choices, scheduling of Running Start courses, financial aid, etc. They were an integral part of the information night and supported students in writing their resumes. Edmonds School District can also provide students access to a Chromebook through their senior year.

Edmonds College and Edmonds School District also have systems in place to support English Language Learners and students with disabilities.

- Edmonds School District: For English Language Learners and students with learning disabilities, the Edmonds School District provides building-based case management, specialized direct instruction, additional adult support in the mainstream classroom, and modifications and accommodations to curriculum in order to support student access, success, and learning. For those with physical disabilities, accommodations and adaptations to the physical environment are provided. In addition, all teachers are provided training on how to best support the inclusion and success of students representing special populations including Special Education and English Language Learners.
- Edmonds College has well-established departments that support students with physical disabilities and students who are English Language Learners. The department Services for Students with Disabilities has a full range of accommodations and supports that they offer to students in need. The English as a Second Language department works closely with professional/technical programs to support ELL students as they move from ELL classes to college-level coursework.

T-Mobile Support:

- T-Mobile is offering paid internships to ensure students will be able to participate
- Mentors: T-Mobile will be providing each student team of 2 to 3 with a mentor contact during each summer internship. In most of these situations, students will be able to stay in contact with their mentors after the internship. We also plan to provide additional adult workforce contact during the senior year and during college courses when it fits.
- Branded Clothing: T-Mobile will provide a free t-shirt to ensure access to T-Mobile branded clothing during the internship. They will also have a relaxed dress code, allowing students to wear what they would normally wear to school.
- Summer Shuttle: T-Mobile will provide a summer shuttle to pick students up at the 164th Park and Ride in Lynnwood, ensuring easier access to the T-Mobile campus in Bellevue or Bothell.
- Online option: T-Mobile will provide an online internship for summer of 2020 if needed due to COVID-19. Edmonds School District can ensure students have access to a Chromebook. We asked about internet access in the application process to see if this will be something that needs to be addressed for any of the students accepted.
- Employee Resource Groups: With diversity and inclusion in mind, T-Mobile has formed six Employee Resource Groups: Access for Disabilities, Pride & Allies, Multicultural, Multigenerational, Military Honor & Support Community, and Women's Leadership.

A-R4. **Number of postsecondary credits provided and / or credential earned upon completion of program.**

The college program will be a 59-credit certificate. Students will earn a Computer Information Systems - Full Stack Developer Certificate.

A-R5. **Demonstrated curricular alignment with relevant professional and / or academic standards associated with coursework and credential, when applicable.**

The 59-credit certificate program was created with input from T-Mobile to ensure it meets the industry standards needed for entry-level work at T-Mobile. T-Mobile offers an extensive professional

development program for their employees to further their job training once hired. Additional learning happens onsite at T-Mobile during the two summer internships.

T-Mobile would like the following learning outcomes:

Students will require a basic level of coding knowledge/skills in one or more of the following languages: Java, Python, SQL, JavaScript, or C. They will also need to show understanding of the Software development Life Cycle (SDLC), as well as demonstrated abilities in collaboration, critical thinking, customer focus, relationship building, and influencing.

Learning gained during the 59-credit certificate at Edmonds College:

- Foundation in Java, Python, SQL, Cloud is the focus
- Front-end foundation would include: HTML, JavaScript

As indicated below, the Edmonds College certificate program aligns with the requests put forth by T-Mobile by helping to create a foundation for T-Mobile to build upon, paired with the internship experience.

Edmonds College Full Stack Developer Certificate: The Full Stack Developer Certificate prepares students for a career in full stack software development. The required coursework successfully develops students' skills teaching them introductory web programming, client-side scripting, structured and object-oriented programming, and database programming and design. This certificate requires successful completion of a minimum of 59 credits as outlined.

Outcomes:

- Understand database design and implementation using different database management systems.
- Demonstrate knowledge of web programming, including markup languages and client-side scripting.
- Examine and understand various programming languages, differentiating between declarative, structured, object-oriented, and scripting.
- Demonstrate basic proficiency in programming, selecting appropriate algorithms and coding routines to solve business problems

** A more complete description of the certificate is attached.*

A-R6. Details of potential for current or future partnerships and/or scalability of the program within and across sectors and/or geographic locations (e.g. articulation, degree pathways), when applicable.

