



1.3.d: Increase the number of graduates in STEM (academic transfer and professional-technical programs) in public community and technical colleges from 14,526 in 2012-13 to 14,817 in 2016-17



1.3.B: INCREASE THE NUMBER OF STUDENTS WHO ARE ENROLLED IN STEM
AND
1.3.D: INCREASE THE NUMBER OF GRADUATES IN STEM
IN PUBLIC COMMUNITY AND TECHNICAL COLLEGES

SBCTC

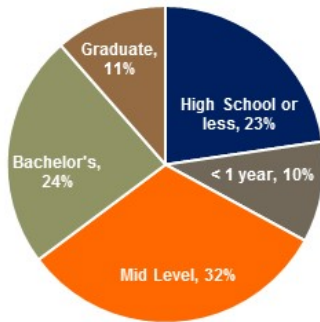
- Marty Brown, Executive Director
- Joyce Hammer, Director – Transfer Education
- Kevin McCarthy, President, Renton Technical College
- Jessica Gilmore English, Vice President of Student Services, Renton Technical College
- Mohamed (Mo) Abdullahi, Student, Renton Technical College
- Mark Harrison, Dean of Math, Engineering, Science & Health, Olympic College



April 3, 2017

Background:

Total Projected Job Openings by Education Level
2018-2023



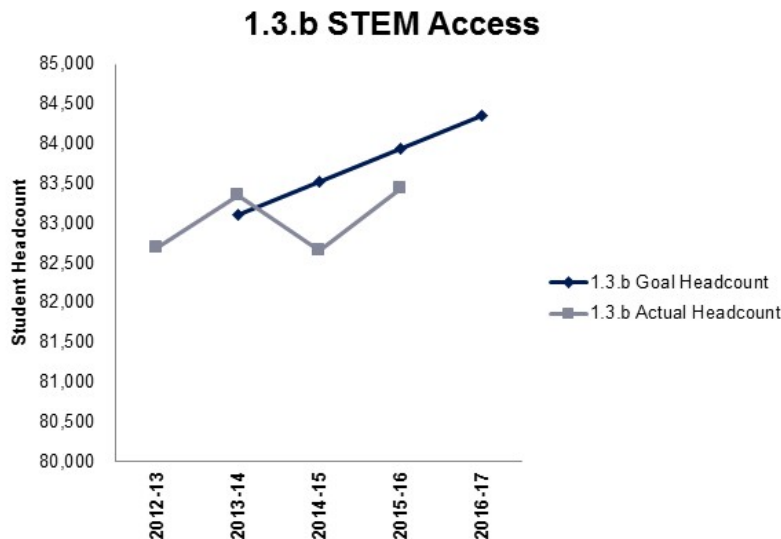
Source: Washington State Employment Security Department, Long-Term Employment Forecast

- The Washington STEM Education Innovation Alliance reports “...that Washington... has one of the highest proportions of STEM jobs in the nation...”*
- “...the state also ranks low in the production of degrees in key technology fields, such as computer science...”*
- “Moreover,...in 2010, Washington employed 17,800 H1-B visa holders”...approximately 75 percent of new visas “was to meet demand for computer and mathematical occupations.”*

*A Skilled and Educated Workforce 2015 Update, Washington Student Achievement Council.

1.3.b Increase enrollments in STEM (academic transfer and professional-technical programs) in public community and technical colleges to 84,349 by 2016-17

