Predicting ACT Scores by Reviewing High School Student Course Patterns

August 4, 2016

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College and Career Readiness
Helena Public Schools
Abridged Report
English, Math, Science, and Reading

ACT Analysis and Early Trends

When examining the data, ACT encourages educators to focus on three, five, and ten year trends as opposed to year-to-year changes.

With the advent of statewide testing in the spring of 2013, there are three years of accumulated data. Early trends indicative of improved ACT performance are evident in the following subjects:

1. The percent of students taking Core or More in math increased from 75.5% in the 2014 cohort to 79.5% in the 2016 cohort (p. 18). Correspondingly, the percent of students meeting or exceeding the benchmark in math also increased from 37.8% to 49.3% to 49.8% (p. 23).

2. The Montana University System's (MUS) remediation rate in math declined at both high schools. Helena High has one of the lowest remediation rates in math among AA schools (p. 21).

3. The percent of students taking Chemistry 1 as part of the Core or More in science has steadily increased from 40% to 45% to 49% over the last three years (p. 28). Correspondingly, the percent of students meeting or exceeding benchmark went from 33.4% in the 2014 cohort to 40.4% in the 2016 cohort (p. 32).

4. The average ACT score in science has increased in the last three years (p. 29). Among AA schools, HHS has the second highest average ACT score and the second highest percent of students meeting or exceeding the benchmark in the 2015 cohort (pp. 29 & 30).

5. The percent of students meeting or exceeding the benchmark in English increased from 63% to 67% to 69% over the last three years (p. 10). Among AA schools, CHS has the highest percent of students meeting or exceeding the benchmark in the 2016 cohort (p. 7).

6. The ACT Writing subscore average at CHS and HHS has increased signficantly in the last three years. Among AA schools, HHS has the highest subscore average in the 2016 cohort (p. 8).

7. The ACT percentile rankings for writing subscores show that 53% of the of the students in the 2016 cohort scored at the 87th percentile or higher on the ACT Writing test (p. 17).

8. The writing remediation rate for CHS students went from 16% in the 2014 cohort to less than 1% in the 2016 cohort (p. 9).

9. The average ACT score and the percent meeting or exceeding the benchmark in English, Math, Science, and Reading in the 2015 and 2016 cohorts places both CHS and HHS among the top performing AA schools in the state (pp. 6-7, 19-20, 29-30, 38-39).

10. The total number of AP students at HHS has increased significantly in the last five years. The total number of AP exams administered at both CHS and HHS has increased over the last five years.

Percent of Students Retaking the ACT

18%, 20%, and 16% of the students in the respective cohorts retook the ACT one or more times after the statewide testing date. For this report, the retakes numbers included tests taken after the statewide testing date through the following December. ACT tests taken before or after this time have been excluded.

	Number of Students Retaking Test	Number of Repeat Tests	Higher Composite Score	Lower Composite Score	Same Composite Score
2014	115	129	60%	21%	19%
2015	117	129	63%	22%	15%
2016	93	96	59%	21%	20%

ACT AA High School Comparison Charts

Please note that for the purposes of this report, the following key has been created to identify the average scores for Helena's two double AA high schools, the state of Montana, and other AA high schools in Montana. The names of the other AA high schools have been intentionally left off of this report. For more specific information regarding the other AA high schools in Montana, please contact Mr. Greg Upham, Assistant Superintendent with Helena Public Schools.

- Helena High School
- Capital High School
- State of Montana
- Other AA Montana High Schools

Credit

ACT provides a highly respected and reliable gauge of college and career readiness. Since ACT achievement is closely related to course relevance and rigor, Helena Public Schools examines student ACT scores in relation to student course histories. In order to complete this internal analysis, student ACT scores are taken from the ACT.txt files for Helena High and for Capital High and correlated to course data that resides in PowerSchool.

Unless otherwise noted, the data analysis in this report was completed by employees of Helena Public Schools using electronic ACT student scores and course enrollment numbers. While every care has been exercised in analyzing, compiling, and presenting this data, Helena Public Schools and the personnel involved in this work accept no responsibility for errors or omissions contained in this information.

Course Enrollment Data

Students in the 2014 cohort had completed their senior year when the course enrollment data was extracted from PowerSchool. Students in the 2015 and 2016 cohorts were enrolled in the second semester of their senior year when course data was extracted from PowerSchool.

Enrollment Numbers

Enrollment numbers for the courses listed in this report are limited to those students in the given cohort who took the ACT during the spring test date or the spring make-up date as reported by ACT. A teacher of record may see a difference in student counts if there are mixed grade levels in the same class or if students didn't take the ACT test during the spring test date or make-up date.

ACT Correlations

Unless otherwise noted, the scores used for this report were taken from the spring test dates. In comparing the number of test takers in the ACT Profile Reports to the number of test takers in PowerSchool, there are some discrepancies on student count (see table below). There are some number discrepancies within database tables, particularly the gender and subscore tables. Discrepancies were accounted for whenever possible.

Cohort Test Date Make-up Date	2014 April 23, 2013 none			2015 April 4, 2014 April 12, 2014			2016 April 28, 2015 May 12, 2015		
	CHS	HHS	**Total**	CHS	HHS	**Total**	CHS	HHS	**Total**
ACT Profile Report - Grade 11 Tested Students (paper report)	314	323	**637**	259	334	**593**	268	357	**625**
ACT.txt Files in PowerSchool	314	319	**633**	252	341	**593**	245	332	**577**

ACT Core or More Recommendations

4 or more years of English
3 or more years of Math
3 or more years of Science
3 or more years of Social Studies
-- The ACT Profile Report, National Graduating Class of 2015

Helena Public Schools Graduation Requirements for ACT Subject Areas				
Cohort	English	Math	Social Studies, History, and Government	Science
2014	4	2	3	2
2015	4	2	3	2
2016	4	2	3	2

English and Writing

AA High School ACT Scores

GEMS -- OPI

ACT Testing Populations

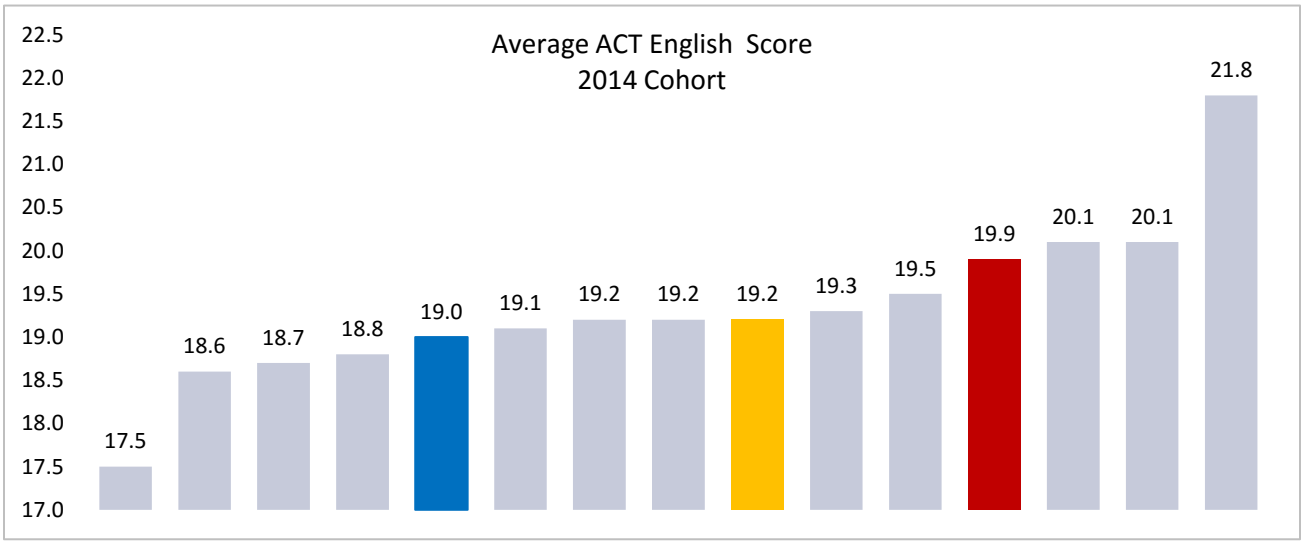
The number of students varies between the reports found on the GEMS website and the data that Helena Public Schools receives from ACT. The data that Helena Public Schools receives from ACT reports PAL, CHS, and HHS student scores separately. The Office of Public Instruction places PAL students in their home schools and reports their scores as part of these cohorts. The differences in the number of test takers can be attributed, in part, to the placement of PAL students with their home schools.

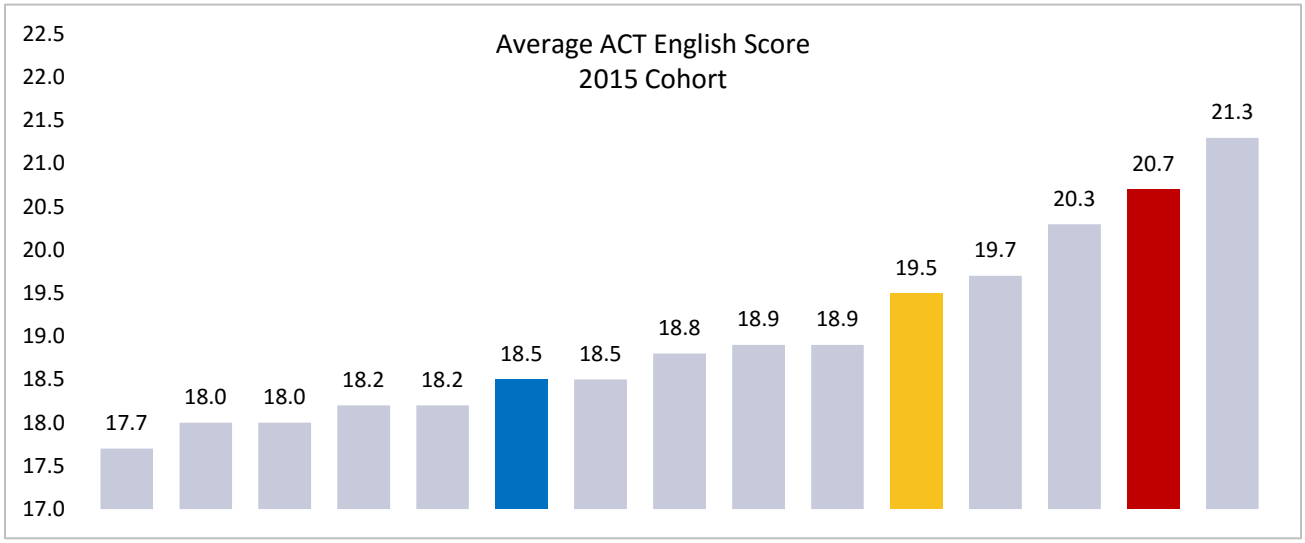
2014 (GEMS - 673) (HSD - 633)
2015 (GEMS - 621) (HSD - 593)
2016 (GEMS - 659) (HSD - 577)

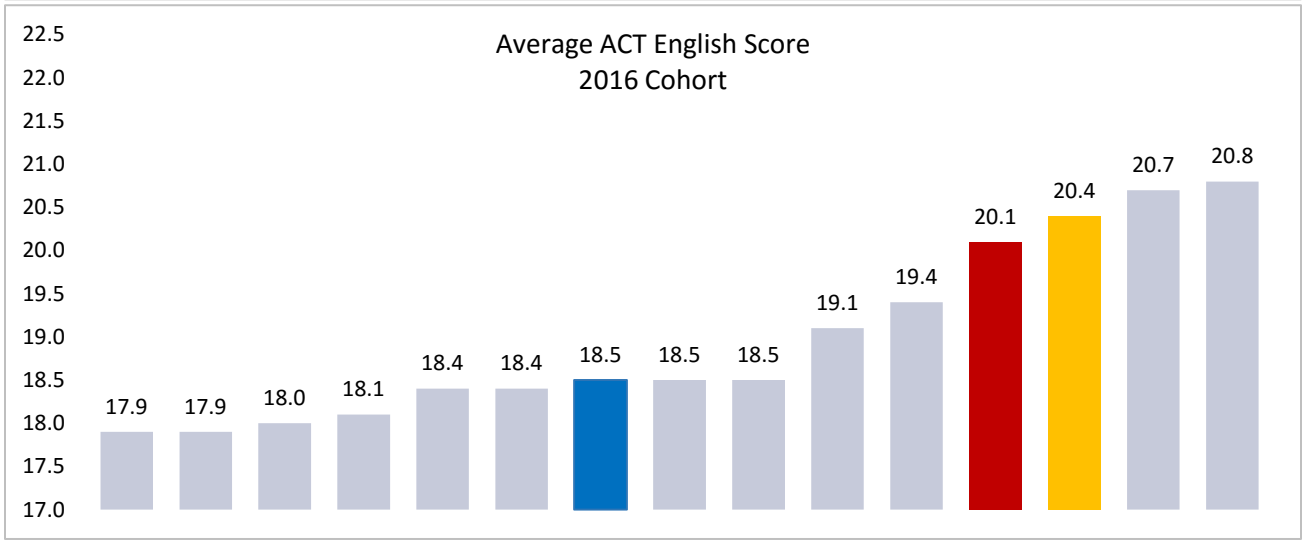
Class AA High Schools Number of Students Taking ACT -- GEMS	2014 Cohort	2015 Cohort	2016 Cohort
Billings Senior High School	379	351	380
Billings West High School	390	411	403
Skyview High School	349	304	309
Billings Total	**1118**	**1066**	**1092**
Bozeman High School	406	410	402
Bozeman Total	**406**	**410**	**402**
Butte High School	244	226	233
Butte Total	**244**	**226**	**233**
Flathead High School	304	323	347
Glacier High School	267	263	281
Kalispell Total	**571**	**586**	**628**
CM Russell High School	319	314	290
Great Falls High School	299	270	270
Great Falls Total	**618**	**584**	**560**
Capital High School	333	270	285
Helena High School	340	351	374
Helena Total	**673**	**621**	**659**
Big Sky High School	222	190	224
Hellgate High School	272	271	301
Sentinel High School	247	253	217
Missoula Total	**741**	**714**	**742**

AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

These charts place AA schools in relation to each other based on average ACT scores. All student ACT scores were used to calculate the state's average. The ACT benchmark is 18.



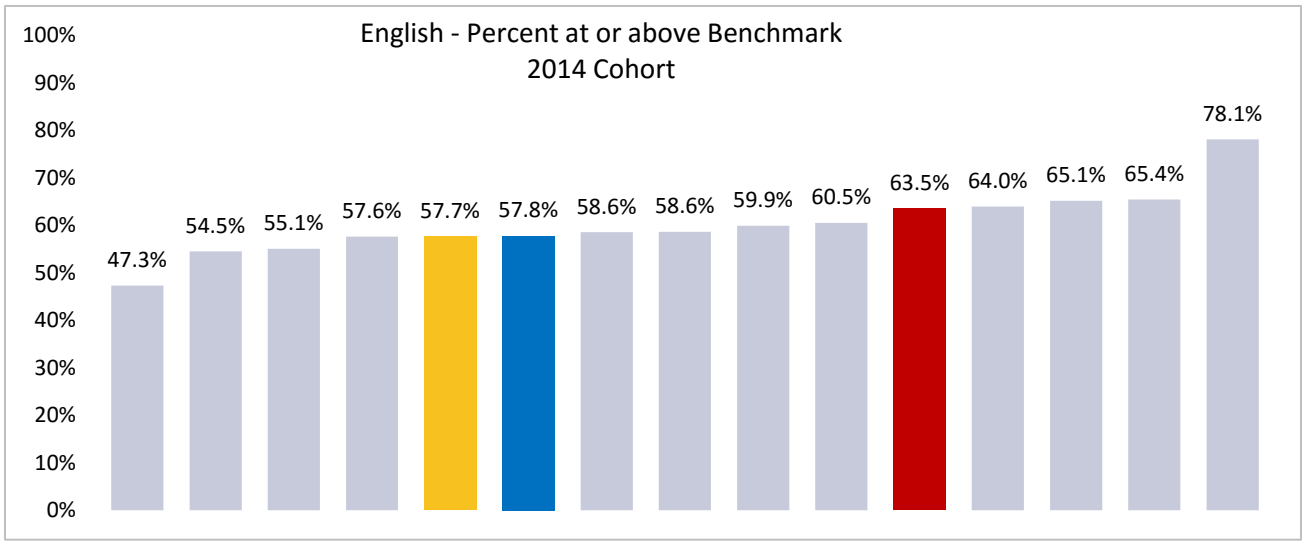


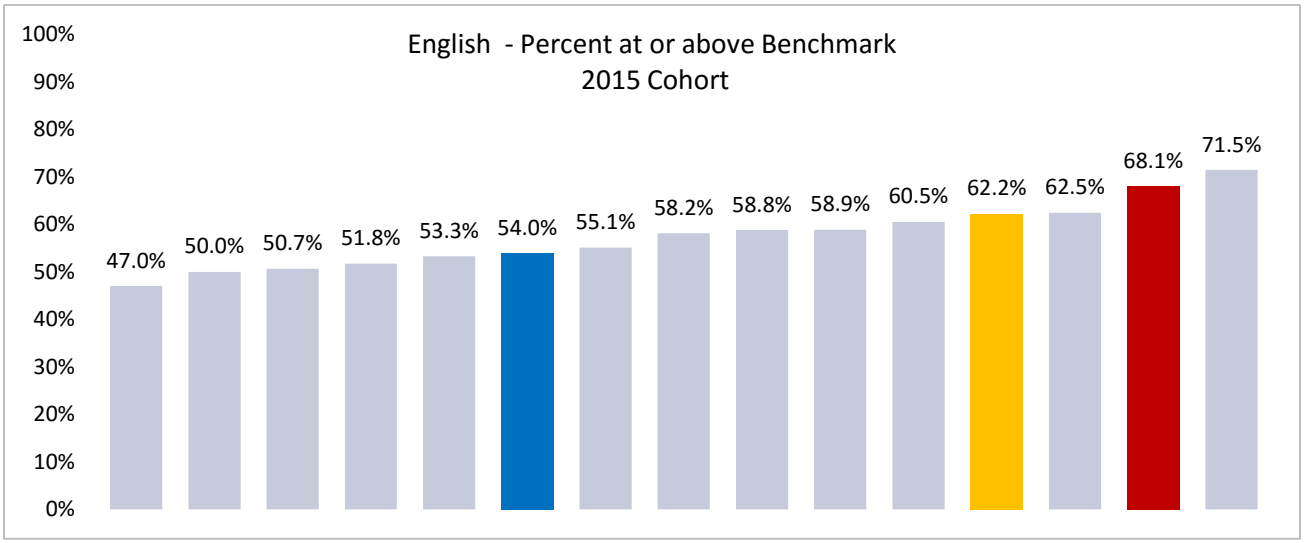


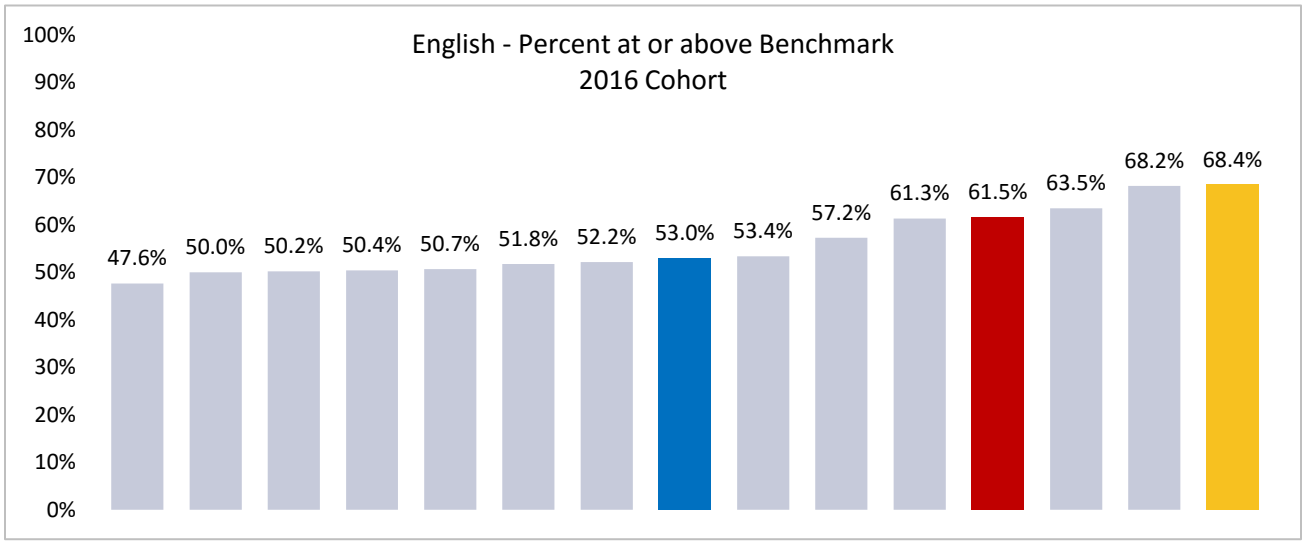
Your Helena Public Schools ...a great place to learn

AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

These charts place AA schools in relation to each other based on the percentage of students at or above benchmark.