Edmonds College has solid, established connections in the industry and recognizes the benefit of this program for companies to build their talent pipeline. As the world of technology accelerates, there is demand for a talent pool that is nimble and has strong teaming skills. The certificate that Edmonds College has created is meant to be accessible to a variety of students, including those for whom the chance to get a well-paying job has seemed elusive.

As the success of this program grows and the number of companies involved increases, we envision other colleges picking up this certificate and increasing the capacity for more full stack developers in our region. We think this new pathway will need to have one pilot cohort to demonstrate how the successes of a paid internship, mentorship, college certificate program, and then on-the-job professional learning can lead to filling high demand areas in the tech industry. In recruiting the 2nd cohort in 2021, we hope to have 1 or more companies join this model.

Attachments (10 pages)

- Letters of Support from Partners (4 pages)
- T-Mobile Job Description for Associate Software Developer (1 page)
- Edmonds College Full Stack Developer Certificate Description (5 pages)



12920 SE 38th Street
Bellevue, WA 98006

May 20, 2020

Dear Washington State Board of Community and Technical Colleges (SBCTC),

Please consider this letter of support for the Career Launch Endorsement of the Technology Career Acceleration Program (TCAP), developed in a partnership between T-Mobile, Washington Alliance for Better Schools (WABS), Edmonds College, and Edmonds School District.

TCAP was designed to fill a workforce need at T-Mobile while also furthering equitable access to high-demand roles that provide family-sustaining wages for underserved students. In working with WABS, Edmonds School District, and Edmonds College over the past year, we have ensured that the certificate program designed at Edmonds College will fill the need for the Full Stack Developer role being targeted at our company. Program participants will have the opportunity of participating in two paid summer internships that will help them to gain workplace skills and knowledge, while being supported by a mentor. The program will also allow participants to gain experience in applicable coding languages, including Java, Python, SQL, C++, and JavaScript.

Based on our experience developing this program, we feel confident that those who complete the program will be ready to enter the workforce in an entry-level Full Stack Developer or similar role, which will enable them to earn family-sustaining wages. T-Mobile has very aggressive hiring goals for “Early in Career Tech Roles” and will continue to expand these goals. We also plan to increase this program from year to year. When hired at T-Mobile, employees will be eligible for all full time benefits which includes the opportunity to participate in our tuition reimbursement program. We are in full support of the TCAP being granted the Career Launch Endorsement.

Sincerely,

A handwritten signature in black ink that reads 'Cody Sanford'. The signature is written in a cursive style with a large, stylized 'C' and 'S'.

Cody Sanford
Executive Vice President & Chief Information Officer
T-Mobile

May 11, 2020

Dear Washington State Board of Community and Technical Colleges (SBCTC),

I am pleased to support the Career Launch Endorsement of the Technology Career Acceleration Program (TCAP), developed in partnership between Edmonds School District, Edmonds College, T-Mobile, and Washington Alliance for Better Schools (WABS).

As a founding WABS member, Edmonds School District has over 2 decades of experience working with WABS as they developed high-quality, rigorous programs that are responsive to the needs of K12, higher education, and industry. WABS' understanding of the needs and challenges of all three of these sectors is one of its greatest assets - one that it uses to catalyze multi-sector projects that benefit our region. WABS has launched successful and highly impactful programs for students, families, and educators in the region, and the TCAP is no exception.

Over the past year, we have worked with our partners to develop the Technology Career Acceleration Program, which will result in program participants earning a certificate that qualifies them for competitive high-demand roles at T-Mobile and in the technology field. Edmonds School District has been an active part of program development and student recruitment for the pilot cohort of the program, launching Summer 2020. We plan to continue our participation and support of students who choose to participate in this program.

Sincerely,



Dr. Kristine McDuffy
Superintendent
Edmonds School District

May 13, 2020

Dear Washington State Board of Community and Technical Colleges (SBCTC),

I am writing to support the Career Launch Endorsement of the Technology Career Acceleration Program (TCAP), developed in partnership between T-Mobile, Washington Alliance for Better Schools (WABS), Edmonds College, and Edmonds School District.

