

Statewide Technology DTA and Engineering Technology AS-T Track 2 (MRP) Agreement July 2006 with Technical Updates in October 2006

This agreement is applicable to students planning to prepare for industrial/mechanical technologies and mechanical/electrical/computer engineering technology majors at Central Washington University (CWU), Eastern Washington University (EWU) and Western Washington University (WWU).

1) This document represents the Technology DTA/MRP agreement, an agreement that meets all requirements of Washington's Direct Transfer Agreement, between the baccalaureate institutions offering a bachelor's of science in technology (such as Industrial Technology, Mechanical Technology, Applied Technology, Technology with various options (manufacturing, electronics, design and construction), and technology education) and the community and technical colleges system. Baccalaureate institutions party to this agreement are: CWU, EWU, WWU.

2) This document also represents expanded detail for the existing Associate in Science- Transfer (AS-T), Track 2 between the baccalaureate institutions offering Mechanical Engineering Technology (MET), Electrical Engineering Technology (EET) or Computer Engineering Technology (CET)) bachelor's degrees and the community and technical colleges system. Baccalaureate institutions party to this agreement are: CWU, EWU, WWU.

Community colleges agree:

- To offer either the expanded detail for the AS-T track 2 or the Technology DTA/MRP each college must assure that the courses listed in their AS-T/MRP or DTA/MRP for each prerequisite requirements of this agreement are regarded as course equivalents to the similar required lower division course offered by each baccalaureate institutions party to the agreement.
- When community colleges list the Technology DTA/MRP in their catalog they will specify the courses that are consistent with this agreement and when listing the AS-T, track 2 details in their publications, they will provide the expanded detail shown below regarding these two major pathways in the field of engineering technology while retaining the current engineering detail and the general AS-T, track 2 description for purposes of students majoring in computer science, physics and atmospheric sciences.
- When community colleges award the Technology DTA/MRP for technology students colleges will designate completion as follows for clarity on the transcript and use by SBCTC for tracking reporting purposes:
 - Assoc Technology DTA/MRP Exit Code B (eventually will be Exit Code M) and EPC code TECH and CIP of 15.0000 (college must enter both CIP and EPC)
- When community colleges award the AS-T degree for engineering technology students following these expanded details, rather than using AS-T #2 on the transcript, colleges will designate completion as follows for clarity on the transcript and use by SBCTC for tracking reporting purposes:

- AS-T in MET/MRP. Exit Code of B (eventually will be S) and EPC code MET and CIP of 15.0805 (college must enter both CIP and EPC)
- AS-T in EET/CET/MRP Exit Code of B (eventually will be U) and EPC code EECE and CIP of 15.0303 (college must enter both CIP and EPC)
- If community colleges find that changes to these MRPs are needed, they will notify the Instruction Commission, which will, in turn, notify the Joint Access Oversight Group (JAOG). JAOG will review the changes consistent with review process described on the JAOG web site <http://www.sbctc.ctc.edu/transfer/jaog.asp>.
- The published associate degree listing will include advice to students about contacting potential transfer institutions regarding their interests and specific course choices where options are listed.

The participating baccalaureate institutions agree:

- Students completing the specified DTA or the expanded detail in the AS-T, track 2 degree if admitted to the university, be admitted as juniors with all or most prerequisites for the specific technology or engineering technology major completed.
- Students completing the specified DTA, if admitted to the university, will be regarded as having completed the lower division general education courses to the same extent that all DTA graduates have completed those requirements (that is completed except for the provisos).
- Students completing the specified AS-T, track 2 degree will be regarded as having the lower division general education courses partially completed in a manner similar to the partial completion by freshmen-entry engineering technology students.
- The same minimum 2.0 GPA requirement that applies to the DTA and AS-T in general applies to these programs.
- Baccalaureate institutions will apply the 90 credits quarter credits required under these agreements to the credits required in the bachelor's degree, subject to institutional policy on the transfer of lower division credits.
- Should any baccalaureate institution not require lower division courses specified in these agreements that institution agrees to accept such courses specified in the agreements as lower division electives or in some limited cases as an equivalent to the course required at the upper division.
- Baccalaureate institutions will each build an **alert mechanism** into their curriculum review process for changes related to the prerequisites for the technology and engineering technology degrees.
 - The alert will go to the institution's or sector's JAOG member.
 - If the proposed change will affect lower division course taking, the JAOG member will bring the issue to JAOG 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 JAOG-designed **review process** and to abide by the related implementation timelines (review process posted on the JAOG web site <http://www.sbctc.ctc.edu/transfer/jaog.asp>).

- This statewide process applies only to changes¹ 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 or the GPA an institution may establish for admission to a program.