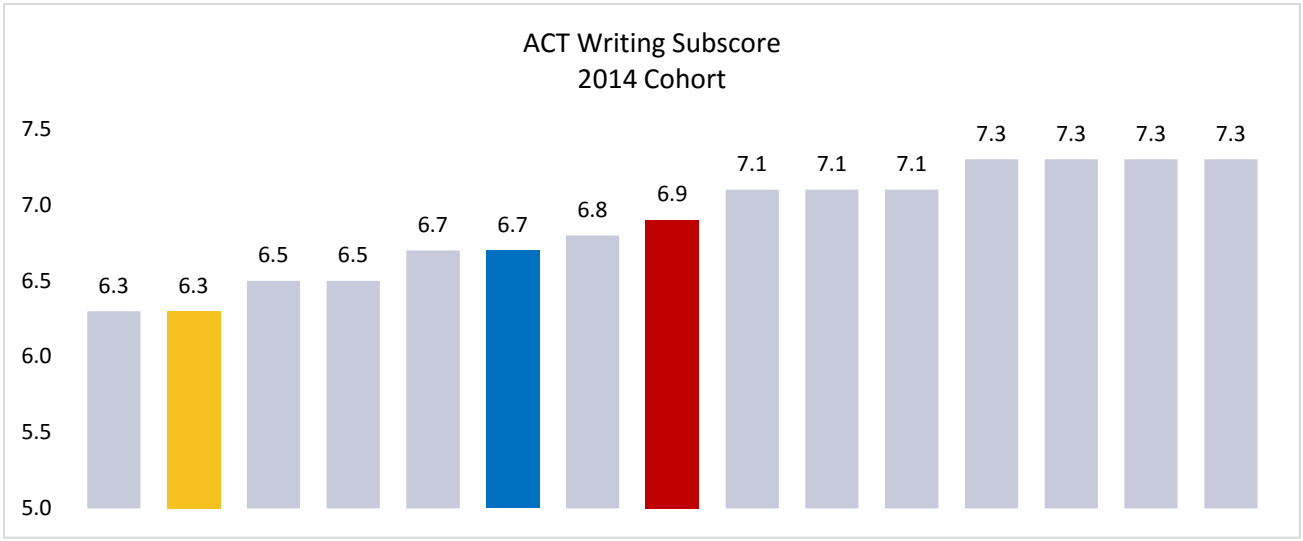


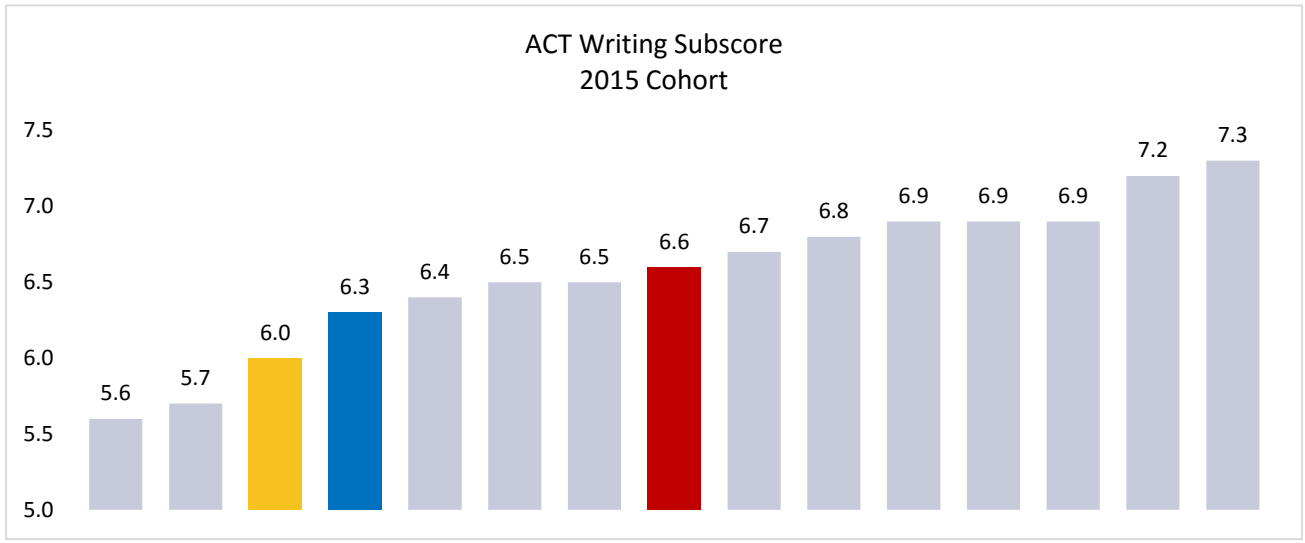


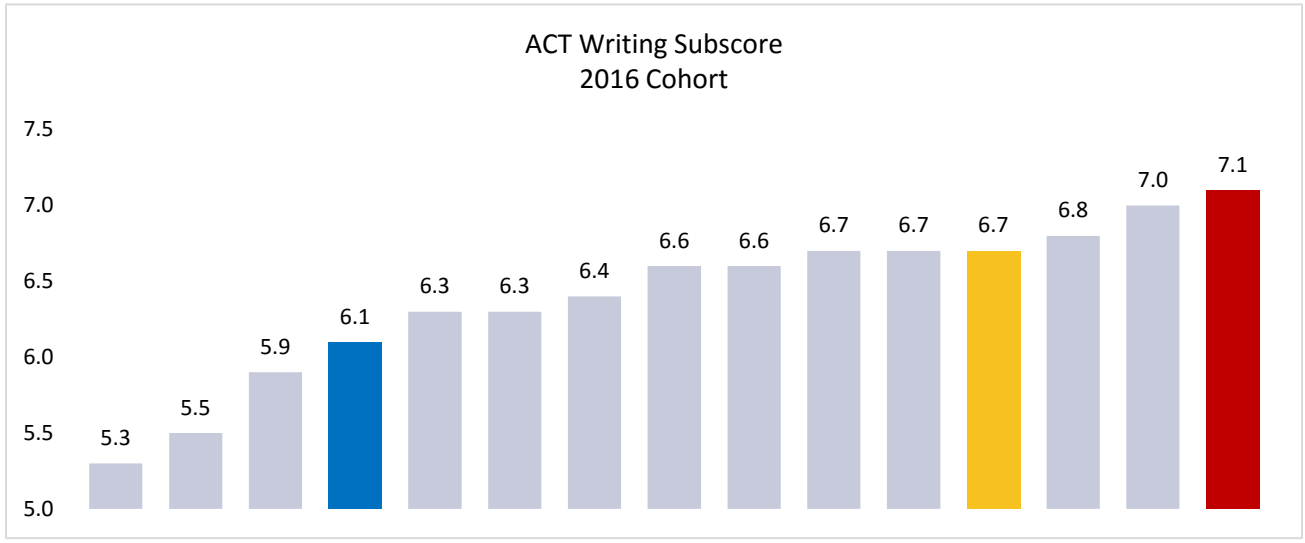


AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

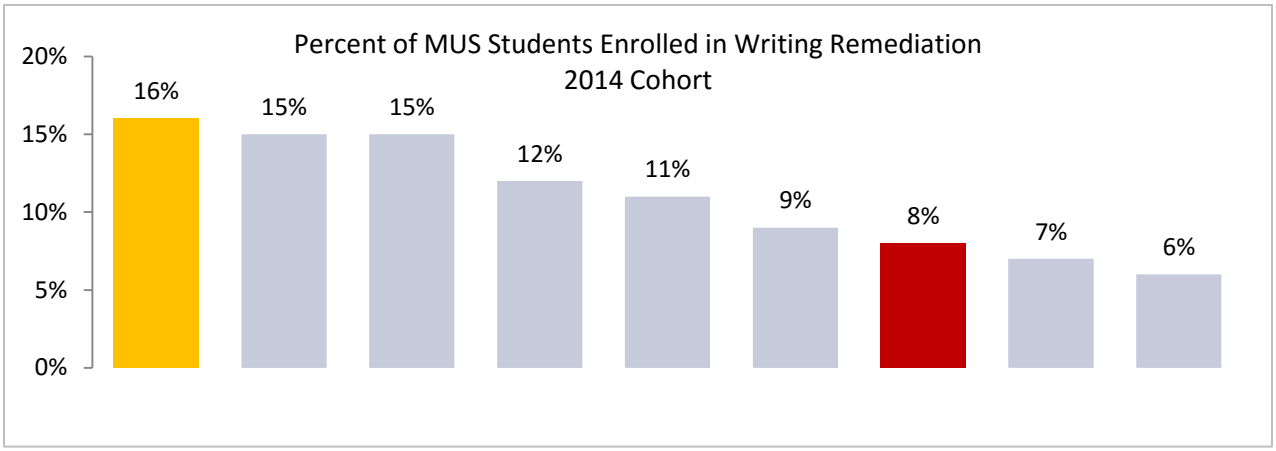
These charts place AA schools in relation to each other based on the average subscore. All student ACT subscores were used to calculate the state's average. The score range is from 2-12.



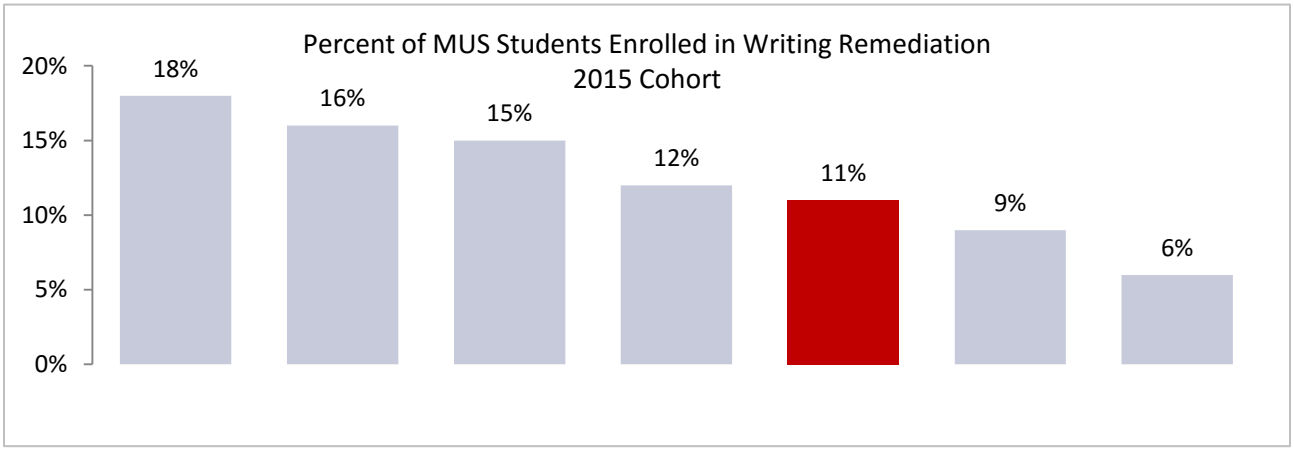




AA High School Writing Remediation Rates
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction



Given the low remediation count, MUS didn't report data for Flathead HS, Glacier HS, Big Sky HS, Hellgate HS, and Sentinel HS. The MUS does not include Flathead Valley Community College in this data assessment.



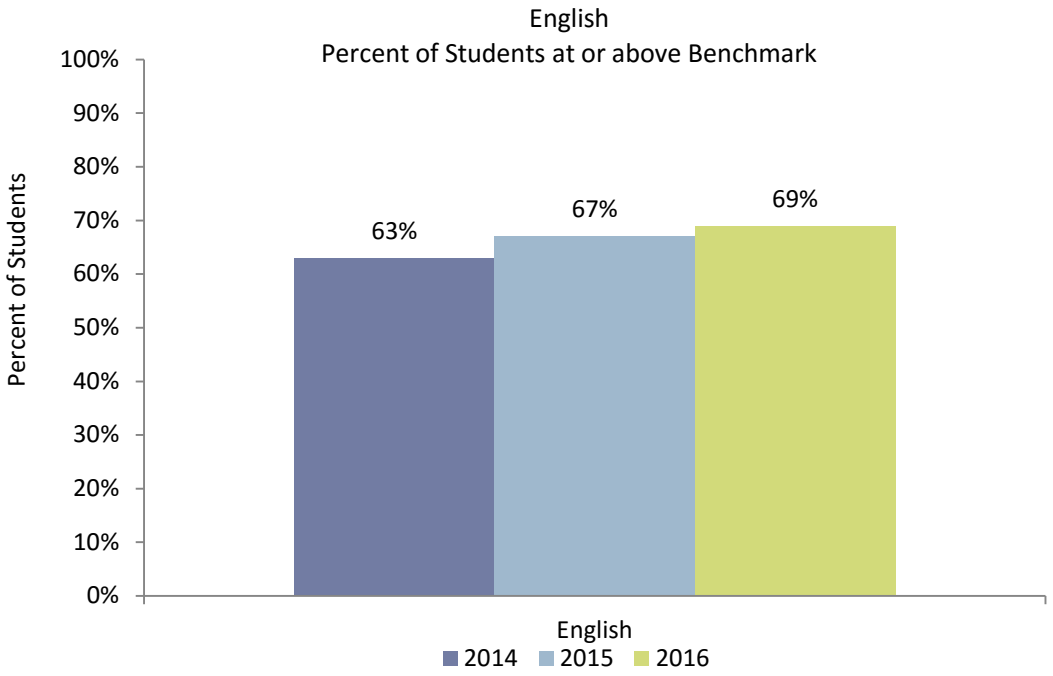
Given the low remediation count, MUS didn't report data for **Capital HS**, Flathead HS, Glacier HS, Butte HS, Big Sky HS, Hellgate HS, and Sentinel HS. The MUS does not include Flathead Valley Community College in this data assessment.

The charts at the top of the page focus on ACT testing data from the 2014 and 2015 cohorts. The remedial rate is the percent of Montana public high school graduates enrolling in the Montana University System within 3 months or 4-16 months of graduation who enrolled in a remedial math course in their first semester. This data is provided by the Montana University System (MUS) and was last modified on 3/8/2016.

* Fewer than 1

College and Career Readiness
English and Writing

Cohorts
2014 – 2016

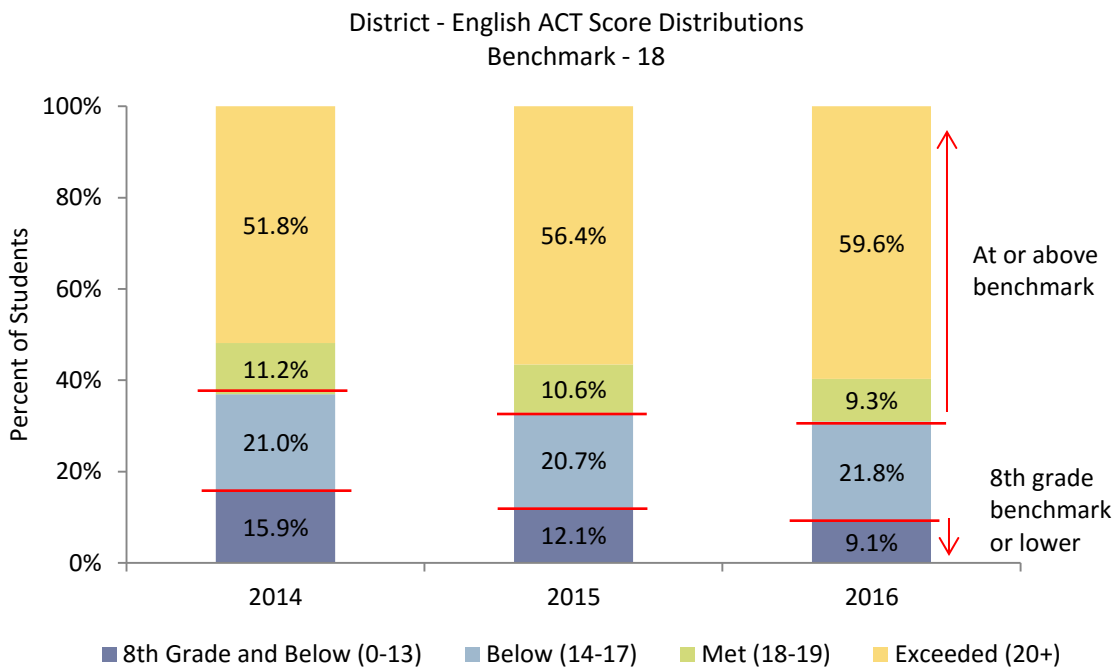


The majority of students in all three cohorts are at or above the ACT benchmark in English.

