Spring 2016, Effective Fall 2016
Statewide Associate in Computer Science DTA Major Related Program (MRP) Agreement

This pathway is applicable to students planning to prepare for computer science and related majors at universities and colleges in Washington. This pathway meets all of the requirements of the Direct Transfer Agreement (DTA). Computer science programs are competitive and this pathway intends to provide students with the needed information to optimize their coursework to meet the DTA and prepare for computer science and related majors at universities and colleges in Washington.

This document represents agreement regarding expanded detail for the existing DTA between the baccalaureate institutions offering computer sciences bachelor's degrees and the community and technical college system. Baccalaureate institutions party to this agreement are identified on the signature pages of this document.

Community and technical colleges agree:

- When community and technical colleges list the DTA details in their publications, they will provide the expanded detail shown below regarding the major pathway in the field of computer science while retaining the current detail for other MRP's.

- The published associate degree listing will include advice to students about the need for early contact with their potential transfer institutions regarding the specific course choices in each area of the agreement where options are listed. In addition, the published associate degree will include advice to students regarding checking with their potential transfer institutions about the requirement for overall minimum GPA, a higher GPA in a selected subset of courses or a specific minimum grade in one or more courses such as math or English.

- To offer the Associate in Computer Science DTA/MRP each college must assure that the courses listed in their DTA/MRP as meeting the prerequisite requirements of this agreement are regarded as course equivalents to the similar required lower division course offered by each baccalaureate institution party to the agreement.

- Upon adopting the degree, a community and technical college will specify the **Associate in Computer Science DTA/MRP** in its catalog and specify the courses consistent with this agreement. In addition community colleges will emphasize the advising notes included as part of the agreement.

- When community colleges award the DTA degree for computer science students pursuant to this agreement, rather than using DTA on the transcript, colleges will designate completion as follows for clarity on the transcript and use by SBCTC for tracking reporting purposes:
  - **Associate in Computer Science DTA/MRP**
  - Intent Code: **B**
  - Exit Code: **X**
  - CIP code: **11.0701**
  - EPC: **CSA**

- If any community college changes the content of any of this agreement's required courses or if a community college discontinues offering this agreement's required courses or if a college or colleges find that changes to this MRP are needed, they will immediately notify the Instruction Commission, which will, in turn, notify the Joint Transfer Council (JTC). JTC will review the changes as detailed in the section below (review process posted on the WSAC website: http://wsac.wa.gov/sites/default/files/TransferAgreementRevisions-Oct2011.pdf)

The participating baccalaureate institutions agree:

- Once admitted all degree requirements must be met at the participating baccalaureate institutions for the computer science major.

- The same 2.0 GPA minimum requirement that applies to DTA in general applies to this MRP. **Computer Science programs are competitive and may require a higher GPA overall or a higher GPA in specific courses.**

- Baccalaureate institutions will apply the 90 quarter credits required under this agreement to the credits required in the bachelor's degree, subject to institutional policy on the transfer of lower division credits.

- Baccalaureate institutions will each build an alert mechanism into their curriculum review process for changes related to this agreement
    - The alert will go to the institution or sector JTC member.
    - If the proposed change will affect lower division course taking, the JTC member will bring the issue to JTC attention for action to review or update this Major Related Program Agreement.

- Prior to making changes in the admission requirements, institutions agree to participate in the JTC-designed review process and to abide by the related implementation timelines (review process posted on the WSAC website: http://wsac.wa.gov/sites/default/files/TransferAgreementRevisions-Oct2011.pdf)

- This statewide process applies only to changes[1] in the requirements for admission to the major. References to changes do not include changes in graduation requirements that are completed at the upper division level or the GPA an institution may establish for admission to a program.

The Joint Transfer Council (JTC) Agrees:
- JTC will revisit the agreement in 2017
- JTC will notify the Washington Student Achievement Council (WSAC) of the review and of subsequent changes made to the agreement.

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[1] Changes identified that have an impact on students. This statewide process comes into play when potential students need to complete specific courses not previously identified or present test results or information not included in the agreement

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Associate in Computer Science DTA/MRP

Generic DTA Requirements	Computer Science Pathway
Communication Skills (10 credits) Must include at least five (5) credits of English composition. Remaining credits may be used for an additional composition course or designated writing courses or courses in basic speaking skills (e.g. speech, rhetoric, or debate).	**Communication Skills (10 Credits)** 5 quarter credits English Composition *(ENGL& 101)* 5 quarter credits in Technical Writing *(ENGL& 235)* *EWU – English Composition 2 (ENGL& 102) – 5 credits* *Whitworth- Oral Communication – 5 credits*
Quantitative/Symbolic Reasoning Skills (5 credits) a. Five (5) credits of college level mathematics (a course with a Mathematics prefix numbered 100 or above) that furnishes the quantitative skills required in the commonly recognized educational transfer pathways toward a baccalaureate degree. Accepted courses in these pathways are: Pre-calculus or higher, Mathematics for Elementary Education, Business Pre-calculus/Finite Mathematics, Statistics, and Math in Society; or b. Five (5) credits of a symbolic logic course that focuses on (a) sentence logic with proofs and (b) predicate logic with quantifiers and proofs and/or Aristotelian logic with Venn Diagrams.	**Quantitative/Symbolic Reasoning Skills (5 credits)** 5 quarter credits mathematics – Calculus 1 *(MATH& 151)*
Humanities (15 credits) Selected from at least two disciplines. No more than 10 credits allowed from any one discipline. No more than 5 credits in foreign language at the 100 level. No more than 5 credits allowed in performance/skills courses.	**Humanities (15 credits)** 15 quarter credits humanities *EWU – Introductory Ethics (PHIL 212) – 5 credits* *Gonzaga - Philosophy (PHIL& 101), Communications (CMST& 101), and Ethics – 15 credits*
Social Sciences (15 credits)	**Social Sciences (15 credits)** 15 quarter credits social sciences *WSU Vancouver –Macro or Micro Economics (ECON& 201 or ECON& 202)—5 credits*