JAOG agrees:

- JAOG will notify the Higher Education Coordinating Board (HECB) of the review and of subsequent changes made to the agreement.

Associate in Technology DTA/MRP - Industrial Technology, Mechanical Technology, Applied Technology, Technology with various options: manufacturing, electronics, design & construction, and technology education.
This is a non-ABET program leading to a BS in Technology.

Generic DTA Requirements	Associate in Technology DTA/MRP
I. Be issued only to students who have earned a cumulative grade point average of at least 2.00, as calculated by the degree awarding institution.	Minimum grade-point average requirements are established by each institution. (Meeting the minimum requirements does not guarantee admission.)
II. Be based on 90 quarter hours of transferable credit including:	90 total credits
1. <u>Communication Skills</u>	10 credits <ul style="list-style-type: none"> • English Composition • Technical Writing (course with the English Composition as a prerequisite)
2. a. <u>Quantitative/Symbolic Reasoning Skills</u> 2. b. <u>Intermediate Algebra Proficiency</u>	10 credits <ul style="list-style-type: none"> • Pre-calculus or higher math

¹ As judged by impact on students. This statewide process is called into play when potential majors need to complete specific courses not previously identified or present test results or information not included in the agreement.

Generic DTA Requirements	Associate in Technology DTA/MRP
3. <u>Humanities</u>	15 credits <ul style="list-style-type: none"> • 5 credits speech (public speaking or other speech class) • 10 credits other humanities classes - at least one class must be in a field other than speech and no more than 5 credits may be in a world language, ASL and no more than 5 credits in a performance /skills class.
4. <u>Social Sciences</u>	15 credits <ul style="list-style-type: none"> • Select from at least 2 disciplines, no more than 10 credits in a single discipline
5. <u>Natural Sciences</u>	15 credits: <ul style="list-style-type: none"> • Physics I with lab (mechanics part of a physics sequence, can be algebra based) • Chemistry I with lab (part of the science major chemistry sequence, not introductory liberal arts course nor chemistry for nursing students) • Programming for Engineers -(any language)
6. <u>Technology Course Work</u>	1 course (typically 5 credits) <ul style="list-style-type: none"> • 3-D Visualization and CAD (Engineering Graphics)
7. <u>Electives</u>	20 credits electives - select courses appropriate for intended major and intended bachelor's institutions such as: <ul style="list-style-type: none"> • Electrical Circuits I (need not be calculus/differential equations based course) • Physics II with lab <p>A maximum of 10 credits may be in college-level courses as defined by the community college and the remainder shall be fully transferable as defined by the receiving institution.</p>

Expanded Detail for the Associate in Science –Transfer, Track 2 for Two Engineering Technology MRPs

Associate of Science - Transfer Degree #2 Requirements	Mechanical Engineering Technology (MET) (including MfgET & PET)	Electrical Engineering Technology and Computer Engineering Technology (EET/CET)
<u>Communication Skills (Min. 5 quarter credits)</u> College level composition course.	5 credits <ul style="list-style-type: none"> • English Composition 	5 credits <ul style="list-style-type: none"> • English Composition
<u>Mathematics</u> Courses at or above introductory calculus level. Third quarter calculus or approved statistics course:	15 credits <ul style="list-style-type: none"> • Calculus 1,2- • Calculus 3 or Statistics 	15 credits <ul style="list-style-type: none"> • Calculus 1,2 • Calculus 3 or Statistics
<u>Computer programming</u>	Minimum of 4 credits <ul style="list-style-type: none"> • Programming for Engineers - (<i>any language</i>) 	Minimum of 4 credits <ul style="list-style-type: none"> • Programming for Engineers - (<i>any language</i>)
<u>Physics & Chemistry</u>	Minimum of 20 credits <ul style="list-style-type: none"> • Engineering Physics I,II, III with labs or Algebra based physics year long sequence with labs (Engineering Physics – calculus based preferred) • General Chemistry I with lab -(part of the science major chemistry sequence, not introductory liberal arts course nor chemistry for nursing students) 	Minimum of 20 credits <ul style="list-style-type: none"> • Engineering Physics I,II, III with labs or Algebra based physics year long sequence with labs (Engineering Physics – calculus based preferred) • General Chemistry I with lab -(part of the science major chemistry sequence, not introductory liberal arts course nor chemistry for nursing students)
<u>Engineering Technology Pre-major Prerequisites</u>	Two courses (typically 10 credits) <ul style="list-style-type: none"> • 3-D Visualization and CAD (Engineering Graphics) 4-6 credits • Technical Writing (course with the English Composition as a prerequisite) 	Five courses (typically 25 credits) <ul style="list-style-type: none"> • Technical Writing (course with the English Composition as a prerequisite) • Speech (public speaking or other speech class) • Electrical Circuits I (may require calculus/differential equations based course) • Digital Logic • A second course in Computer Programming- object oriented - (<i>check with potential transfer institutions for required language</i>)
Associate of Science - Transfer Degree #2 Requirements	Mechanical Engineering Technology (MET) (including MfgET & PET)	Electrical Engineering Technology and Computer Engineering Technology (EET/CET)
<u>Electives</u>	Must select 3 from the following list (select as appropriate for intended d major and intended bachelor’s institution):	Remaining credits (typically 5 credits) to total 90 credits. May include additional math - Calc III,