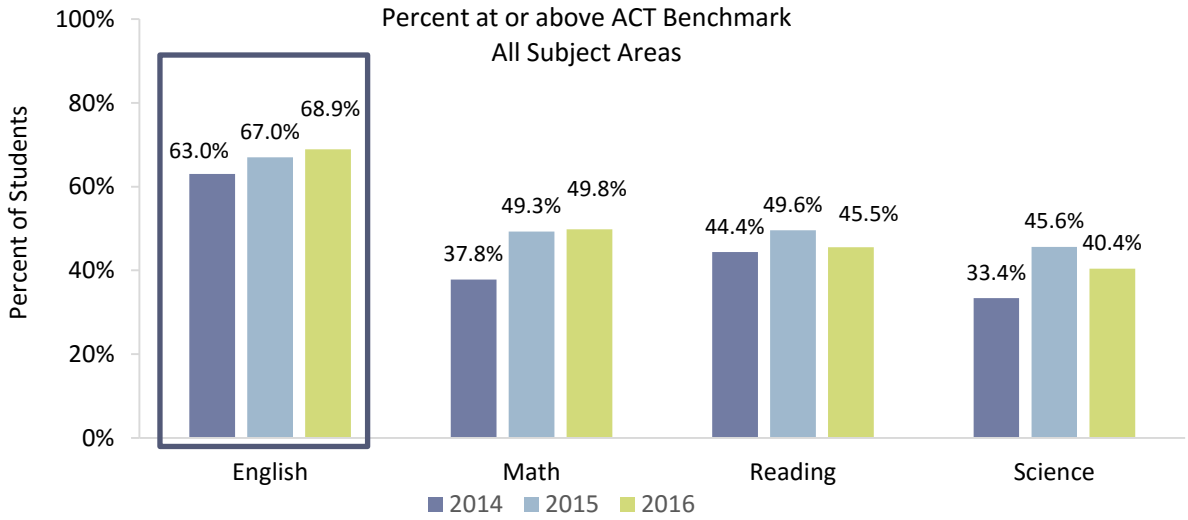
53% of the students in the 2016 cohort scored at the 87th percentile or higher in ACT Writing.

This report will examine student achievement based on English course patterns. Disaggregating the data provides detailed information on ACT achievement based on specific course patterns.

Overview Charts



Equally important as the gains at the top of the distribution are the changes at the bottom of the distribution. **In 2015 and 2016, fewer students scored at the 8th grade benchmark or lower.**



The average ACT score was 19.8, 20.4, and 20.8 in the 2014, 2015, and 2016 cohorts respectively.

English has the distinction of having the highest percentage of students at or above benchmark, and the percent of students at or above benchmark has increased every year for the last three years. In addition, there are 24, 28, and 30 students in the respective cohorts who scored 17, which is one point below benchmark. **Therefore, 3.7%, 4.7%, and 5.1% of the students in the respective cohorts are within one point of the benchmark.**

Overview Table

English Course Patterns

Percent at or above Benchmark in English and Average ACT Score

English Course Patterns		Cohort	N Enrolled	N Meeting Benchmark	% Meeting Benchmark	ACT Avg.
English 4 AP	With English 3 AP English 2 Honors English 1 Honors	2014	72	71	98.6%	27.3
		2015	59	59	100%	28.0
		2016	55	55	100%	28.1
English 4 AP	With or Without English 3 AP English 3 Honors English 2 Honors English 1 Honors	2014	116	114	98.2%	26.4
		2015	93	92	98.9%	27.5
		2016	83	82	98.7%	27.4
College Writing* (HHS)		2014	35	32	91.4%	22.9
		2015	51	46	90.1%	23.6
		2016	19	15	78.9%	22.5
College Writing/ Intro. to Literature (CHS)		2014	43	34	79.0%	20.9
		2015	52	50	96.1%	22.7
		2016	73	60	82.1%	21.2
English 4 Core Options	Any One Eng. 4 & Classical Wrl. Eng. 4 & Contemp. Wrl. *Eng. 4 & Multicultural Lit. Eng. 4 & Sci. Fiction English 4 A, 4 B, 4 C, 4 D, or 4 E	2014	380	225	59.2%	18.9
		2015	334	215	64.3%	19.6
		2016	323	199	61.6%	19.5
Technical Writing*		2014	42	9	21.4%	14.4
		2015	43	13	30.2%	14.9
		2016	28	15	53.5%	17.9
English 3 AP	Without English 4 AP	2014	38	36	94.7%	23.6
		2015	30	27	90.0%	24.3
		2016	46	46	100%	25.0
English 3 Honors	Without English 4 AP	2014	12	12	100%	23.0
		2015	23	19	82.6%	23.7
		2016	19	17	89.4%	23.5
English 3		2014	447	240	53.6%	18.2
		2015	405	252	62.2%	18.9
		2016	418	248	59.3%	19.0
English 2 Honors	Without English 4 AP English 3 AP English 3 Honors	2014	20	17	85.0%	22.4
		2015	30	28	93.3%	23.7
		2016	36	32	88.8%	23.2

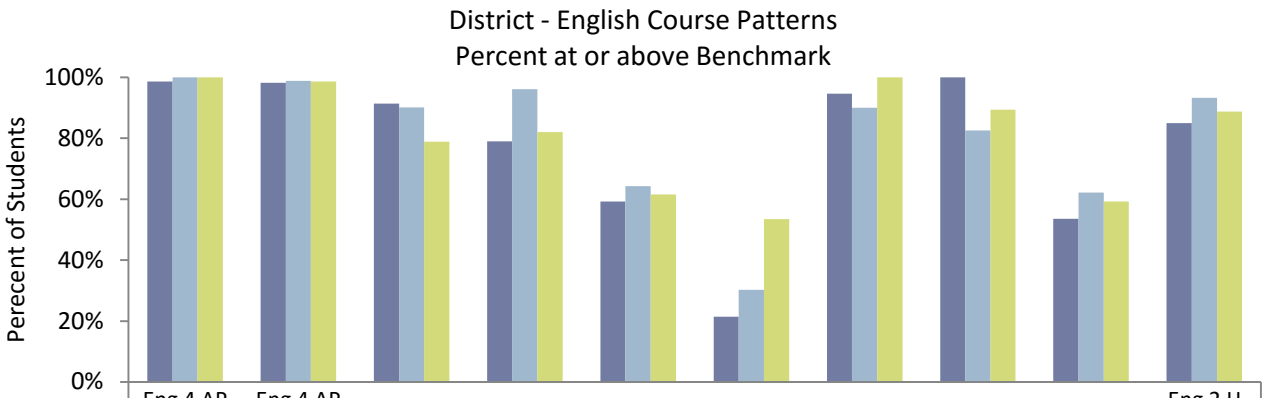
11%, 10%, and 10% of students in the 2014, 2015, and 2016 respective cohorts completed all four years of honors and AP English.

The average ACT score exceeded the benchmark, and over 60% of the students met or exceeded the benchmark in English 4 Core.

There were a total of 142, 112, and 117 student in the respective cohorts enrolled in English 3 AP.

ACT performance was examined for both AP and honors courses for grades 10-12 based on the highest honors or AP class taken. ACT performance was also examined for both English 4 Core classes and English 3. Although the majority of students enrolled in English 3 moved on to English 4 Core classes, a portion of these juniors enrolled in other senior English options.

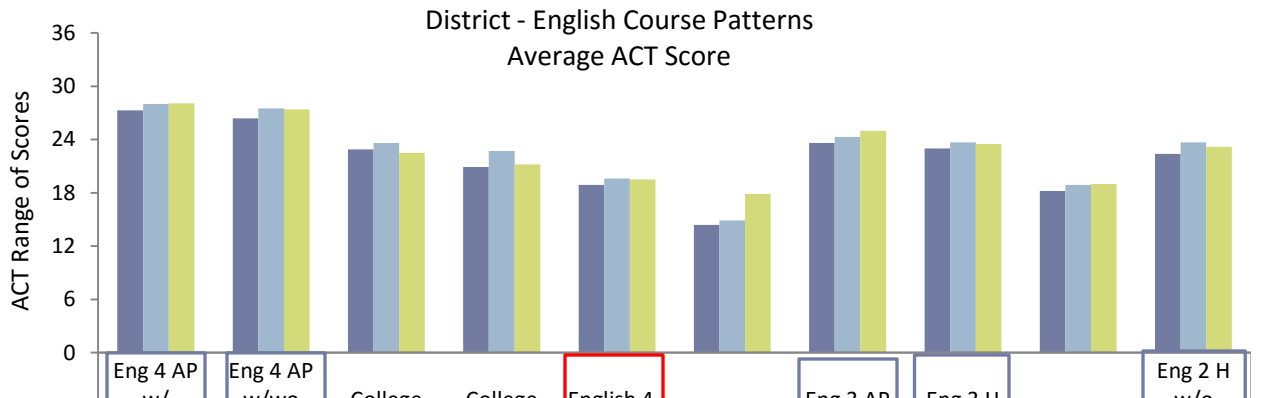
* The results for the 2016 cohort of College Writing (HHS) are for first semester only. These students also take one semester of English 4 Core and are represented in these averages too. Formerly Native AmL.



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	English 3	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
2014	98.6%	98.2%	91.4%	79.0%	59.2%	21.4%	94.7%	100.0%	53.6%	85.0%
2015	100.0%	98.9%	90.1%	96.1%	64.3%	30.2%	90.0%	82.6%	62.2%	93.3%
2016	100.0%	98.7%	78.9%	82.1%	61.6%	53.5%	100.0%	89.4%	59.3%	88.8%

The majority of students met or exceeded the benchmark in nearly every English course pattern (blue boxes).

Of the students completing English 4 AP, 62.0%, 63.4% and 66.2% in the respective cohorts also completed English 3 AP, English 2 Honors and English 1 Honors.



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	English 3	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
2014	27.3	26.4	22.9	20.9	18.9	14.4	23.6	23.0	18.2	22.4
2015	28.0	27.5	23.6	22.7	19.6	14.9	24.3	23.7	18.9	23.7
2016	28.1	27.4	22.5	21.2	19.5	17.9	25.0	23.5	19.0	23.2

The average ACT score for students in English 4 Core exceeded the benchmark in 2014, 2015, and 2016 (red box).

The average ACT score for students who enrolled in English 4 AP is signficantly higher than any other level of AP or Honors English (blue boxes). The average ACT score of students who took their most rigorous English class (AP or honors) at the sophomore or junior level is significantly higher than the average ACT score of students who were enrolled in regular English at the junior or senior level.

Subscore Analysis

2014 - 16 Cohorts

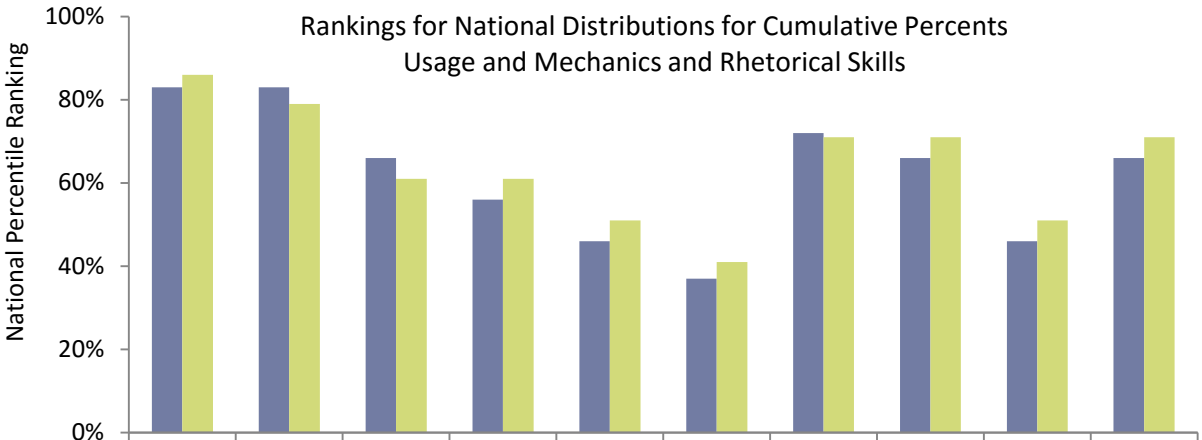
English Test
There are two subscores on the ACT English Test. The subscore range is from 0-18.

- Usage/Mechanics
- Rhetorical Skills

ACT does not define benchmarks for the subscores, but ACT does provide national distributions of cumulative percents for ACT subscores. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

Writing Subscore and Combined English/Writing Score
The writing test is reported as a subscore on a scale of 2-12. The combined English/Writing score range is from 1-36 and is derived from the English and the Writing score. ACT does not define a benchmark for the writing test nor the combined English/Writing score, but ACT does provide national distributions of cumulative percents for the writing score and the combined English/Writing score. – – The ACT Plus Writing and National Distributions of Cumulative Percents, Former ACT Writing Test Scores Prior to September 2015, ACT-Tested High School Graduates from 2013, 2014 and 2015

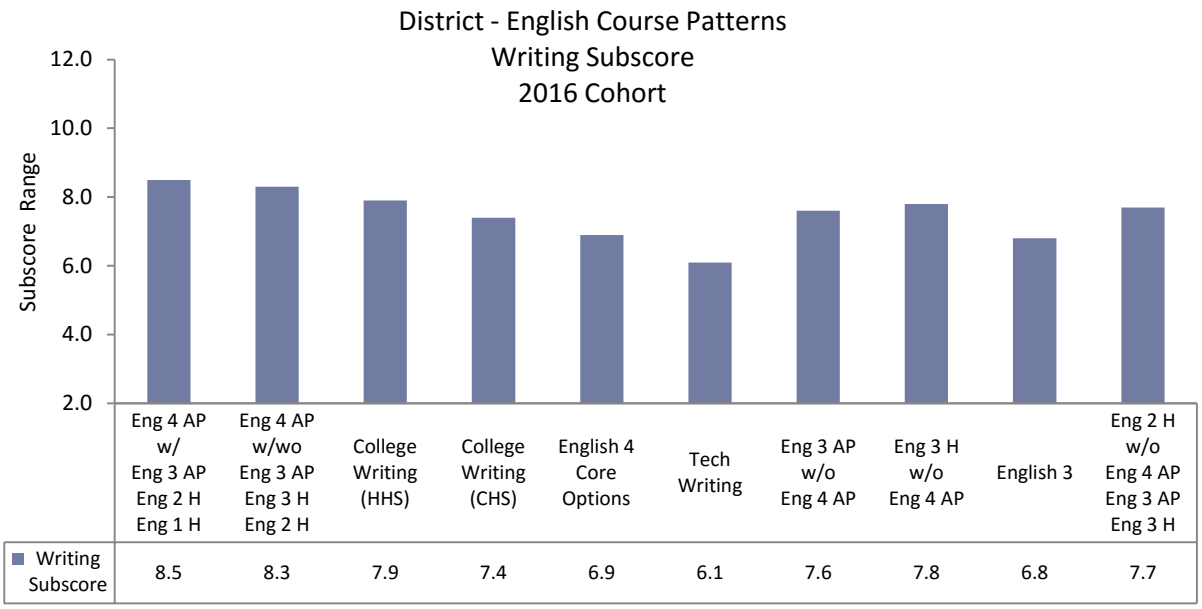
District - English Course Patterns
Usage/Mechanics Subscore Average



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	English 3	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
Usage/ Mech. Nat. %	83%	83%	66%	56%	46%	37%	72%	66%	46%	66%
Rhet. Skills Nat. %	86%	79%	61%	61%	51%	41%	71%	71%	51%	71%

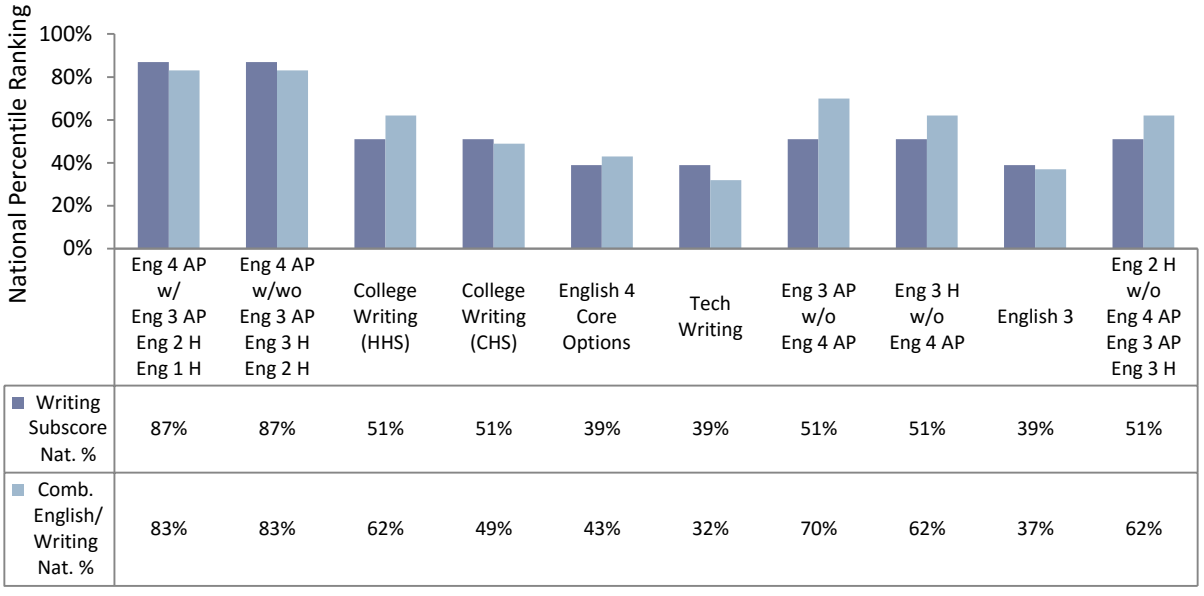
In seven of the ten course patterns, students scored higher on the rhetorical skills as compared to usage and mechanics (blue boxes). In addition, students scored above the fiftieth percentile ranking on rhetorical skills in nine of the ten course patterns. On usage and mechanics, students scored above the fiftieth percentile ranking in seven of the ten course patterns.