Generic DTA Requirements	Computer Science Pathway
Natural Sciences (15 credits) Selected from at least two disciplines. No more than 10 credits allowed from any one discipline. At least 10 credits in physical, biological and/or earth sciences. Shall include at least one laboratory course.	**Natural Science (15 credits)** 5 quarter credits Engineering Physics 1 with lab *(PHYS& 221)* 5 quarter credits Engineering Physics 2 with lab *(PHYS& 222)* • *UW Tacoma – Any lab based science – 5 or 6 credits* 5 quarter credits Calculus 2 *(MATH& 152)* • *UW Tacoma – Statistics instead of Calculus II – 5 credits*
Major Requirements (15-20 credits)	**Major Requirements (0-20 credits)** 5 quarter credits Computer Programming I - 5 credits 5 quarter credits Computer Programming II - 5 credits • *CWU, Heritage, and UW Seattle – Two Java courses* • *UW Bothell – Two courses in one language: C Sharp, C++ or Java* • *UW Tacoma – Intro Programming and Object Oriented Programming (Java)* • *WSU Tri-Cities – Two C++ courses* • *Other institutions – Two courses in either C++ or Java* 5-10 quarter credits Calculus 3 *(Math& 153 and Math& 254 or Math& 163)* • *UW Bothell – Statistics instead of Calculus 3* • *WSU (all campuses) – Calculus 3 (Math& 153 and Math& 254)*
University Specific Requirements (10-15 credits)	**University Specific Requirements (0-10 credits)** • *EWU* — *Linear Algebra (Math 231) – 5 credits* / *Digital Circuits (EENG 160) – 5 credits* • *Gonzaga* — *Engineering Physics 3 with lab (PHYS& 223) – 5 credits* / *Discrete Math – 5 credits* • *Heritage & Whitworth* — *Engineering Physic 3 with lab (PHYS& 223) – 5 credits* • *Pacific Lutheran, Seattle Pacific, and Seattle U* — *Physical, Biological and/or earth sciences with lab – 5 credits* • *WSU (all campuses) and WWU* — *Physical, Biological and/or earth sciences with lab – 5 credits* / *Engineering Physics 3 with lab (PHYS& 223) – 5 credits*

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Generic DTA Requirements	Computer Science Pathway
Electives No more than 15 credits may be from restricted subject areas. Remaining 0-20 quarter credits should be planned with the help of an advisor based on the student's interests, the intended major, and the preferences of the most likely baccalaureate institution.	**Electives (0-20 credits)** • *WSU Pullman, WSU Tri-Cities– Symbolic Logic (PHIL& 120) – 5 credits*
	Total Minimum Credits 90

Advising Notes

- <u>Gonzaga</u> – Recommends Calculus 4, Critical Thinking (Symbolic Logic), Differential Equations, and Intro to Literature to fulfill graduation requirements
- <u>Heritage</u> – Discrete Math and Statistics will be evaluated for comparability to Heritage's SPSC 231 and Math 221 courses*
- <u>Pacific Lutheran</u> – Intro to CS, Digital Systems, Data Structures, Statistics, and Discrete Structures will be evaluated for comparability to PLU's, CSCE 144, 231 270, and Math 242, 245 courses*
- <u>Seattle Pacific</u> – Prefers C++ but accepts Java with SPU bridge course. Math& 153 will be evaluated for comparability to SPU's Math 1236*
- <u>Seattle University</u> - Programming and Problem Solving 1 and 2 will be evaluated for comparability to CPSC 1420 and 1430 courses*
- <u>WSU Pullman & WSU Tri-Cities</u> – Recommends macro or micro economics to meet five credits of the social science requirement
- <u>WSU (all campuses)</u> – Recommends discrete structures. Discrete Structures is a certification course for computer science and as such is required for admittance to the computer science program.
- <u>Whitworth</u> - Recommends electives include one Fine Art and one course fulfilling "American Diversity"

  *Other lower level courses taken by Computer Science majors, which may need to be taken prior to graduation. Similar courses taken at other institutions will be evaluated at time of transfer and credit may be applied towards major, general education or electives as appropriate.

Statewide Associate in Computer Science DTA Major Related Program (MRP) Agreement

Participants to the Agreement

The Joint Transfer Council (JTC) reviewed this agreement and forwarded it for approval by the chief academic officers of the public and independent baccalaureate institutions offering computer sciences bachelor's degrees and by the Deputy Executive Director of Education for the State Board for Community and Technical Colleges representing the public community and technical colleges.

On behalf of the Washington State Community and Technical Colleges

_____   _____

Jan Yoshiwara, Deputy Executive Director   Date

Community and Technical College Bachelor of Science Participants to the Agreement

Bellevue College

_____

Thomas Nielson   Date
Vice President of Instruction

Public and Private Baccalaureate Participants to the Agreement

Central Washington University	Date	Gonzaga University	Date
Eastern Washington University	Date	Heritage University	Date
University of Washington Seattle	Date	Pacific Lutheran University	Date
University of Washington Bothell	Date	Seattle Pacific University	Date
University of Washington Tacoma	Date	Seattle University	Date
Washington State University	Date	Whitworth University	Date
Western Washington University	Date		

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