	<ul style="list-style-type: none"> • Speech • Economics (Micro or Macro) • Statics • Mechanics of Materials • Dynamics <p>Remaining credits (typically 5 credits) to total 90 credits. May include additional math - Calc III, statistics, or pre-calculus. Up to 5 credits may be in college-level courses as defined by the community college, and the remainder shall be fully transferable as defined by the receiving institution</p>	<p>statistics, or pre-calculus. Up to 5 credits may be in college-level courses as defined by the community college, and the remainder shall be fully transferable as defined by the receiving institution</p>
<p><u>Humanities / Fine Arts / English and Social Science (15 credits)</u> Minimum 15 quarter credits: Minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science for a total of 15 credits. Courses taken must come from the current ICRC distribution list in order to count as General Education or General University Requirements (GER's/GUR's) at the receiving institution. Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.</p>	<p><u>Humanities / Fine Arts / English and Social Science (15 credits)</u> Minimum 15 quarter credits: Minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science for a total of 15 credits. Courses taken must come from the current ICRC distribution list in order to count as General Education or General University Requirements (GER's/GUR's) at the receiving institution. Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.</p> <p>See the policy on acceptance of these courses at http://www.sbctc.ctc.edu/transfer/docs/Final_AS-T_Gen_Ed_Agreemt.doc</p>	<p><u>Humanities / Fine Arts / English and Social Science (15 credits)</u> Minimum 15 quarter credits: Minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science for a total of 15 credits. Courses taken must come from the current ICRC distribution list in order to count as General Education or General University Requirements (GER's/GUR's) at the receiving institution. Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.</p> <p>See the policy on acceptance of these courses at http://www.sbctc.ctc.edu/transfer/docs/Final_AS-T_Gen_Ed_Agreemt.doc</p>
	<p>Total Credits 90</p>	<p>Total Credits 90</p>

APPENDIX A

Associate in Technology DTA/MRP & Expanded Detail, Associate in Science –Transfer, Track 2 for Two Engineering Technology MRPs

Participants to the Agreement

The Joint Access Oversight Group (JAOG) reviewed this agreement on July 20, 2006 and forwarded it for approval by the chief academic officers and engineering technology deans of the public baccalaureate institutions offering the technology and engineering technology degrees and the Instruction Commission representing the chief academic officers of the public community and technical colleges.

Approved by the **Instruction Commission, on behalf of the Washington State Community and Technical Colleges** on November 2, 2006

Baccalaureate signatures include both Technology Deans and Provosts are on file at the Higher Education Coordinating Board for CWU, EWU and WWU.

Community Colleges Offering the Associate in Technology DTA/MRP or Engineering Technology Expanded AS-T/MRP (to be completed about 1 year after the agreement is signed as colleges approve their degrees)

_____, Assoc Tech DTA/MRP ___ Expanded AS-T # 2 ___
College Date of approval of degree

_____, Assoc Tech DTA/MRP ___ Expanded AS-T # 2 ___
College Date of approval of degree

_____, Assoc Tech DTA/MRP ___ Expanded AS-T # 2 ___
College Date of approval of degree

Etc.

APPENDIX B

Technology DTA and Engineering Technology AS-T/MRP Workgroup Participants

Includes technical corrections approved by WCERTE October 2006

Co-Chairs: Jim Bellotty, Spokane Falls & Don Richter, EWU

Community and Technical Colleges:

Jill Davishahl, Edmonds
Jim Hamm, Big Bend
Chris Byrne, Cascadia

Bob Maplestone, Highline
Jim Bellotty, Spokane Falls
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Joint Access Oversight Group Members

Randy Lawrence, Olympic College, co-chair

Jane Sherman, Washington State University, co-chair

Bill Eaton, Peninsula College

Ivan Gorne, Highline Community College,

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Pam Praeger, Spokane Falls Community College

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Steve Hunter, The Evergreen State College

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Violet Boyer, Independent Colleges of Washington

Jan Yoshiwara and Loretta Seppanen, SBCTC

Cynthia Morana, Council of Presidents
Andi Smith, HECB – Ex officio