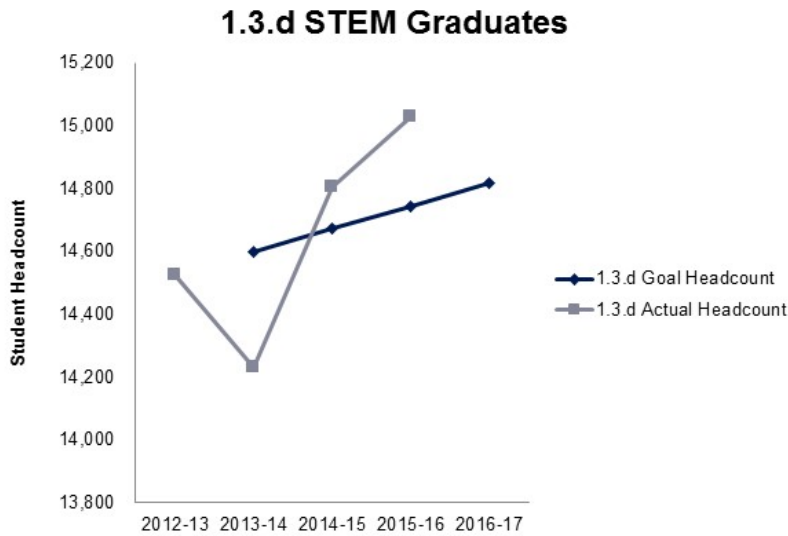
Current State: Needs Improvement



Count of students who accessed STEM in 2015-16 was 0.6% ↓ annual target.

The count of 83,434 was 502 students below the 2015-16 target of 83,936.

Current State: *Exceeds Target*



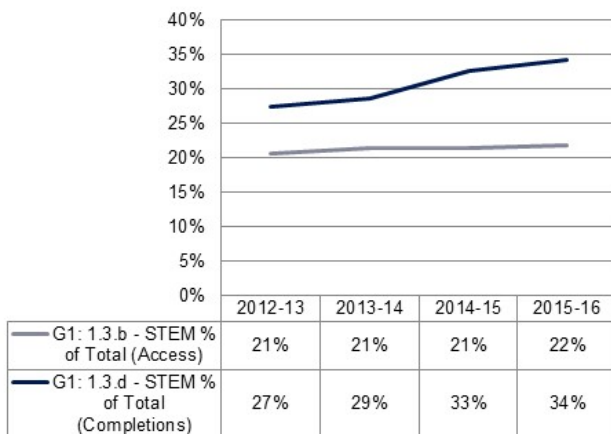
Count of students who graduated from STEM in 2015-16 was 1.9% ↑ annual target.

The count of 15,028 was 284 students above the 2015-16 target of 14,744 and has exceeded the 2016-17 annual target of 14,817.

1.3.b: Increase the number of students who are enrolled in STEM
AND
1.3.d: Increase the number of graduates in STEM

Problem/Opportunity:

STEM Students as Percent of Total Students



- Total student headcount has declined by 5 percent and total awards have declined by 17 percent since 2012-13.
- The proportion of access by STEM students, as a share of all students, has stayed relatively steady since 2012-13.
- The proportion of completions by STEM students, as a share of all student completions, has grown by 20 percent since 2012-13.

STEM Degrees Awarded

STEM Degrees	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	TOTAL	5 Year Change
AS T Track 1 (Biology/ Chemistry)	332	378	342	368	384	1,804	16%
AS T Track 2 (Engineering /Physics)	585	639	673	703	807	3,407	38%
Bio and Chemical Engineering – AS-T/MRP	6	8	14	23	18	69	200%
Computer and Electrical Engineering – AS-T/MRP	29	26	40	46	50	191	72%
Mechanical, Civil, Aeronautical, Industrial and Materials Science Engineering – AS-T/MRP	62	83	115	108	146	514	135%
Pre-Nursing DTA/MRP	302	408	397	465	490	2,062	62%
Associate in Nursing DTA/MRP	NA	NA	NA	NA	24	24	
Biology DTA/MRP	41	63	102	125	179	510	337%
TOTAL	1,357	1,605	1,683	1,838	2,098	8,581	55%