The national percentile rankings for the same score point varies from one subject area to the next as well as for the subscores within a subject area. The national percentage ranking for the average subscore for each course pattern is listed in the chart to more accurately provide a means of comparison. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	English 3	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
Writing Subscore	8.5	8.3	7.9	7.4	6.9	6.1	7.6	7.8	6.8	7.7

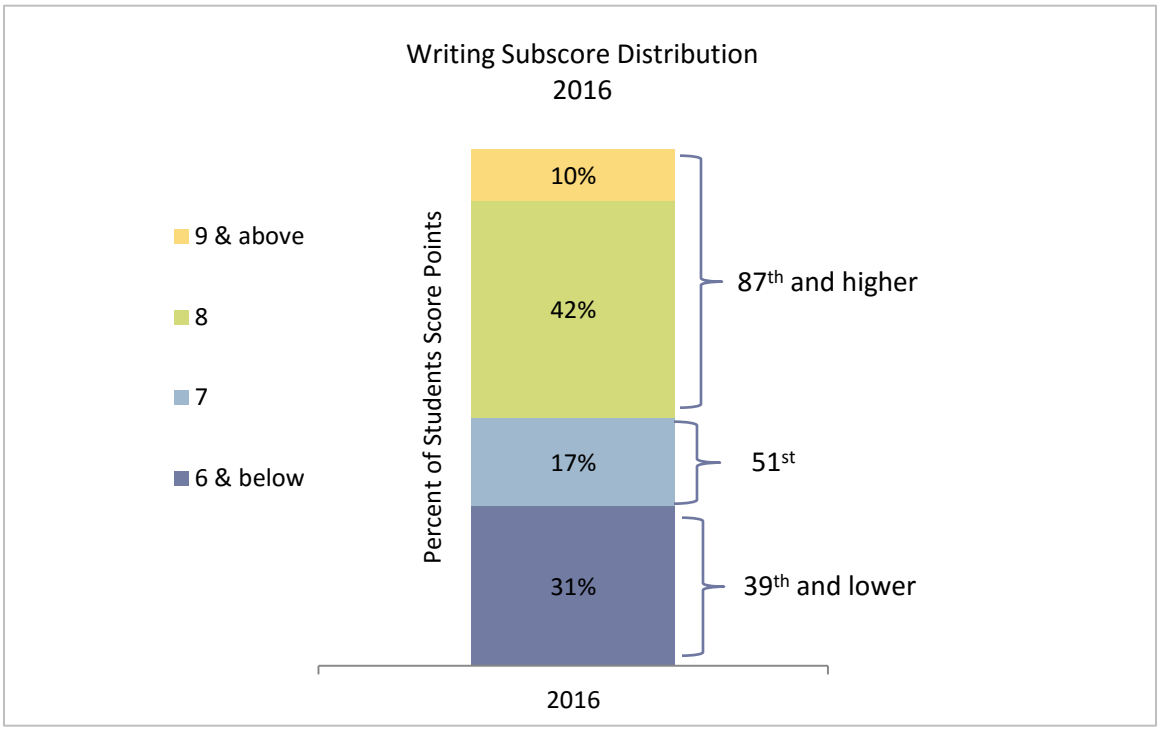
Students have 30 minutes to plan and write an argumentative essay focusing on a school issue. The writing essay was scored using a holistic rubric on a scale of 2-12. – About the ACT Writing Test



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	English 3	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
Writing Subscore Nat. %	87%	87%	51%	51%	39%	39%	51%	51%	39%	51%
Comb. English/ Writing Nat. %	83%	83%	62%	49%	43%	32%	70%	62%	37%	62%

Although there is no benchmark for the combined English/Writing score, ACT provides national distributions of cumulative percents for both the Writing and the Combined English/Writing scores. – The ACT Plus Writing and National Distributions of Cumulative Percents, Former ACT Writing Test Scores Prior to September 2015, ACT-Tested High School Graduates from 2013, 2014 and 2015

ACT Writing Subscore Distribution and National Percentile Rankings



52% of the students in the 2016 cohort scored at the 87th national percentile ranking or higher.

Of the 576 students, 297 scored an 8 or higher.

- 4 students scored an 11
- 18 students scored a 10
- 35 students scored a 9
- 240 students scored an 8
- 97 students scored a 7
- 182 students scored a 6 or below

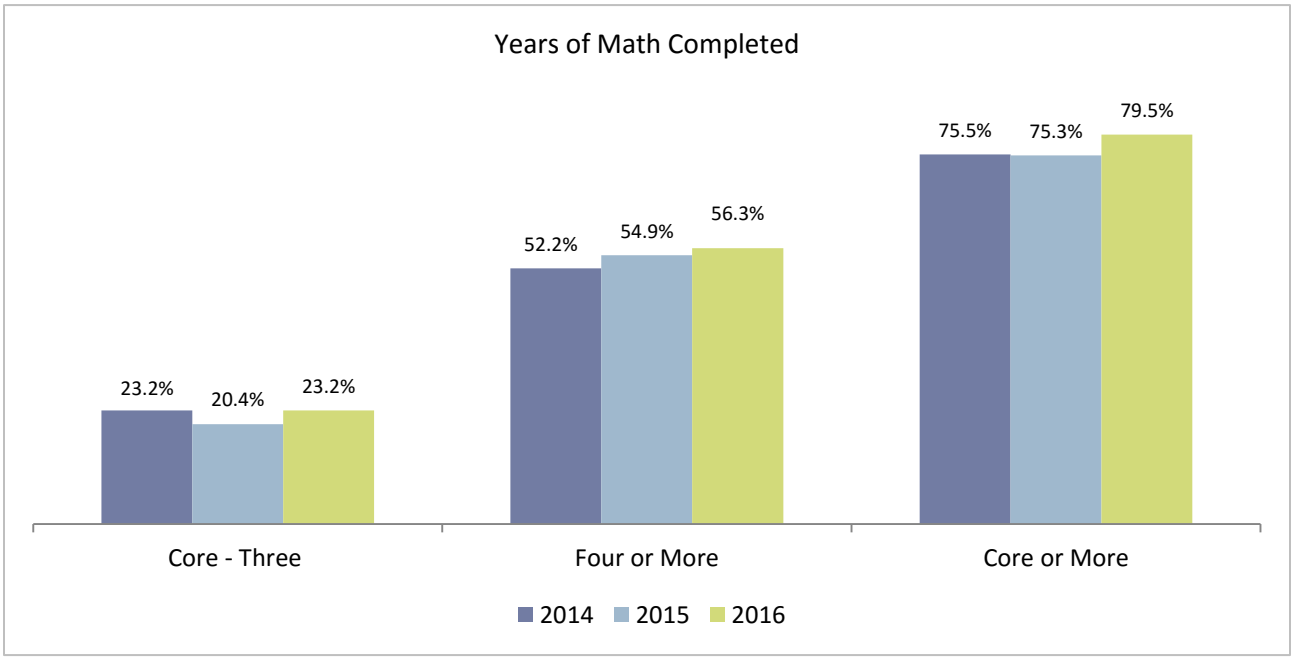
Score Points & National Percentile Rankings

11 – 99th percentile	9 – 95th percentile	7 – 51st percentile
10 – 99th percentile	8 – 87th percentile	6 – 39th percentile

– The ACT Plus Writing and National Distributions of Cumulative Percents, Former ACT Writing Test Scores Prior to September 2015, ACT-Tested High School Graduates from 2013, 2014 and 2015

College and Career Readiness
Math

Cohorts
2014 – 2016

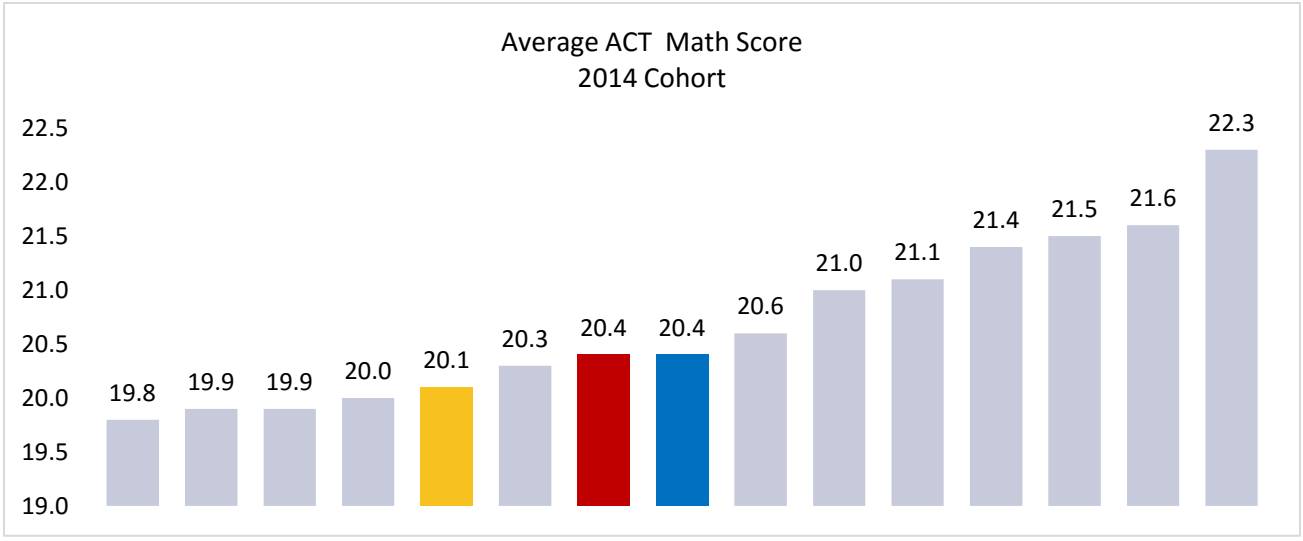


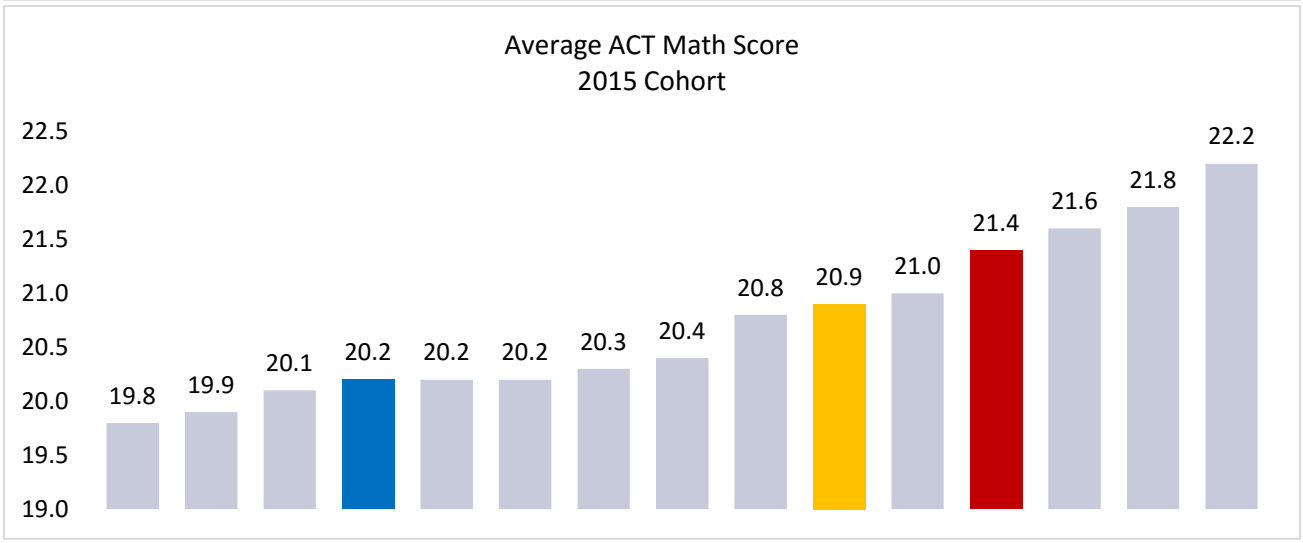
Depending on the cohort, 20% to 23% of CHS and HHS students didn't take any math courses beyond Algebra II or Honors Math 2, while over 50% of CHS and HHS students took four or more years of high school math. Combining both, over 75% of CHS and HHS students completed ACT's recommendation of Core or More. Please note, students completing more than four years of math took Math 1 Honors as an 8th grader and completed College Calculus or Calculus, Linear Algebra, and Differential Equations as a senior.

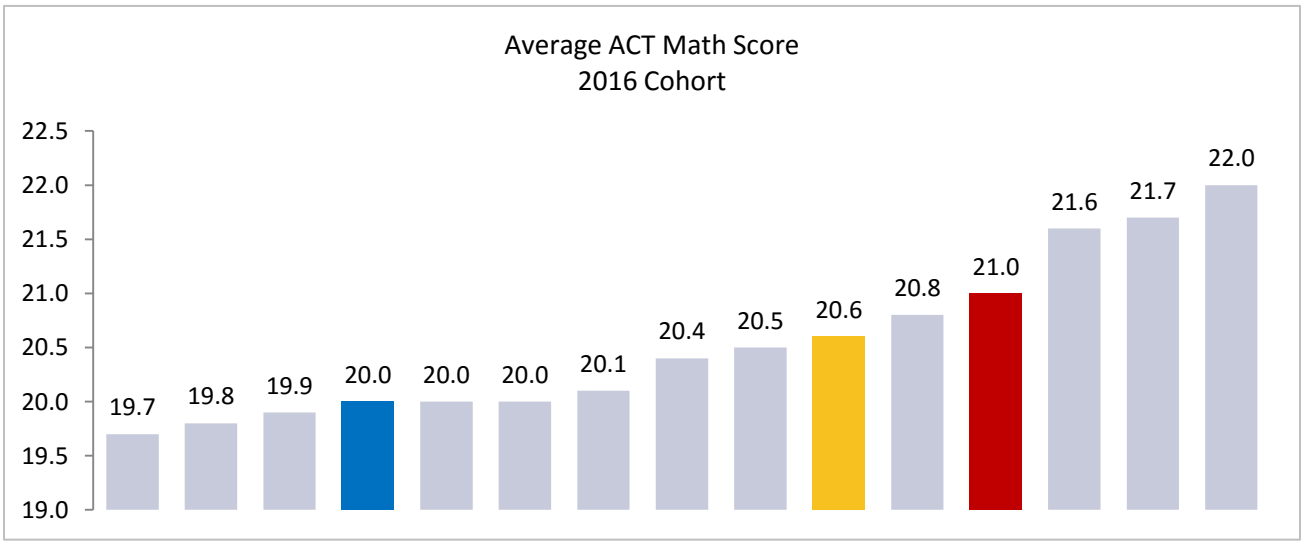
This report will examine student achievement based on the highest math class competed. Disaggregating the data provides detailed information on ACT achievement based on specific course patterns.

AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

These charts place AA schools in relation to each other based on average ACT scores. All student ACT scores were used to calculate the state's average.



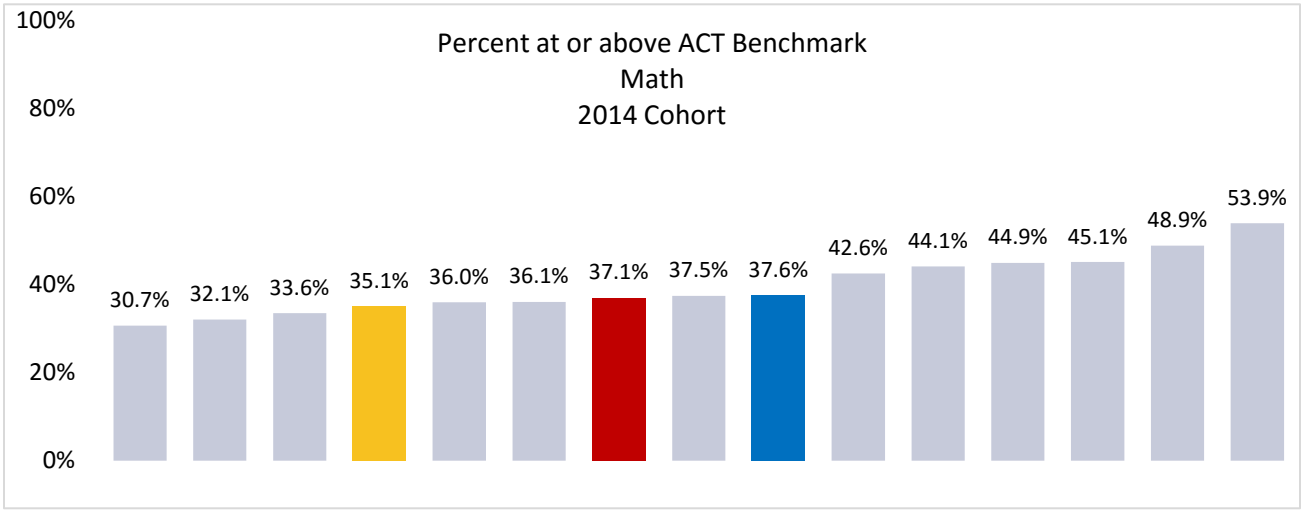


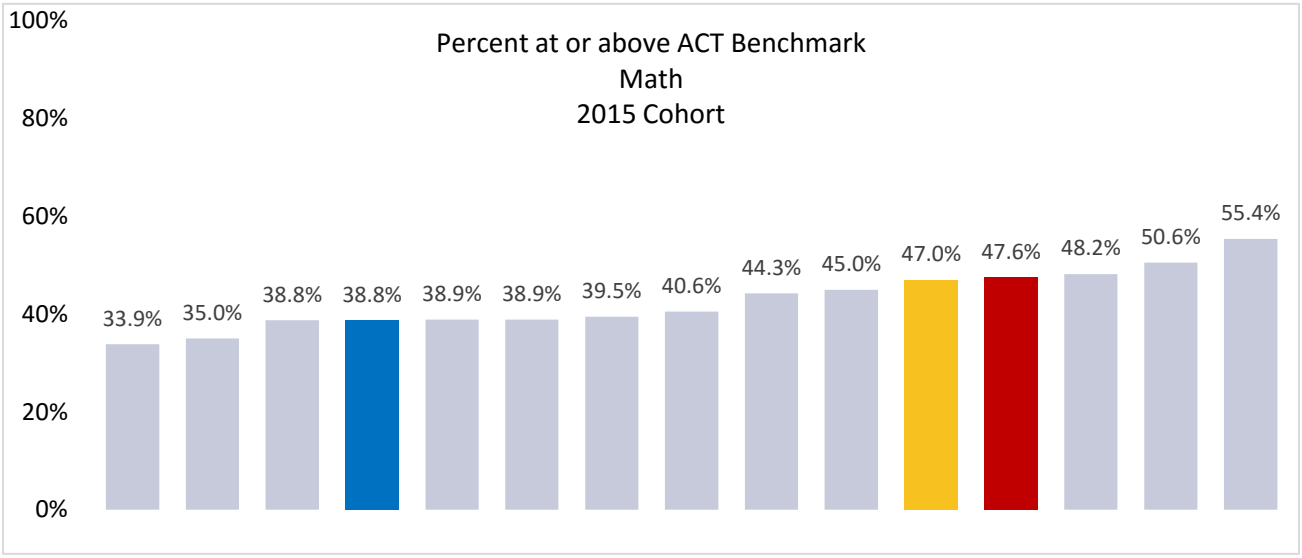


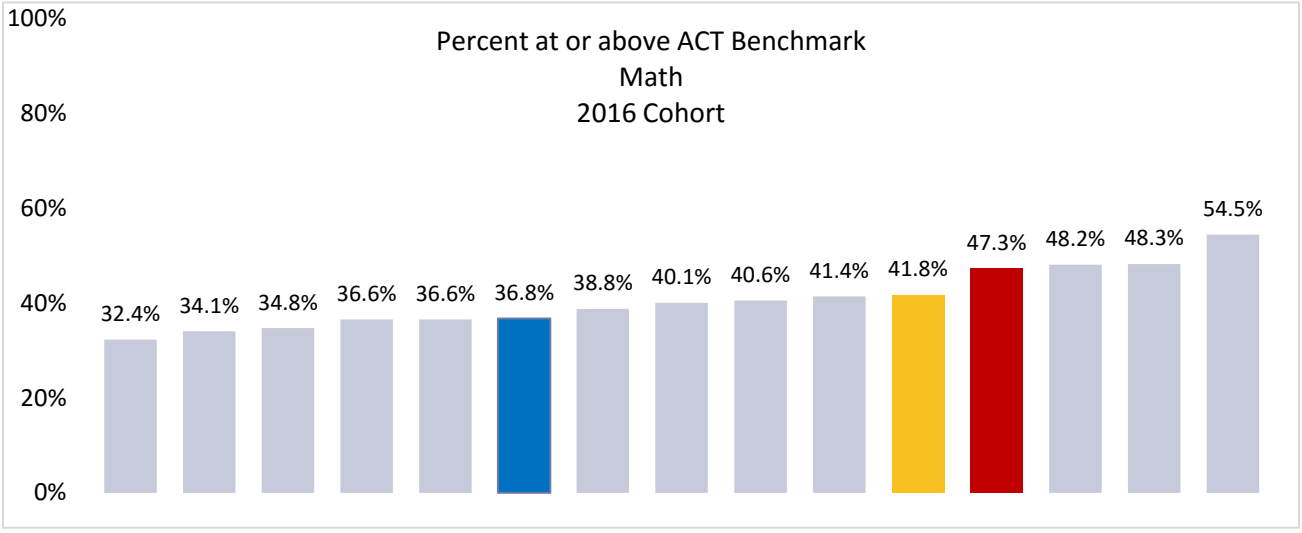
your Helena Public Schools ...a great place to learn

AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

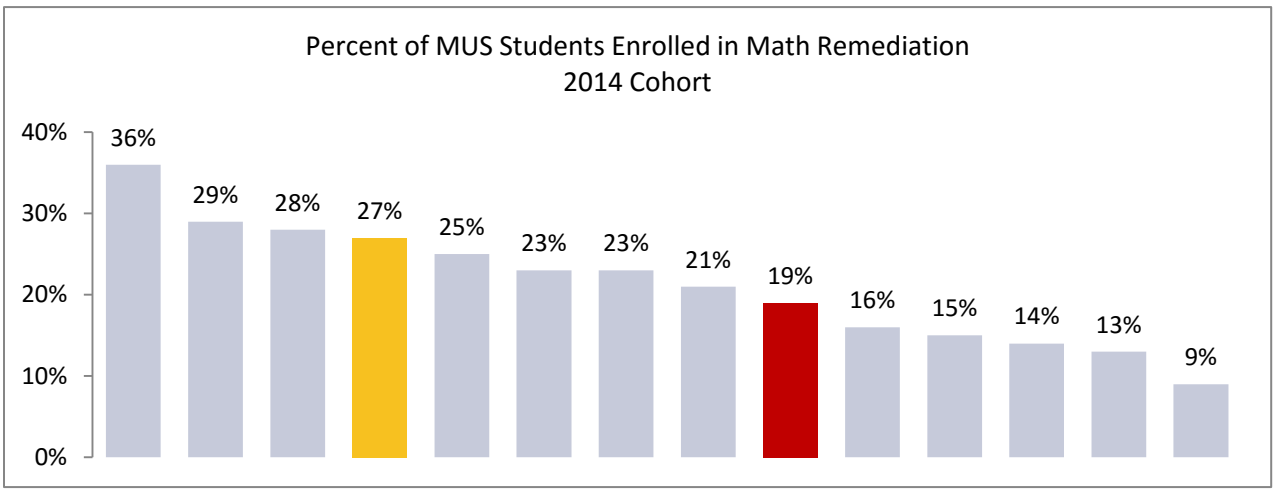
These charts place AA schools in relation to each other based on the percentage of students at or above benchmark.

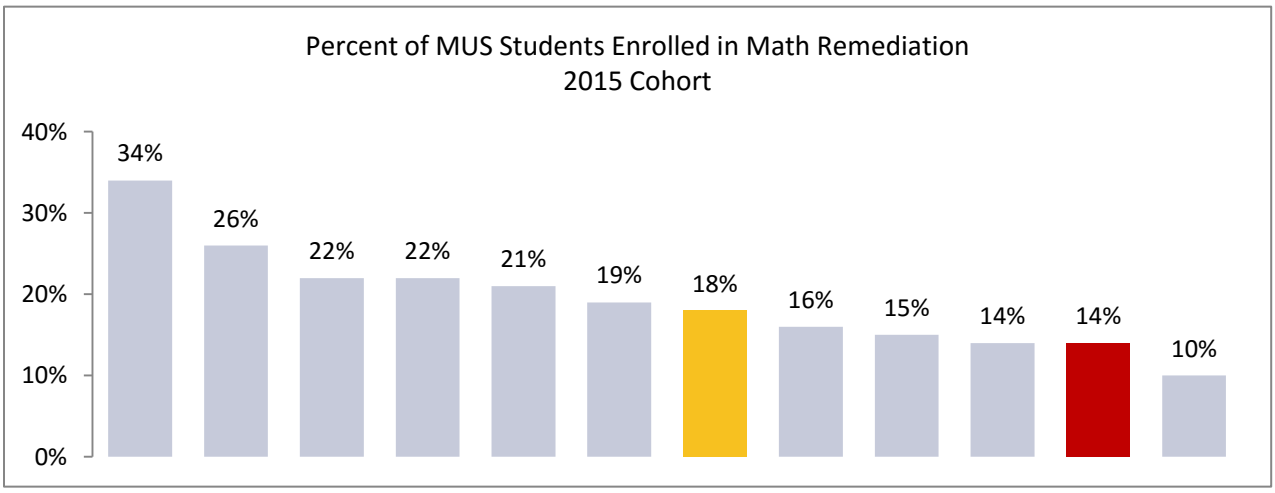






AA High School Math Remediation Rates
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction





Given the low remediation count, MUS didn't report data for Flathead HS and Hellgate HS. The MUS does not include Flathead Valley Community College in this data assessment.

The charts at the top of the page focus on ACT testing data from the 2014 and 2015 cohorts. The remedial rate is the percent of Montana public high school graduates enrolling in the Montana University System within 3 months or 4-16 months of graduation who enrolled in a remedial math course in their first semester. This data is provided by the Montana University System (MUS) and was last modified on 3/8/2016.

* Fewer than 1

ACT Math
Helena School District Analysis

ACT National Curriculum Survey and the ACT College and Career Readiness Standards
Every three to five years, ACT conducts the ACT National Curriculum Survey. The most recent survey was published in 2012. The results of the survey are used to guide the development of ACT's curriculum-based assessments and validate the ACT Standards and Benchmarks. Any changes to ACT Standards are clearly identified in the published ACT National Curriculum Results for each subject area. – ACT National Curriculum Survey

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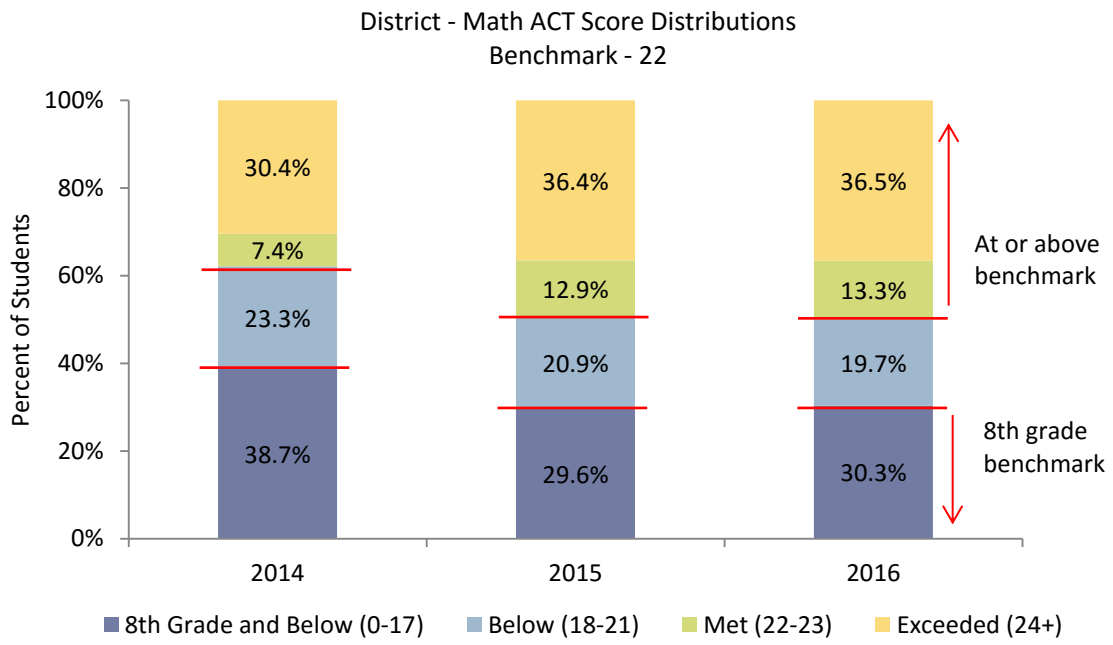
ACT Course Recommendations
ACT recommends that students take Core or More, which is a minimum of three years of math including Algebra I, Geometry, and Algebra II. Course value is defined as the average ACT score change compared to course sequences in which students took less than the Core. The course value added numbers listed below come from the most recent (2015) ACT Profile Report for Helena School District and are higher than the national course value added averages. Helena School District scores follow the dash, and the national averages are in parentheses.

Algebra 1, Algebra 2, Geometry, Trigonometry, and Calculus – 11.0 (7.2)
Algebra 1, Algebra 2, Geometry, Trigonometry, and other advanced math -- 6.0 (5.4)
Algebra 1, Algebra 2, Geometry, and Trigonometry -- 6.2 (2.8)
Algebra 1, Algebra 2, Geometry, and other advanced math -- 4.9 (3.1)
Other combination of 4 or more years of math -- 8.8 (7.4)
Algebra 1, Algebra 2, and Geometry --1.9 (0.8)
-- The ACT Profile Report - National Graduating Class of 2015 and The ACT Profile Report-District, Montana State Testing 2014-2015 Grade 11 Tested Students, Helena Public Schools

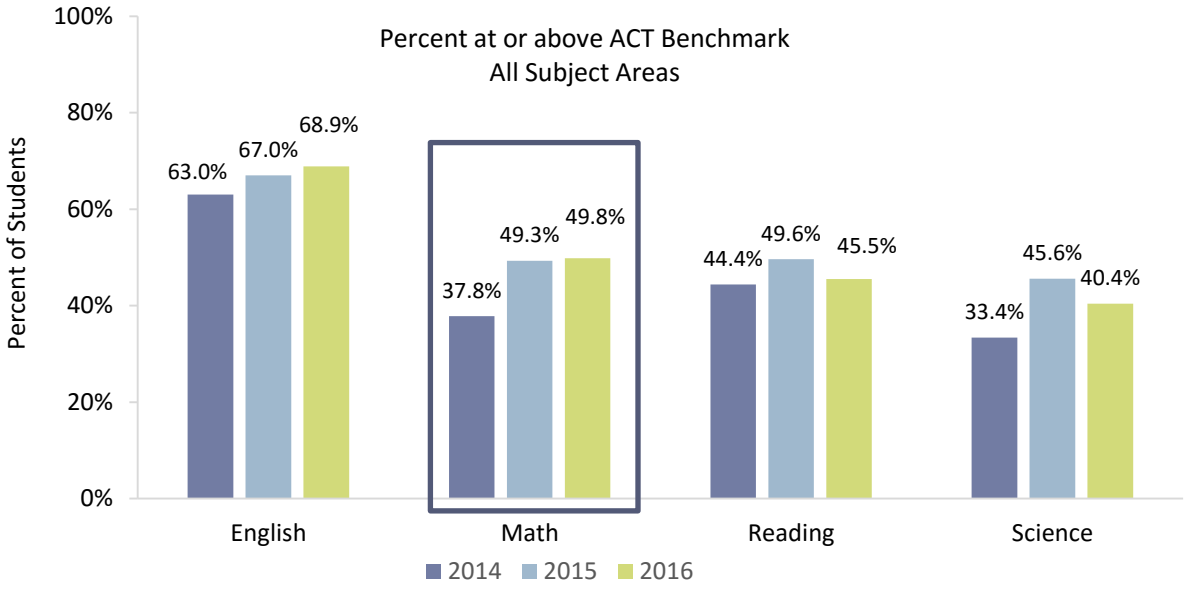
Enrollment Numbers
Enrollment numbers for the courses listed in this report are limited to those students in the given cohort who took the ACT during the spring test date or the spring make-up date as reported by ACT. A teacher of record may see a difference in student counts if there are mixed grade levels in the same class or if students didn't take the ACT test during the spring test date or make-up date.

District Initiative
To ensure that students are learning and retaining critical competences in math, the Board of Trustees committed resources in the spring of 2013 to SuccessMaker and Star Math. This important district wide initiative allows teachers to monitor student progress, adjust teaching strategies, and implement necessary interventions to assure that students will experience success as they encounter new concepts and skills at each grade level and, ultimately, be successful with rigorous high school math courses.

Overview Charts



Equally important as the gains at the top of the distribution are the changes at the bottom of the distribution. **In 2015 and 2016, significantly fewer students scored at the 8th grade benchmark or lower.**



The average ACT score was 20.5, 21.4, and 21.3 in the 2014, 2015, and 2016 respective cohorts.

The percent of students at or above benchmark has increased every year for the last three years. In addition, there are 31, 23, and 29 students in the respective cohorts who scored 21, which is one point below benchmark. **Therefore, 4.8%, 3.8%, and 5.0% of the students in the respective cohorts are within one point of the benchmark.**

Overview Table

District
Highest Math Class Taken
Percent at or above Benchmark
Average ACT Score

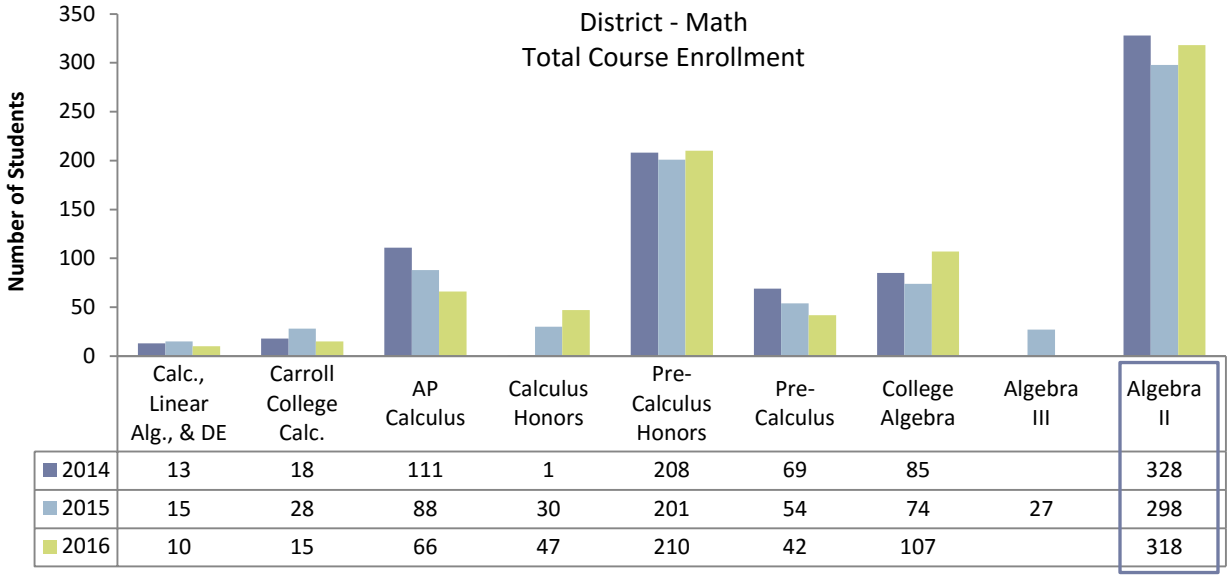
After completing Math II Honors, the vast majority of students take higher level math classes. There were only 9, 4, and 5 students in the respective cohorts who didn't take any additional higher level math classes.

Math II Honors		
N Enrolled	% at or above Benchmark	% Taking Another Class
161	90.0%	94%
156	95.5%	97%
147	95.2%	97%

The majority of students in Pre-Calc. Honors in all three cohorts scored at or above benchmark, and the avg. ACT score was also above 22. This was also true of Pre-Calculus students in the 2016 cohort.

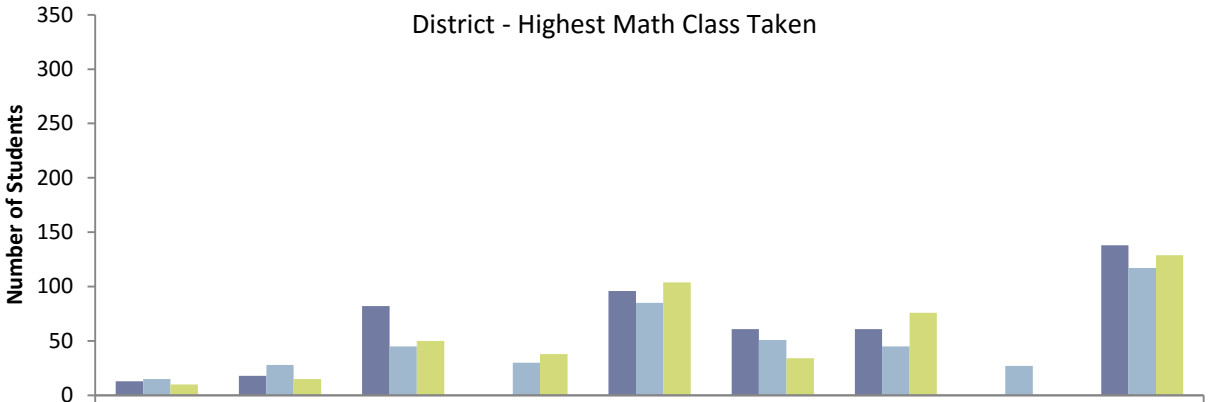
Highest Math Taken	Cohort	N Enrolled	N Meeting Benchmark	% Meeting Benchmark	ACT Avg.
Calc., Linear Alg., and DE	2014	13	13	100%	30.9
	2015	15	14	93.3%	30.1
	2016	10	10	100%	28.8
Carroll College Calc.	2014	18	18	100%	29.5
	2015	28	28	100%	31.1
	2016	15	15	100%	29.1
AP Calculus	2014	82	81	98.7%	26.9
	2015	45	42	93.3%	26.2
	2016	50	50	100%	27.1
Calculus Honors	2014	--	--	--	--
	2015	30	29	96.6%	26.6
	2016	38	37	97.3%	26.7
Pre-Calc. Honors	2014	96	61	63.5%	22.6
	2015	85	67	78.8%	23.6
	2016	104	79	75.9%	23.4
Pre-Calculus	2014	61	25	40.9%	20.8
	2015	51	30	58.8%	21.4
	2016	34	23	67.6%	22.7
College Algebra	2014	61	9	14.7%	18.5
	2015	45	18	40.0%	21.0
	2016	76	28	36.8%	20.1
Algebra III	2014	--	--	--	--
	2015	27	15	55.5%	21.2
	2016	--	--	--	--
Algebra II	2014	138	22	15.9%	18.4
	2015	117	36	30.7%	19.5
	2016	129	32	24.8%	18.9

On the following three pages, there are three sets of charts titled *Total Course Enrollment* and *Highest Math Class Taken.* When each set is viewed together, patterns of student enrollment and achievement are more transparent. Charts titled *Total Course Enrollment* examine achievement based on total course enrollment and cumulative course histories. The charts titled *Highest Math Class Taken* examine achievement based on highest level of math completed. The information in *Highest Math Class Taken* provides valuable insight into how students perform when they take the minimum requirements and how achievement increases with each additional math course.