In working with WABS, Edmonds School District, and T-Mobile over the past year, we have ensured that the certificate program designed at Edmonds College will fill the need for the role being targeted at T-Mobile, which in this case is a Full Stack Developer. This is a high-demand role in many companies, and the skills gained in this realm will allow program participants to be competitive in the workforce. In the program, students will learn the most transferable and applicable coding languages, including Java, Python, SQL, C++, and JavaScript. The TCAP will prepare and launch students to be active, productive, and well-compensated members of the workforce in our region. Upon program completion, students are expected to be earning family-sustaining wages, with significant room for increased compensation as they gain experience and optional additional credentials.

Additionally, Edmonds College is working to secure scholarship funding from the Edmonds College Foundation for program participants. While the first part of the certificate program will be at an extremely low or no cost to students through Running Start, additional scholarship money would help cover the remaining cost of the certificate for students in need. We see the high value of this program and want to ensure that it is accessible to our target audience of underserved students.

Based on our experience developing this program, we feel it is scalable, increasing our capacity to prepare students in the region for competitive technology careers.

Sincerely,



Dr. Amit B. Singh
President, Edmonds College



May 14, 2020

This letter supports the Career Launch Endorsement of the Technology Career Acceleration Program (TCAP), developed in a partnership between T-Mobile, Washington Alliance for Better Schools (WABS), Edmonds College, and Edmonds School District. This partnership, funding via a Round 1 CCW Intermediary grant, has developed a strong program that will prepare participants for an in-demand career at T-Mobile.

The TCAP was designed to fill a workforce need for a Full Stack Developer at T-Mobile while also furthering equitable access to high-demand roles that provide family-sustaining wages for underserved students. All partners have ensured that the certificate program designed at Edmonds College will fill the need for the Full Stack Developer role being targeted at T-Mobile. Program participants will gain workplace skills and knowledge, mentorship, participate in two paid internships, and learn applicable coding languages, including Java, Python, SQL, C++, and JavaScript. Taken as a whole, this experience will fast track them to a career that usually requires a BA.

The TCAP will prepare and launch students to be active, productive, and well-compensated members of the workforce in our region. Upon program completion, students are expected to be earning family-sustaining wages, with significant room for increased compensation as they gain experience and/or optional additional credentials. The Full Stack Developer position is in demand across multiple companies in our region, giving this program significant possibilities for scaling to more colleges and employers.

Since WABS is a collaboration of 12 school districts across Snohomish, King and Pierce counties, it is uniquely situated to continue to bring school district partners into this work. These districts already have a close and trusting relationship with our programming and partners. With just one school district, 44 applications were generated. The Regional Network can amplify this work out into additional districts, increasing the applicant pool across the tri-county area. We look forward to being a part of this future work as it scales and grows.

This program, carefully developed with involvement from all partners, meets the requirements and goals of a Career Launch program and we are in support of this endorsement.

Sincerely,

A handwritten signature in black ink that reads "Emily Yim". The signature is fluid and cursive, with the first name "Emily" and last name "Yim" clearly distinguishable.

Emily Yim
Executive Director
Washington Alliance for Better Schools
CCW King and Pierce Regional Network

Associate Software Developer

Designs and develops internal and external business systems/applications, systems interfaces, databases, reporting, or business intelligence systems, as required to deliver new systems functionality supporting corporate business objectives. This position is an entry level developer position working under the direction of a Developer, Sr Developer, or Principal Developer, with project complexity limited and commensurate with experience level.

Translate business, and functional requirements into documented technical specifications.	5%
Utilize development skills to build (code) and unit test new systems functionality per technical specifications, with deliverables to include code builds and documented unit test results.	5%
Develop application support documentation as required by the application support teams for acceptance of systems changes into production.	5%
Build and unit test production deployment packages and implementation plans for scheduled systems enhancements.	5%
Participate in reviews (walkthroughs) of technical specifications and program code with other members of the technical team, communicating design, requirements, feature set, functionality and limitations of systems/applications to team and development lead.	5%
Utilize departmental Systems Development Lifecycle Methodology as a guide for development activities.	5%
Provide on call and after hours support as required for production releases and to respond and provide Tier 4 support on production outages.	5%
Contribute to and work to meet project schedules by providing accurate estimates of effort required for development deliverables, by providing updates on project progress to development and project management, and by escalating issues that might affect project success to management.	5%
Maintain technical skills and expertise through continuing education and training.	5%
Collaborate/Partner with other teams including Enterprise Testing, Release Planning and Management, Business Systems Analysis, Project Management, and Application Support on successful delivery of systems enhancements.	5%
Also responsible for other Duties/Projects as assigned by business management as needed.	10%