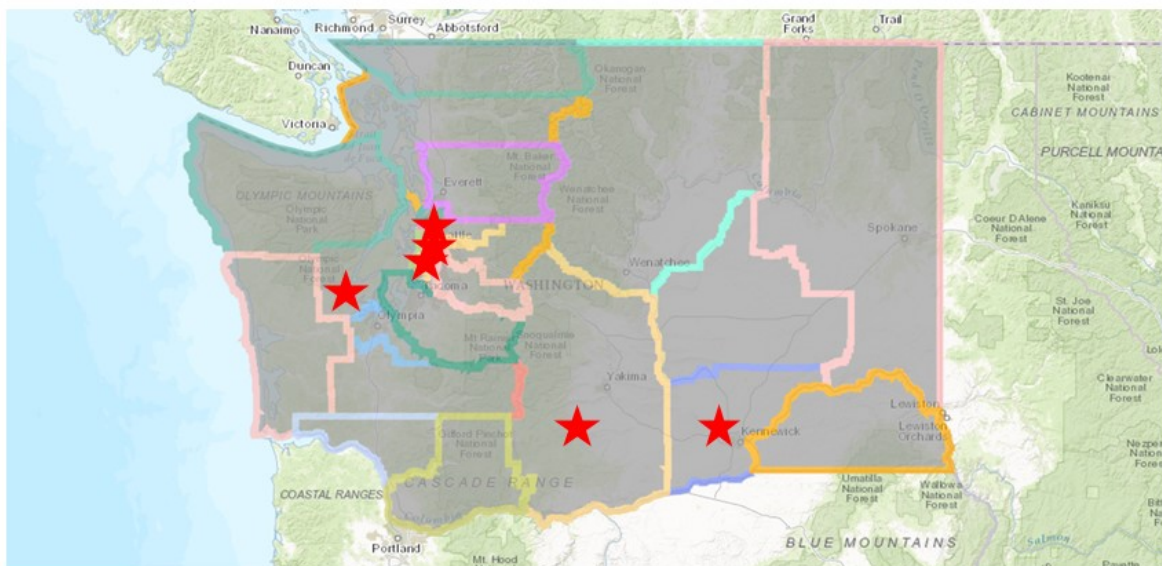
Professional-Technical STEM Programs

Program	College
Advanced Linear Circuits	Edmonds
Aeronautical Technology	South Seattle
Applied Instrumentation	Yakima Valley
Architectural Engineering Design	Clover Park
Biotech Lab Tech-Flow Cytometry	Bates
Biotechnology Lab Specialist	Shoreline
Computer Applications	Renton
Computer Information Systems	Skagit Valley
Engineering Graphics-Mechanical Design	Lake Washington
Network Support Technician	Olympic
Networking & Convergence Technologies	Tacoma
Nuclear Technology-Radiation Protection Technician	Columbia Basin
Surveying and Geomatics	Clark
Viticulture Science	Walla Walla
Water Resources Technology	Spokane

Bachelor of Applied Science STEM Programs

Radiation and Imaging Sciences	Bellevue
Healthcare Informatics	Bellevue
Nursing RN-B	Bellevue, Columbia Basin, Olympic
Dental Hygiene	Clark, Pierce-Ft. Steilacoom, Yakima Valley
Behavioral Science - Youth Development	Highline
Respiratory Care	Highline
Behavioral Sciences	Seattle Central
Information Systems and Technology	Bellevue
Data Analytics	Bellevue
Computer Science (BS)	Bellevue
Information Technology: Application Development	Centralia
Cyber Security	Columbia Basin
Information Technology: Network Administration and Security	Green River
Information Technology: Software Development	Green River
Cyber Security and Forensics	Highline
Information Technology: Application Development-Software Development	Lake Washington
Information Systems	Olympic
Application Development	Renton
Information Technology: Networking	Seattle Central, Yakima Valley
Application Development	Seattle North
Information Systems & Technology	Spokane Falls

Assistance Needed: Increase the number of colleges offering Mathematics Engineering Science Achievement (MESA).



- Columbia Basin College
- Edmonds Community College
- Highline College
- Olympic College
- Seattle Central College
- Yakima Valley College

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