	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calculus Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	13	18	111	1	208	69	85		328
2015	15	28	88	30	201	54	74	27	298
2016	10	15	66	47	210	42	107		318

The enrollment in AP Calculus did not decline in 2015 or 2016. The course was renamed Calculus Honors. When counts are added together, enrollment totaled 118 in 2015 and 113 in 2016. College Algebra and Algebra III follow the same curriculum with a total enrollment of 101 students in 2015.

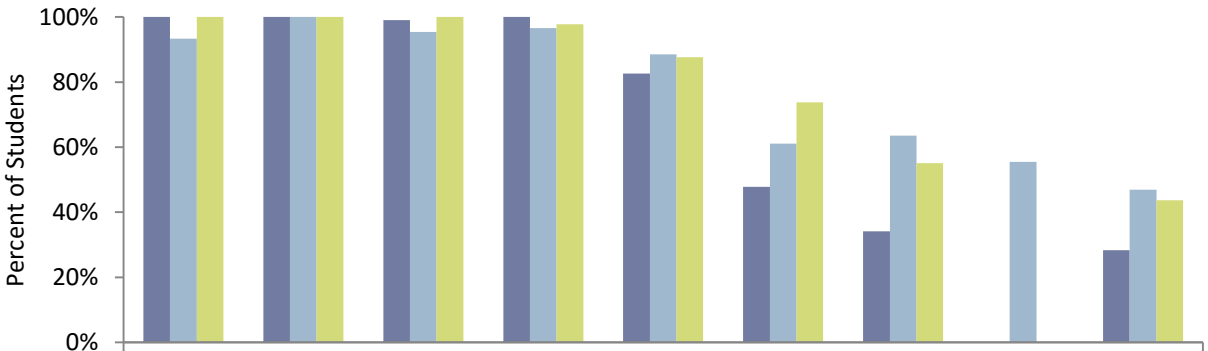


	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calculus Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	13	18	82		96	61	61		138
2015	15	28	45	30	85	51	45	27	117
2016	10	15	50	38	104	34	76		129

The top chart shows the total number of students enrolled in each course. The bottom chart shows the number of students who completed each of the classes but didn't take another higher level math class on this list. For example, of the 318 Algebra II students in the 2016 cohort, 129 didn't take another higher level math class listed. Contrasting enrollment numbers in these charts provides valuable information on enrollment patterns.

The number of students who took a fourth year of higher level math totals 331, 326, and 325 respectively; therefore, 52.2%, 54.9%, and 56.3% of students in the respective cohorts completed four or more years of math. The number of students who completed Core or More totals 478, 447, and 459, respectively; therefore, 75.5%, 75.3%, 79.5% of students completed Core or More (3 or more years) of math. Algebra II or Math 2 Honors fulfills the requirement for Core.

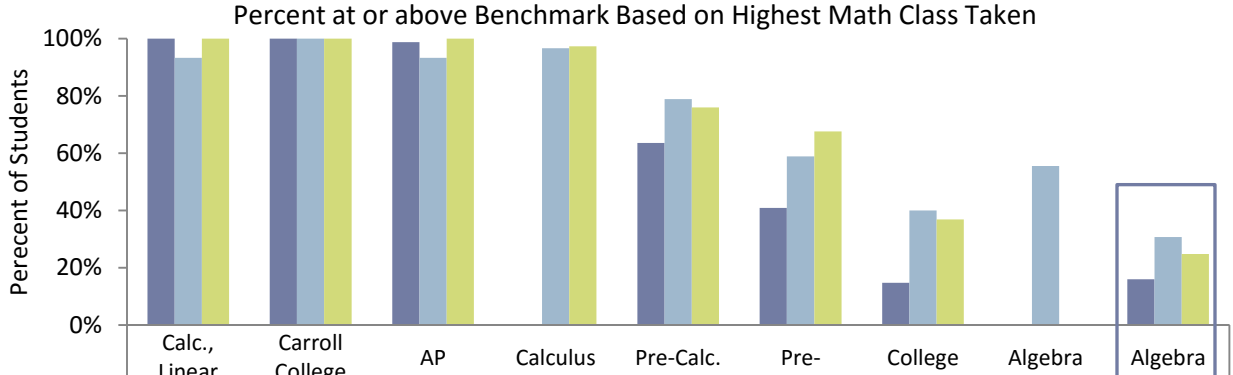
District -- Math
Percent at or above Benchmark Based on Total Course Enrollment



	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calc. Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	100.0%	100.0%	99.0%	100.0%	82.6%	47.8%	34.1%		28.3%
2015	93.3%	100.0%	95.4%	96.6%	88.5%	61.1%	63.5%	55.5%	46.9%
2016	100.0%	100.0%	100.0%	97.8%	87.6%	73.8%	55.1%		43.7%

In the top chart, the achievement percentages reflect all of all the math classes each of these students completed. For example, Pre-Calc. Honors 2016 lists a high of 87.6% and a low of 75.9%. In the top chart, 87.6% of the students met the benchmark. Some of these students continued with math instruction, while others did not. In the bottom chart, 75.9% met the benchmark. None of these students took any higher level math classes.

District - Highest Math Class Taken
Percent at or above Benchmark Based on Highest Math Class Taken

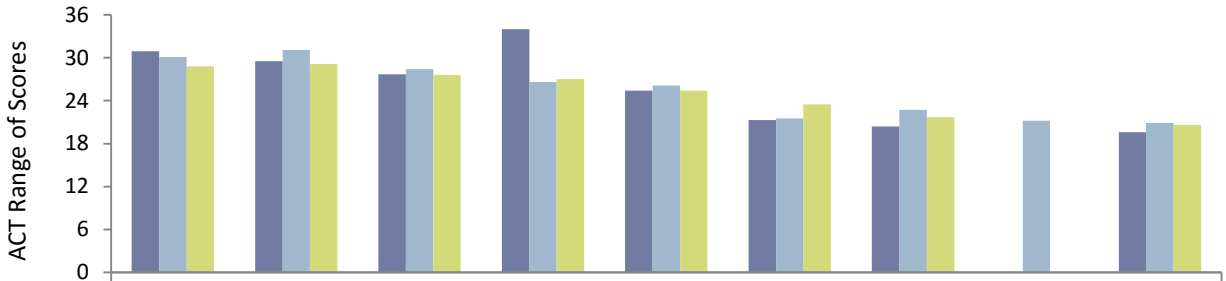


	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calc. Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	100.0%	100.0%	98.7%		63.5%	40.9%	14.7%		15.9%
2015	93.3%	100.0%	93.3%	96.6%	78.8%	58.8%	40.0%	55.5%	30.7%
2016	100.0%	100.0%	100.0%	97.3%	75.9%	67.6%	36.8%		24.8%

Another 12.4% of the students in the 2016 cohort who completed Algebra II and no higher level math class were within one point of the benchmark in math.

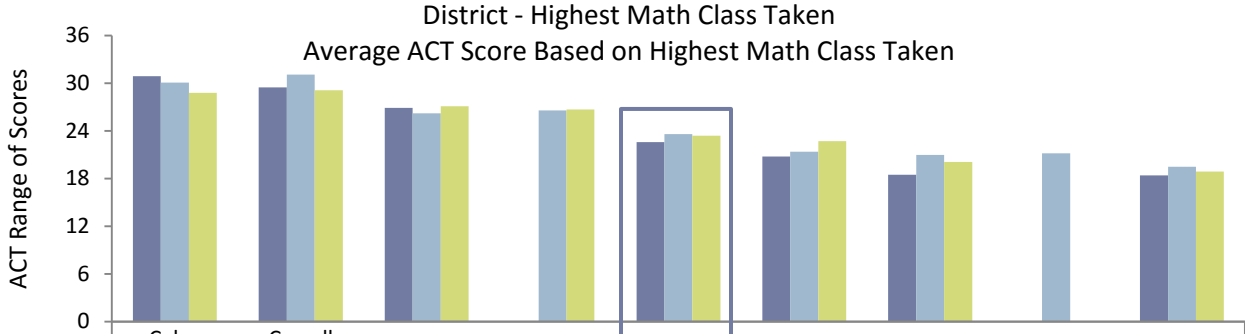
Of those Algebra II students who completed the Core and took no higher level math, 84.1%, 69.3% and 75.2% of the students in the respective cohorts fell short of the benchmark. To increase their achievement, ACT encourages students to review the ACT Standards to determine which standards they should focus their attention on next to strengthen their math skills. The ACT Math Standards are available on the ACT website. In addition, Math Curriculum Review sheets can be used to align curriculum. – The ACT College and Career Readiness Standards

District - Math
Average ACT Score Based on Total Course Enrollment



	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calc. Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	30.9	29.5	27.7	34.0	25.4	21.3	20.4		19.6
2015	30.1	31.1	28.4	26.6	26.1	21.5	22.7	21.2	20.9
2016	28.8	29.1	27.6	27.0	25.4	23.5	21.7		20.6

District - Highest Math Class Taken
Average ACT Score Based on Highest Math Class Taken



	Calc., Linear Alg., & DE	Carroll College Calc.	AP Calculus	Calculus Honors	Pre-Calc. Honors	Pre-Calculus	College Algebra	Algebra III	Algebra II
2014	30.9	29.5	26.9		22.6	20.8	18.5		18.4
2015	30.1	31.1	26.2	26.6	23.6	21.4	21.0	21.2	19.5
2016	28.8	29.1	27.1	26.7	23.4	22.7	20.1		18.9

Pre-Calculus Honors is the first level of math that shows average ACT scores above the benchmark for all three cohorts.

ACT recommends that students take, at a minimum, Algebra I, Geometry, and Algebra II. -- The ACT Profile Report – National - Graduating Class of 2015

In the 2016 cohort, there were 354 students who took Geometry, and 62 of those advanced no further. Their average ACT score was 16.7. Of the 62 students, 5 (8.0%) were at or above the benchmark (Geometry data not in chart).

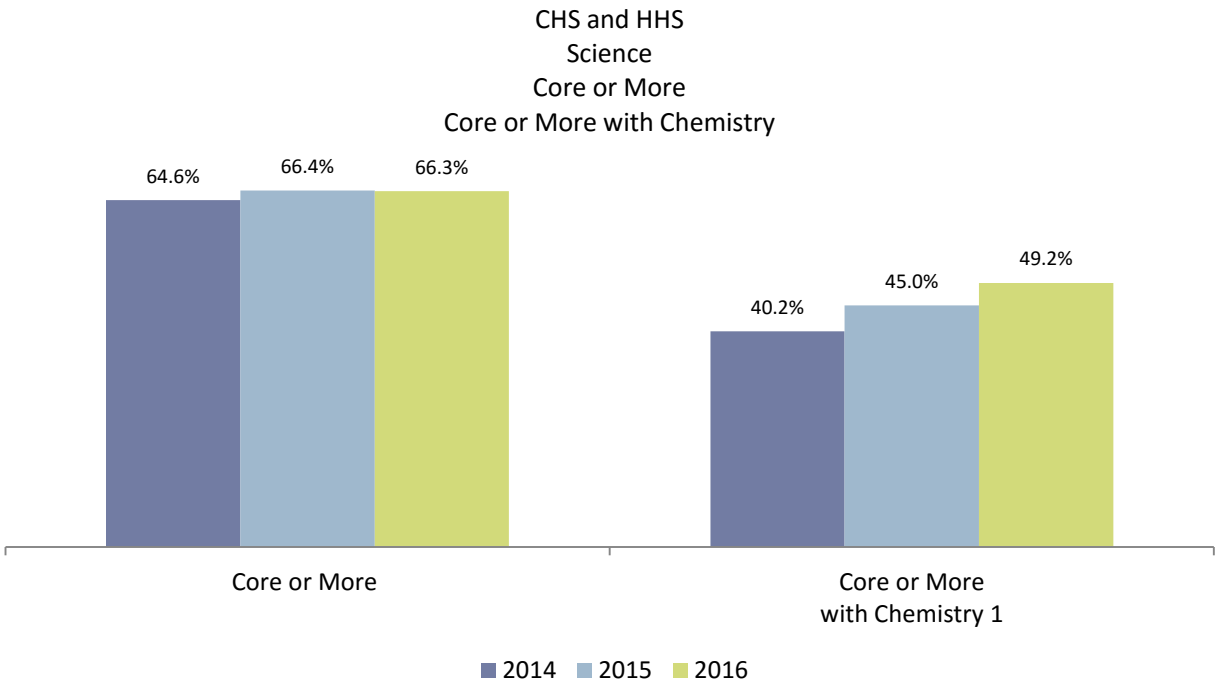
The 8th grade benchmark is 17.

-- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

31 – 96th percentile
30 – 95th percentile
29 – 93rd percentile
28 – 91st percentile
27 – 88th percentile
26 – 84th percentile
25 – 78th percentile
24 – 73rd percentile
23 – 67th percentile
22 – 62nd percentile
21 – 57th percentile
20 – 53rd percentile
19 – 49th percentile
18 – 43rd percentile

College and Career Readiness
Science

Cohorts
2014 – 2016



Over 65% of CHS and HHS students completed Core or More (three or more) in Science. 40%, 45%, and 49% of these students in the respective cohorts completed Chemistry 1 as part of their Core or More pattern.

This report will examine student achievement based on the highest science course completed. Disaggregating the data provides detailed information on ACT achievement based on specific course patterns.

AA High School ACT Scores
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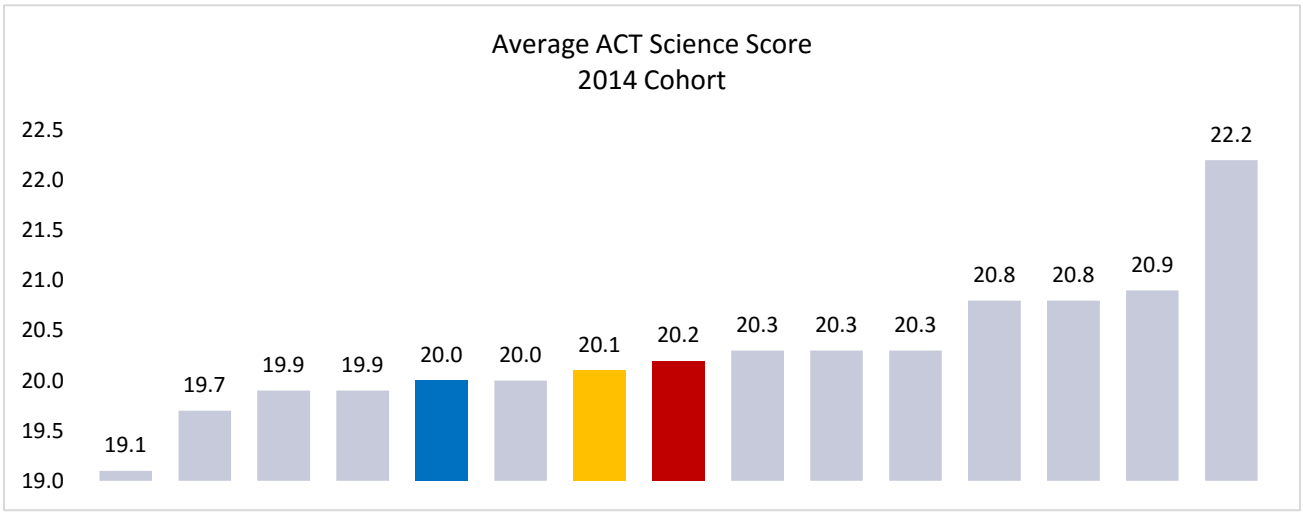
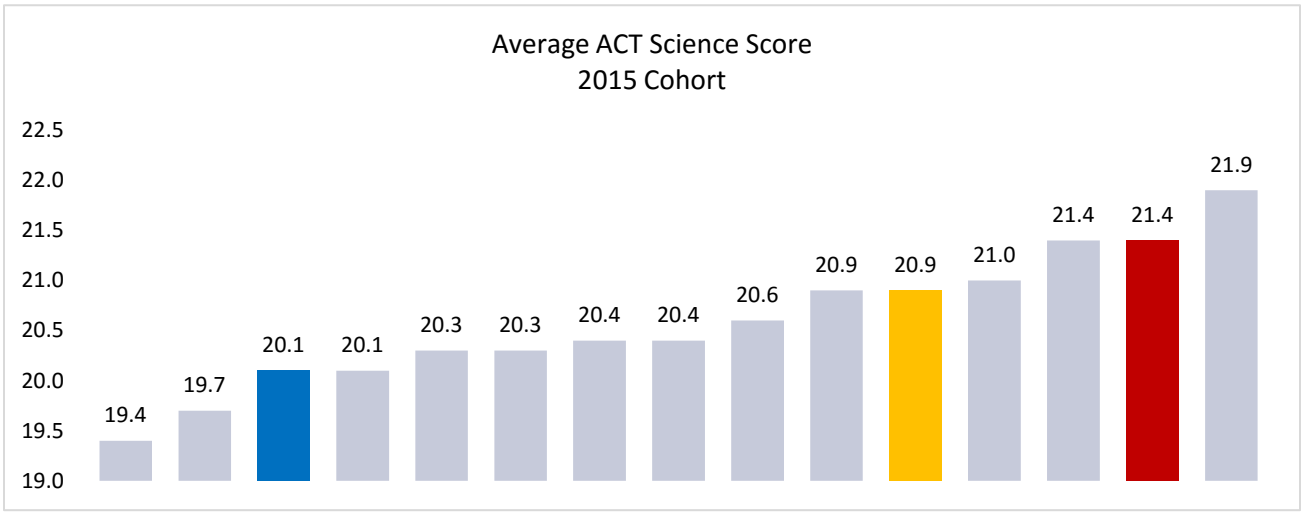
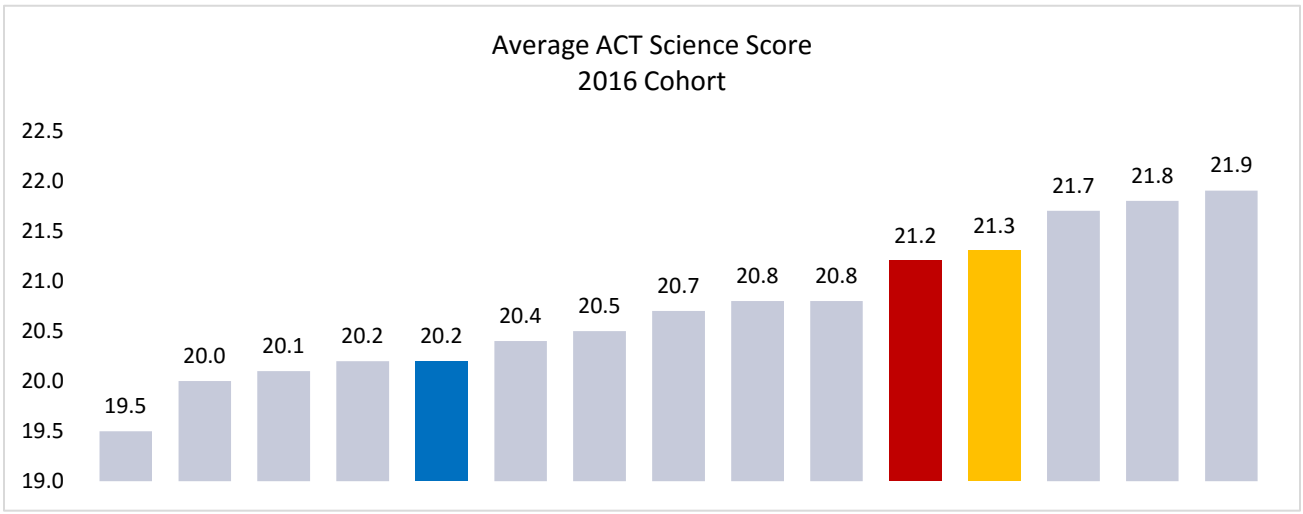
These charts place AA schools in relation to each other based on average ACT scores. All student ACT scores were used to calculate the state's average.