Preferred Experience

- Less than 2 years of Application Development Experience
- Requires competency in customer focus, change & innovation, strategic thinking, relationship building & influencing, talent management, results focus and inspirational leadership.
- Experience programming in one or more of the following Languages – Java, Python, SQL, Javascript
- Minimum 1 years' Application Development Experience.
- Minimum of one year work experience is desirable, preferably in the wireless industry.

Full Stack Developer Certificate [59 credits]

Program Description: This Full Stack Developer Certificate prepares students for a career in full stack software development. The required coursework successfully develops students' skills teaching them introductory web programming, client-side scripting, structured and object-oriented programming, and database programming and design. This certificate requires successful completion of a minimum of **59 credits** as outlined.

Outcomes:

- Understand database design and implementation using different database management systems.
- Demonstrate knowledge of web programming, including markup languages and client-side scripting.
- Examine and understand various programming languages, differentiating between declarative, structured, object-oriented, and scripting.
- Demonstrate basic proficiency in programming, selecting appropriate algorithms and coding routines to solve business problems.

Common Course Number	Course Title	Credits
CIS 102	Intermediate Business Computing	5
CIS 241	Web Development I	5
CIS 242	Web Development II: JavaScript and jQuery	5
CIS 250	Database Theory and Design	5
CIS 251	Structured Query Language (SQL)	5
CS 115	Introduction to Programming	5
CS 131	Computer Science I C++	5
CS 141	Computer Science I Java	5
CIS 291	Technology Internship	4
BSTEC 110	Business Communications	5
MGMT 100	Human Relations in Organizations	5
BUS 130	Business Mathematics	5
Total Credits:		59

Course Descriptions and Outcomes

CIS 102 - Intermediate Business Computing - 5.0 Credits

Extends the CIS 100 objectives of using computing technologies in managing a business and solving operational problems. Intermediate expertise of common productivity suites and applications used in support of business functions and information technology departments. Additional concepts include trends/careers in information systems (IS), database/IS management, IS development, security, privacy, and ethics. Prerequisite CIS 100 with a minimum grade of 2.5 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Demonstrate entry-level proficiency in using common workplace technologies and applications including Google Cloud G Suite, Office 365, and Remote Desktop.
- Demonstrate quantitative skills and critical thinking through the analysis of data and information.
- Describe the issues of computer ethics, security risks, information privacy, disaster recovery planning, and backup strategies.
- Identify techniques used to stay current with IT applications and career choices.

CIS 241 - Web Development I - 5.0 Credits

Website development using HTML5, approached from a source code perspective. Covers tags, forms, linked objects, CSS3, frames, tables, and introduction to the use of scripting. Students build multi-page websites using Git and GitHub. Prerequisite CIS 100 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Perform content design and technical analysis on web applications and websites.
- Use HTML5 to develop, debug, maintain, and document web applications and websites.
- Compare and contrast different browsers' effects on HTML5 documents.
- Use the basic principles of web documents.
- Use HTML5 forms, iframes, and tables.
- Create HTML5 style through inline, embedded, and Cascading Style Sheets.

CIS 242 - Web Development II: JavaScript and jQuery - 5.0 Credits

Students will explore the topics of embedding, inline and external scripts, functions, form validation, loops, conditional statements, strings, numbers, DHTML, and an introduction to JavaScript

Frameworks. Introduction to creating Node.js websites. Students build multi-page websites using these technologies. Prerequisite CIS 241 with a minimum grade of 2.5 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Use object-oriented client-side scripting with well-formed web pages.
- Recognize client-side variables and data types and the operations that can be performed on them.
- Write client-side functions, event handlers, and control structures.
- Verify form data through scripting validation.
- Save state information through the use of hidden form fields, query-strings, and cookies.
- List the concepts of server-side programming and Node.js.