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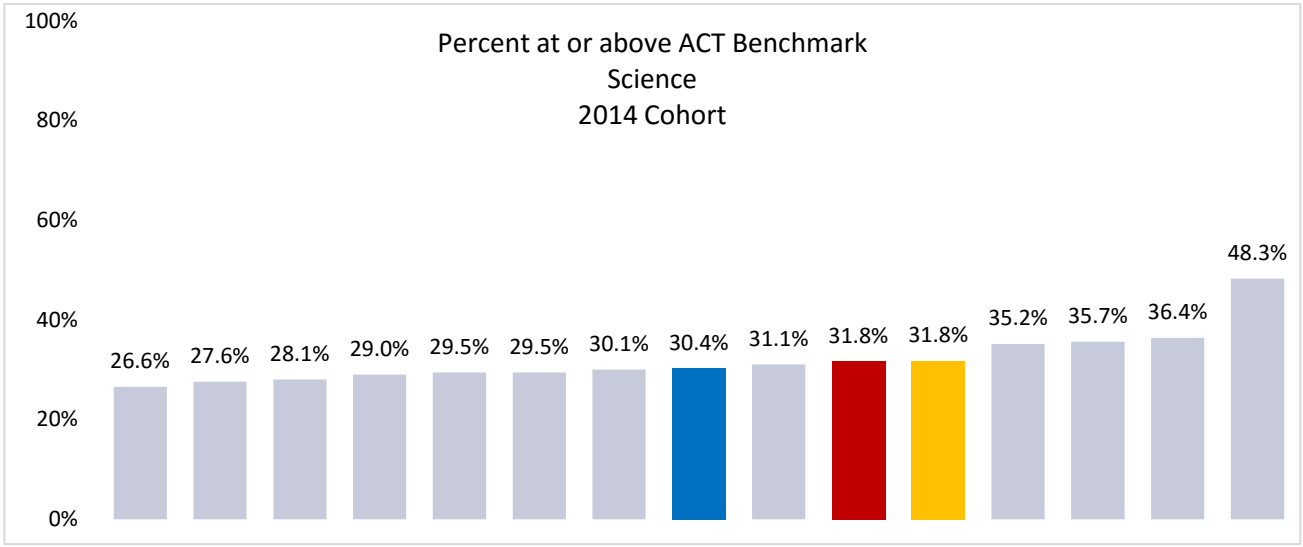

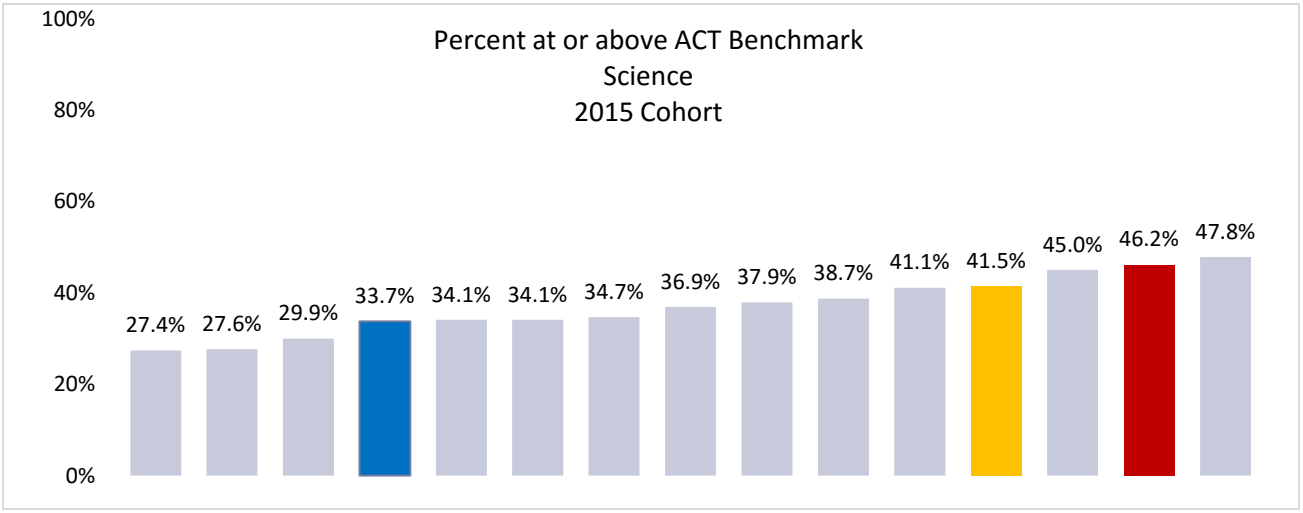

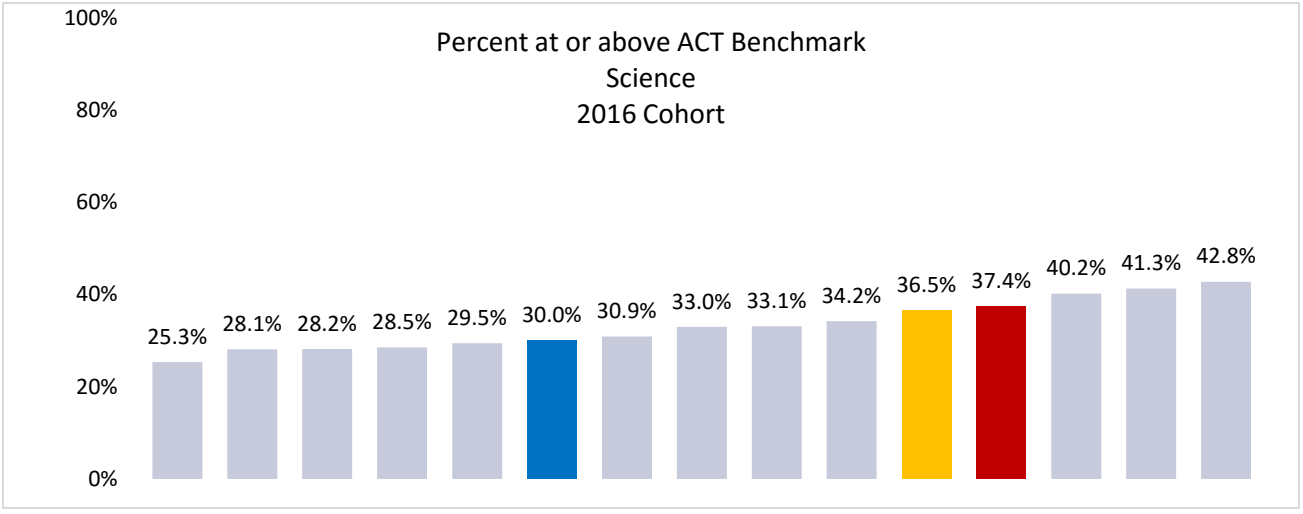

ACT Science
Helena School District Analysis

2014 – 2016 Cohorts

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Biology, Chemistry, and Physics -- 8.1 (5.1)
General Science*, Biology, and Chemistry – 3.5 (2.0)
Other combination of 3 years of natural science – 3.1 (1.0)
* General Science includes General, Physical and Earth Sciences.
-- The ACT Profile Report - National Graduating Class of 2015 and The ACT Profile Report-District, Montana State Testing 2014-2015 Grade 11 Tested Students, Helena Public Schools

Enrollment Numbers
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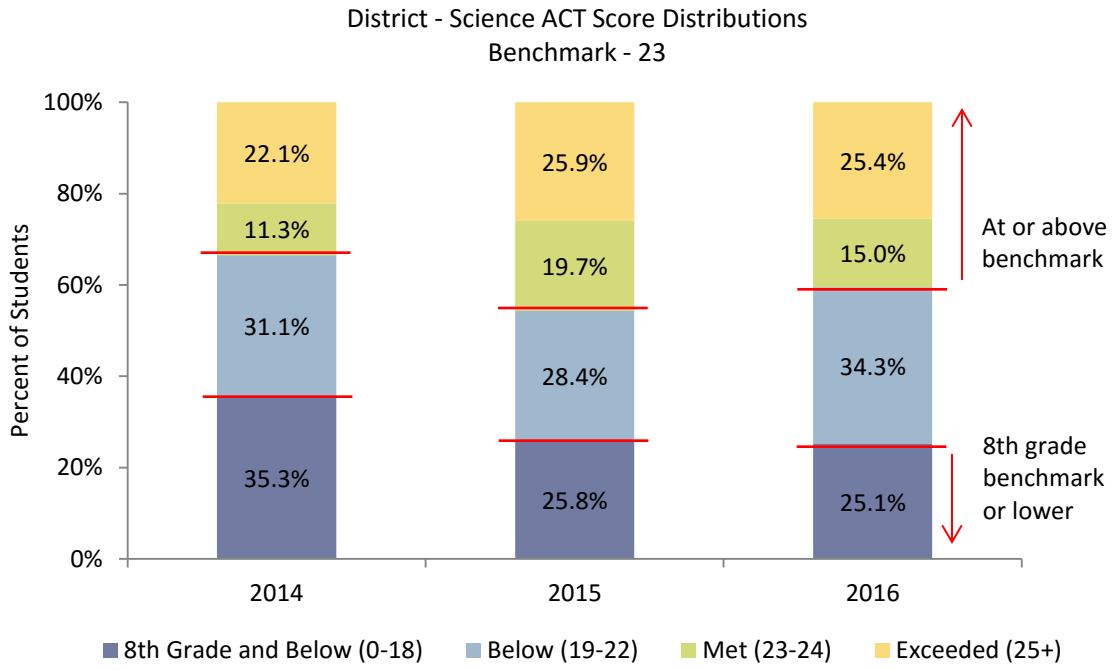
Overview Charts



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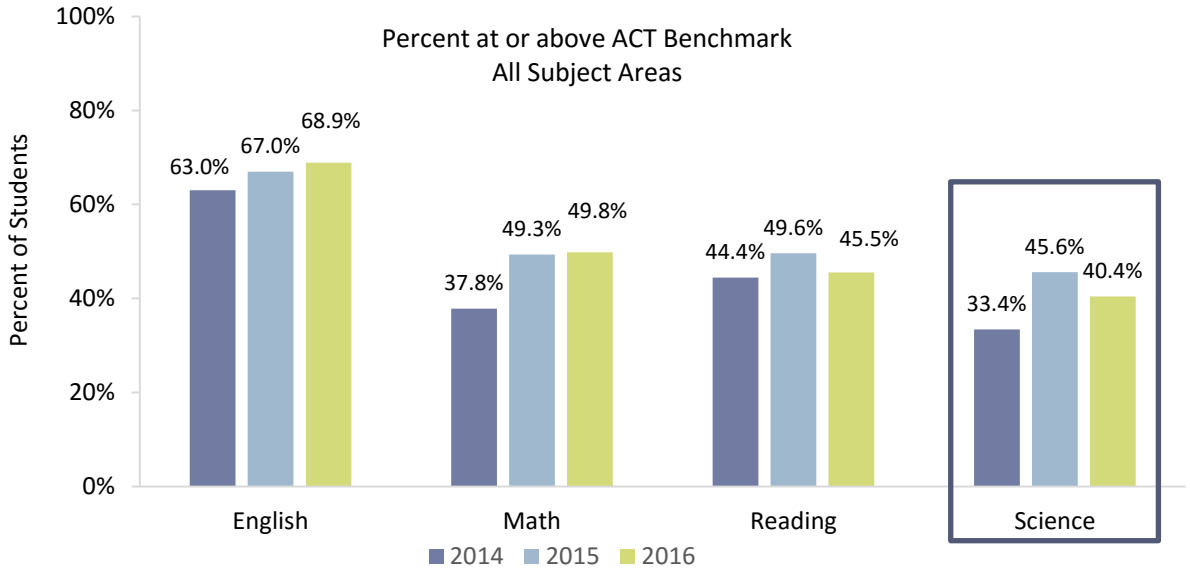


The ACT average was 20.4, 21.4, and 21.7 in the 2014, 2015, and 2016 respective cohorts.

There are 55, 34, and 69 students in the respective cohorts who scored 22 which is one point below benchmark. **Therefore, 8.6%, 5.7%, and 11.9% of the students in the respective cohorts are within 1 point of the benchmark.**

Overview Table

District Highest Science Class(es) Taken
Percent at or above Benchmark
Average ACT Score

Highest Science Course Taken	With or Without	Cohort	N Enrolled	N at or above Benchmark	% at or above Benchmark	ACT Avg.
Chemistry 2 (Honors)	With Physics	2014	32	29	90.6%	27.6
		2015	25	22	88.0%	28.5
		2016	31	30	96.7%	28.6
Chemistry 2 (Honors)	Without Physics	2014	34	29	85.2%	25.6
		2015	43	35	81.3%	24.6
		2016	43	29	67.4%	24.9
Physics	Without Chemistry 2 Honors With Chemistry 1	2014	62	48	77.4%	24.8
		2015	58	40	68.9%	24.8
		2016	41	31	75.6%	25.3
Physics	Without Chemistry 2 Honors Chemistry 1	2014	30	8	26.6%	20.6
		2015	37	22	59.4%	24.3
		2016	30	16	53.3%	23.0
Chemistry 1	Without Chemistry 2 Honors Physics	2014	127	49	38.5%	21.8
		2015	141	86	60.9%	22.9
		2016	172	76	44.1%	22.3
Chemistry 1	Without Chemistry 2 Honors Physics Bio 2/Bio 2 Honors	2014	81	25	30.8%	21.2
		2015	100	56	56.0%	22.3
		2016	129	59	45.7%	22.4
Biology 2 Honors	Without Chemistry Physics	2014	15	6	40.0%	21.5
		2015	7	2	28.5%	20.1
		2016	12	4	33.3%	21.5
Biology 2	Without Chemistry Physics	2014	57	9	15.7%	18.7
		2015	56	22	39.2%	20.8
		2016	45	11	24.4%	19.9
Physical Science	Without Chemistry Physics Bio 2/Bio 2 Honors	2014	52	13	25.0%	19.7
		2015	27	8	29.6%	19.9
		2016	11	3	27.2%	20.7
Biology 1	Without Chemistry Physics Bio 2/Bio 2 Honors Physical Science	2014	246	29	11.7%	17.5
		2015	187	33	17.6%	17.6
		2016	163	23	14.1%	18.6

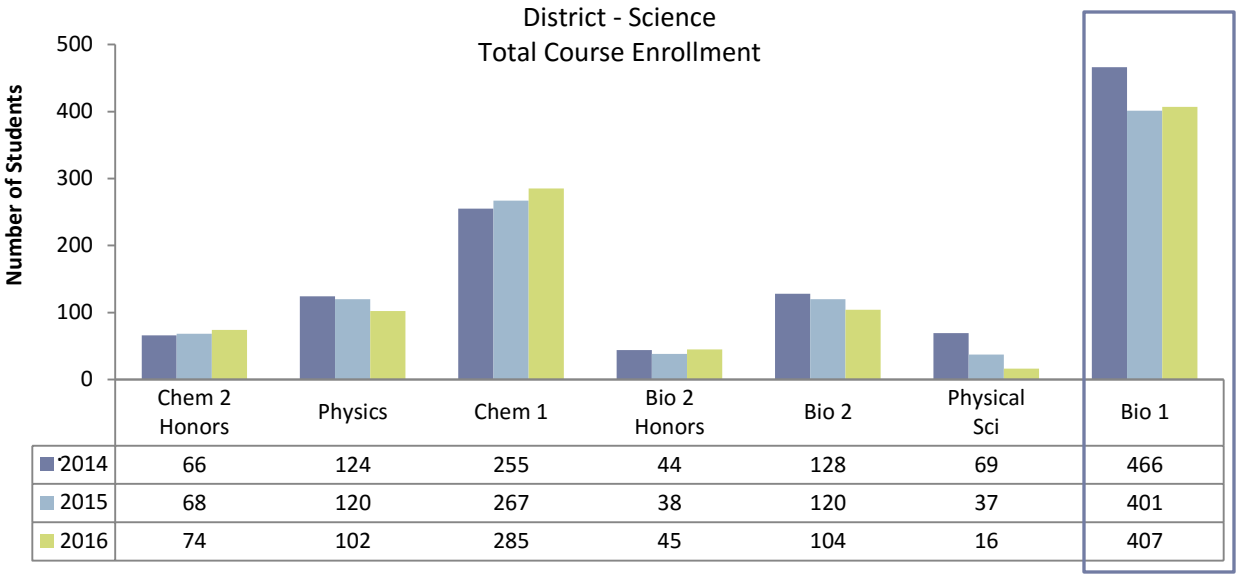
The majority of students who took Physics without Chem 2 Honors but with Chemistry 1 scored at or above benchmark, and the avg. ACT score was also above 23.

The students in the 2015 and 2016 cohorts who took Chemistry 1 without Chemistry 2 Honors or Physics were close to meeting the average ACT score.