CIS 250 - Database Theory and Design - 5.0 Credits

Designed to recognize data as a business resource. Database models are discussed from both a developer's and a user's viewpoint. Topics include: conceptual and logical models, and data normalization through case studies. Prerequisite CIS 102 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Describe fundamental principles of database theory and design.
- Research and analyze business data requirements.
- Identify and document high-level business rules for data modeling.
- Create and refine conceptual and logical data models.
- Select unique identifiers and normalize the data model.
- Understand the role of SQL in the business and database contexts.

CIS 251 - Structured Query Language (SQL) - 5.0 Credits

Covers topics in Structure Query Language (SQL) including statements such as select, update, insert, delete, and create. Emphasis on the ability to extract, update, and maintain databases using SQL. Prerequisite CIS 250 with a minimum grade of 2.5 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Explain what SQL is.
- Identify the major data types.

- Describe why SQL is such a powerful tool.
- Create relational databases using SQL.
- Perform basic database maintenance and administration such as: insert, update, and delete data; create, drop, and modify tables.
- Create various types of select statements including: table, multi-table and joins, and be proficient with functions and expressions.
- Explain the significance of and create indexes.

CIS 291 - Technology Internship - 4.0 Credits

This variable credit course (1 to 10 credits) allows students to obtain an internship in the information technology field in order to further develop their skills and abilities in a hands-on environment. Each student must set up their internship with another entity for this class. One credit is awarded for each 30 hours worked. Registration by permit code only; obtain code from instructor. Registration permitted for the first seven weeks (six in summer) as space is available. Prerequisite CIS 151 or CIS 243 with a minimum grade of 2.5 and instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Document and acquire IT skill set; goals and work schedule set by the student and coordinator in the internship agreement and learning objectives pages of the internship paperwork.

CS 115 - Introduction to Programming - 5.0 Credits

An introductory course in programming using VB.NET. No previous programming experience is expected. Topics include designing, creating and debugging interactive, event-driven programs with a graphical user interface and developing problem solving skills. Prerequisite MATH 090 or MATH 097 or ETEC 150 with a minimum grade of 2.0 or placement above MATH 097 or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Use correct syntax and structure of the Visual Basic language.
- Design an appropriate User Interface for a simple Visual Basic application.
- Analyze problems typical of the business, scientific or home environment and to formulate solutions in quantitative terms capable of computer solution.
- Design algorithms typically used in computer programming.
- Lay out a flow chart for a typical algorithm.
- Utilize Sequence, Selection and Iteration constructs in the design of solutions.
- Design, code, correct, test, and execute a Visual Basic program.

CS& 131 - Computer Science I C++ - 5.0 Credits

Introduction to programming for students majoring in computer science, technical, or engineering fields. Covers the fundamental syntax and constructs of the C/C++ programming languages and general concepts of programming. Prerequisite CS 115 with a grade of 2.5 or higher or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Display a knowledge of the basic syntax and constructs of the 'C' programming language.
- Specify, design, code and debug programs which solve common scientific, technical and business problems.
- Perform necessary tasks using various programming tools such as an editor, compiler, debugger and profiler.
- Display an ability to use the concepts of procedural and functional abstraction to organize a program.
- Test a 'C' program for correctness and usability.
- Properly document code in a prescribed standard format.

CS& 141 - Computer Science I Java - 5.0 Credits

Introduction to Java programming. Topics include basic Java syntax, data types, control structures, methods, object representation using classes, graphics and arrays, all within a framework of general object oriented programming principles. Prerequisite CS 115 or equivalent with a grade of 2.5 or higher or instructor permission.

Course-level Learning Objectives (CLOs)

Upon successful completion of this course, students will be able to:

- Use the basic constructs of the Java programming language to write a correct, efficient, and maintainable application program.
- Analyze real-world problems in quantitative terms and formulate programming solutions.
- Describe object-oriented concepts and structures in Java.
- Design and implement algorithms typically used in computer programming.
- Work cooperatively in small groups to design, implement, and test a program.