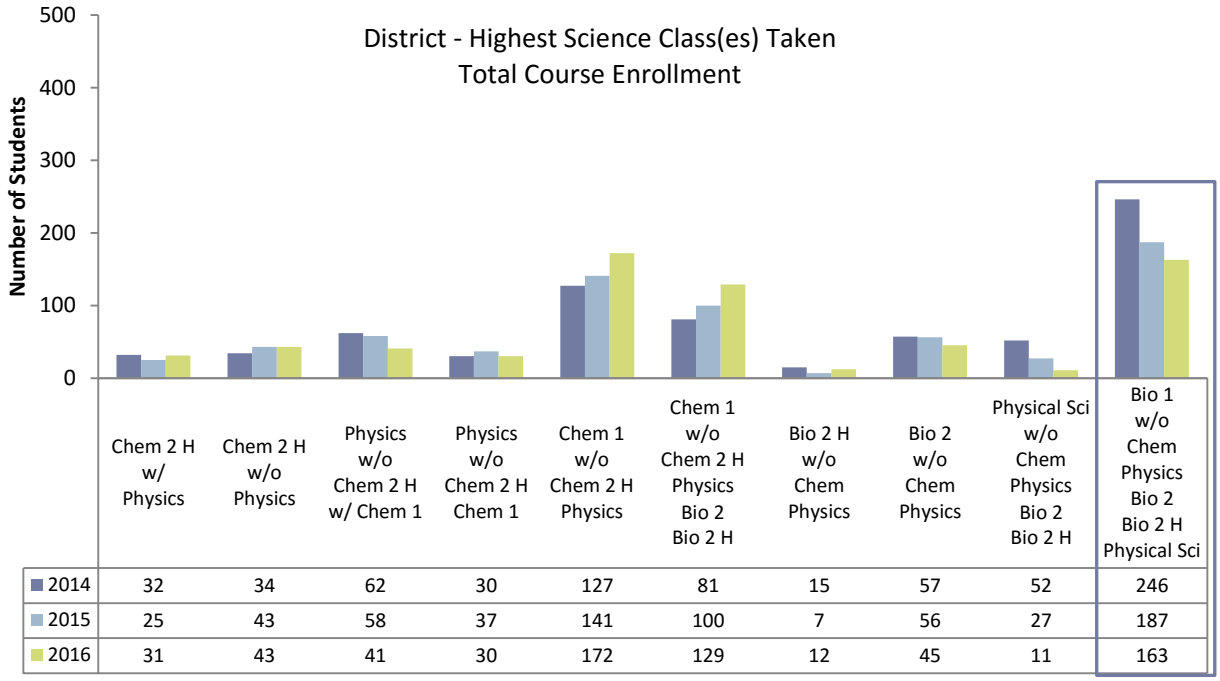
AP Biology students must be concurrently enrolled in Chemistry 1. Five students in the 2016 cohort took AP Biology. All 5 students exceeded the benchmark. Three of the students (60%), took at least one additional higher level science class (i.e., Chemistry 2 Honors, Physics, Biology 2).

This table examines those courses that ACT identifies as value added courses.

On the following three pages, there are three sets of charts titled *Total Course Enrollment* and *Highest Science Class Taken.* When each set is viewed together, patterns of student enrollment and achievement are more transparent. Charts titled *Total Course Enrollment* examine achievement based on total course enrollment and cumulative course histories. The charts titled *Highest Science Class Taken* examine achievement based on highest level of science completed. The information in *Highest Science Class Taken* provides valuable insight into how students perform when they take the minimum requirements and how achievement increases with each additional science course.



	Chem 2 Honors	Physics	Chem 1	Bio 2 Honors	Bio 2	Physical Sci	Bio 1
2014	66	124	255	44	128	69	466
2015	68	120	267	38	120	37	401
2016	74	102	285	45	104	16	407



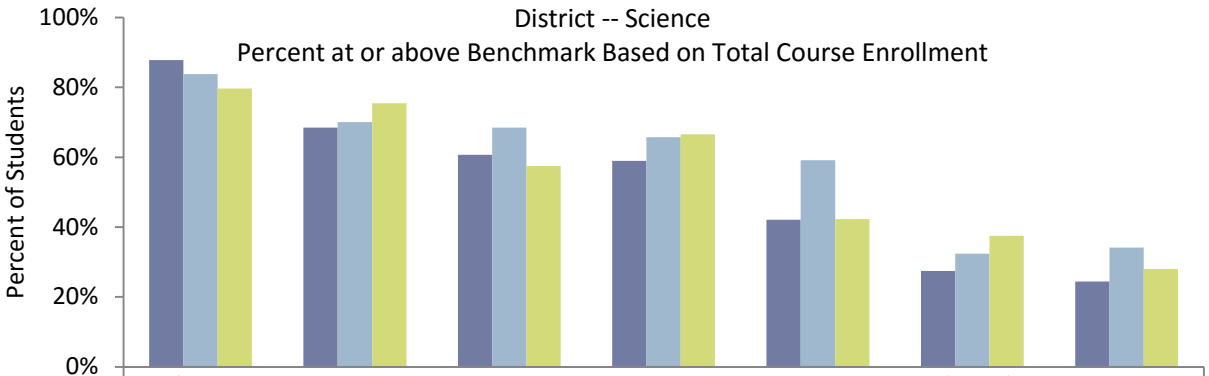
	Chem 2 H w/ Physics	Chem 2 H w/o Physics	Physics w/o Chem 2 H w/ Chem 1	Physics w/o Chem 2 H Chem 1	Chem 1 w/o Chem 2 H Physics	Chem 1 w/o Chem 2 H Physics Bio 2 Bio 2 H	Bio 2 H w/o Chem Physics	Bio 2 w/o Chem Physics	Physical Sci w/o Chem Physics Bio 2 Bio 2 H	Bio 1 w/o Chem Physics Bio 2 Bio 2 H Physical Sci
2014	32	34	62	30	127	81	15	57	52	246
2015	25	43	58	37	141	100	7	56	27	187
2016	31	43	41	30	172	129	12	45	11	163

Biology 1 students have met a two-year requirement, one year short of ACT's Core or More.

The first chart shows the number of students enrolled in each of the courses listed. In the second chart, each column identifies the number of students completing the course pattern listed. For example, of the 407 Biology 1 students in the 2016 cohort, 163 didn't take another higher level science class listed.

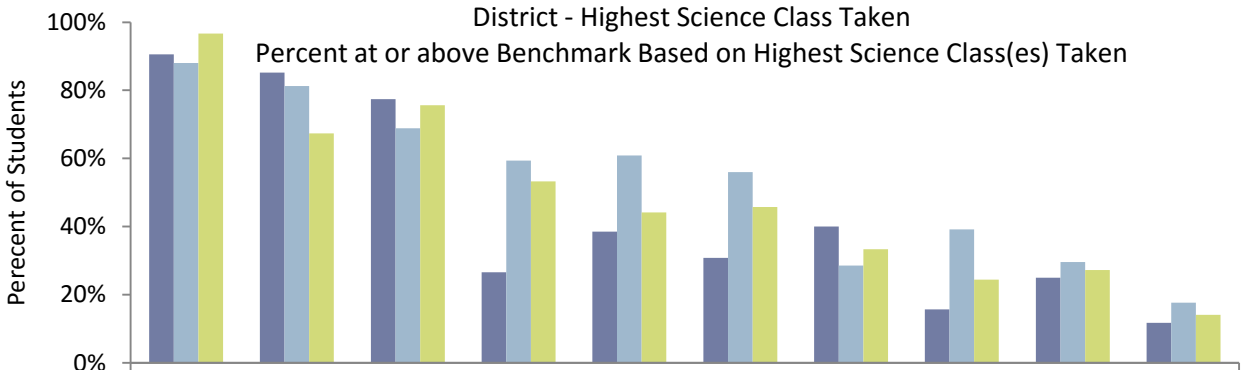
The number of students who completed three or more science classes totals 409, 394, and 383 in the respective cohorts. Therefore, 64.6%, 66.4%, and 66.3% completed Core or More in science, respectively. Any combination of three or more classes, including required courses (Earth Science and Biology 1), qualifies. Course patterns including Chemistry have a high value added score. The number of students who took a course pattern that included Chemistry 1 in Core or More was 255, 267, and 284, respectively. Therefore, 40.2%, 45.0%, and 49.2% completed Chemistry in their Core or More pattern, respectively.

Contrasting enrollment numbers in these charts provides valuable information on enrollment patterns.



	Chem 2 Honors	Physics	Chem 1	Bio 2 Honors	Bio 2	Physical Sci	Bio 1
2014	87.8%	68.5%	60.7%	59.0%	42.1%	27.5%	24.4%
2015	83.8%	70.0%	68.5%	65.7%	59.1%	32.4%	34.1%
2016	79.7%	75.4%	57.5%	66.6%	42.3%	37.5%	28.0%

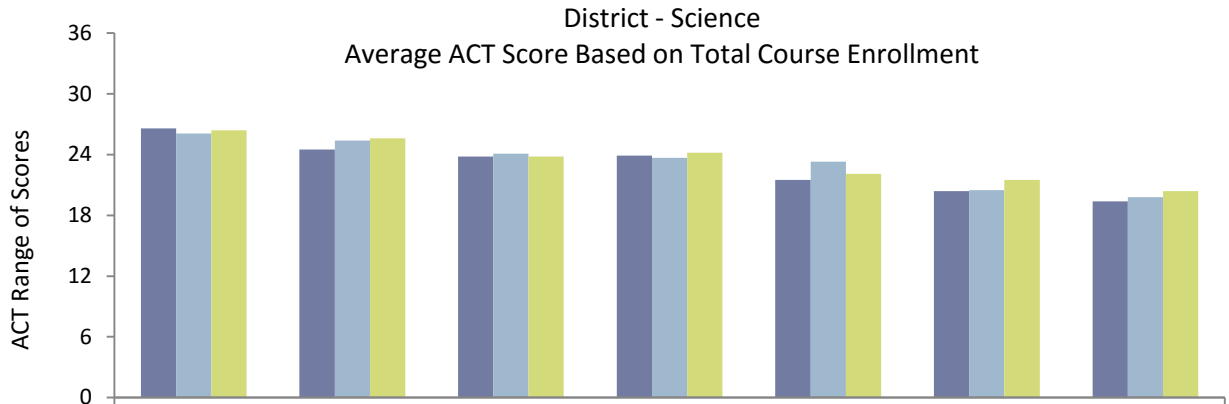
In the top chart, the achievement percentages reflect all the science courses these students completed. For example, in the top chart, 75.4% of the Physics students met the benchmark (blue box). While some of these Physics students also completed Chemistry 2 Honors, other Physics students completed only Biology 1 and Physics.



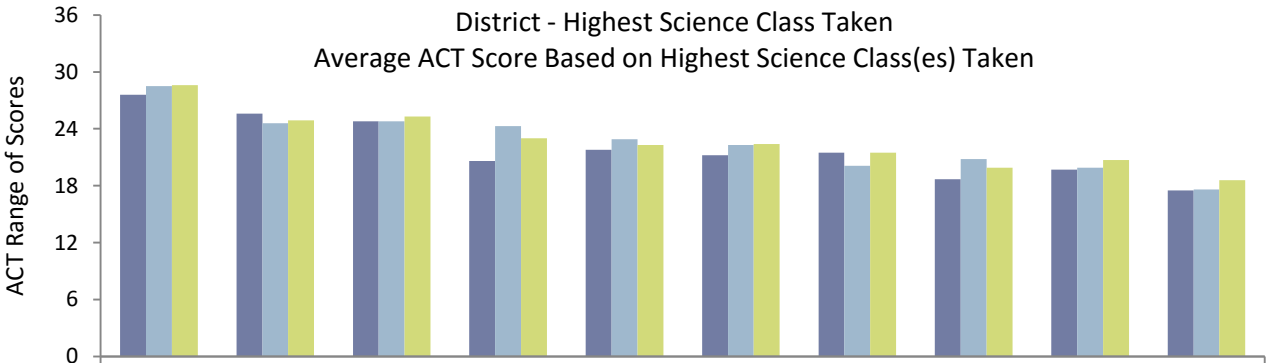
	Chem 2 H w/ Physics	Chem 2 H w/o Physics	Physics w/o Chem 2 H w/ Chem 1	Physics w/o Chem 2 H Chem 1	Chem 1 w/o Chem 2 H Physics	Chem 1 w/o Chem 2 H Physics Bio 2 Bio 2 H	Bio 2 H w/o Chem Physics	Bio 2 w/o Chem Physics	Physical Sci w/o Chem Physics Bio 2 Bio 2 H	Bio 1 w/o Chem Physics Bio 2 Bio 2 H Physical Sci
2014	90.6%	85.2%	77.4%	26.6%	38.5%	30.8%	40.0%	15.7%	25.0%	11.7%
2015	88.0%	81.3%	68.9%	59.4%	60.9%	56.0%	28.5%	39.2%	29.6%	17.6%
2016	96.7%	67.4%	75.6%	53.3%	44.1%	45.7%	33.3%	24.4%	27.2%	14.1%

In the bottom chart, the percent of students at or above benchmark is based on the highest course pattern completed. For example, 75.6% of students who completed Physics and Chemistry 1 but not Chemistry 2 Honors met the benchmark, while only 53.3% of the students who completed Physics but not Chemistry 2 Honors or Chemistry 1 met the benchmark (blue box). The value added course pattern favors completion of Chemistry 1 sooner in the sequence of courses rather than later.

Additionally, another 14.5% of the students in the 2016 cohort who completed the Core in Science (Earth Science, Biology 1, and Chemistry 1) were within one point of the benchmark (red box).



	Chem 2 Honors	Physics	Chem 1	Bio 2 Honors	Bio 2	Physical Sci	Bio 1
2014	26.6	24.5	23.8	23.9	21.5	20.4	19.4
2015	26.1	25.4	24.1	23.7	23.3	20.5	19.8
2016	26.4	25.6	23.8	24.2	22.1	21.5	20.4



	Chem 2 H w/ Physics	Chem 2 H w/o Physics	Physics w/o Chem 2 H w/ Chem 1	Physics w/o Chem 2 H Chem 1	Chem 1 w/o Chem 2 H Physics	Chem 1 w/o Chem 2 H Physics Bio 2 Bio 2 H	Bio 2 H w/o Chem Physics	Bio 2 w/o Chem Physics	Physical Sci w/o Chem Physics Bio 2 Bio 2 H	Bio 1 w/o Chem Physics Bio 2 Bio 2 H Physical Sci
2014	27.6	25.6	24.8	20.6	21.8	21.2	21.5	18.7	19.7	17.5
2015	28.5	24.6	24.8	24.3	22.9	22.3	20.1	20.8	19.9	17.6
2016	28.6	24.9	25.3	23.0	22.3	22.4	21.5	19.9	20.7	18.6

The average ACT score for students who took Biology 1 without taking any additional higher level Science courses was 18 or lower (red box). The 8th grade benchmark is 18.

The ACT average scores for students in the 2015 and 2016 cohorts who completed the Core in Science (Earth Science, Biology 1, and Chemistry 1) were just under the benchmark (blue box).

-- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

29 – 94th percentile
28 – 92nd percentile
27 – 90th percentile

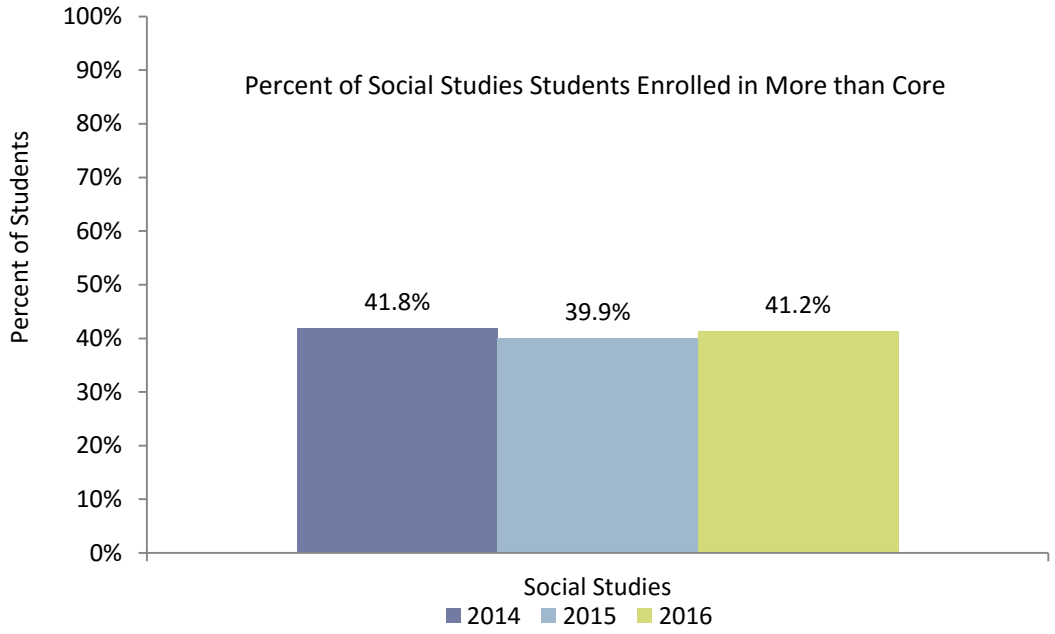
26 – 87th percentile
25 – 83rd percentile
24 – 77th percentile

23 – 70th percentile
22 – 63rd percentile
21 – 56th percentile

20 – 48th percentile
19 – 40th percentile
18 – 33rd percentile
17 – 27th percentile

College and Career Readiness
Reading – Social Studies

Cohorts
2014 – 2016

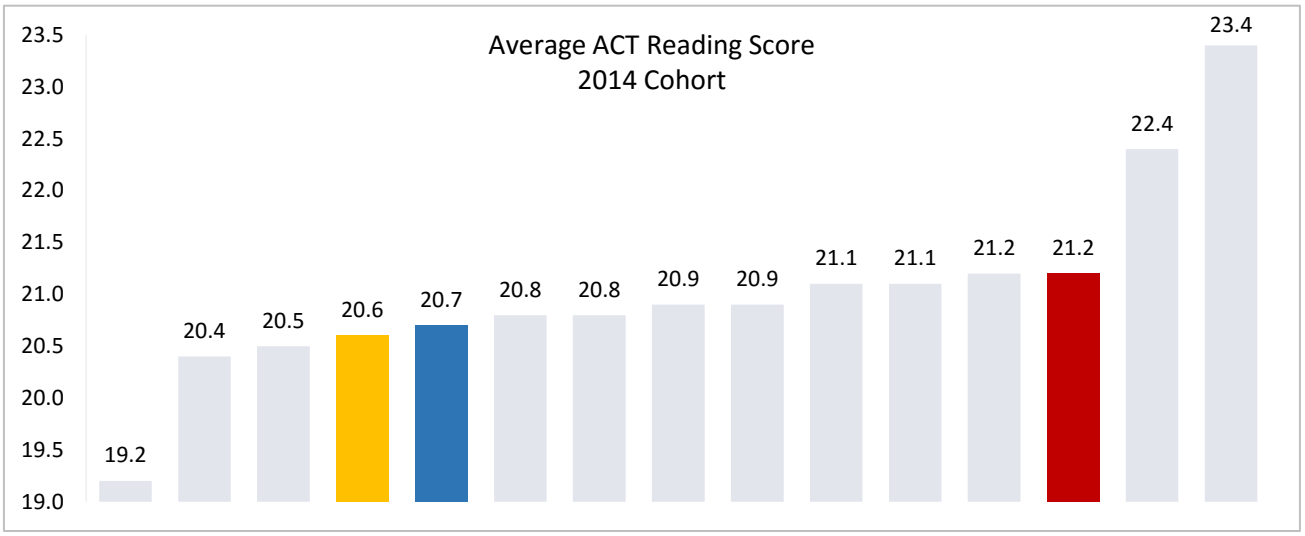


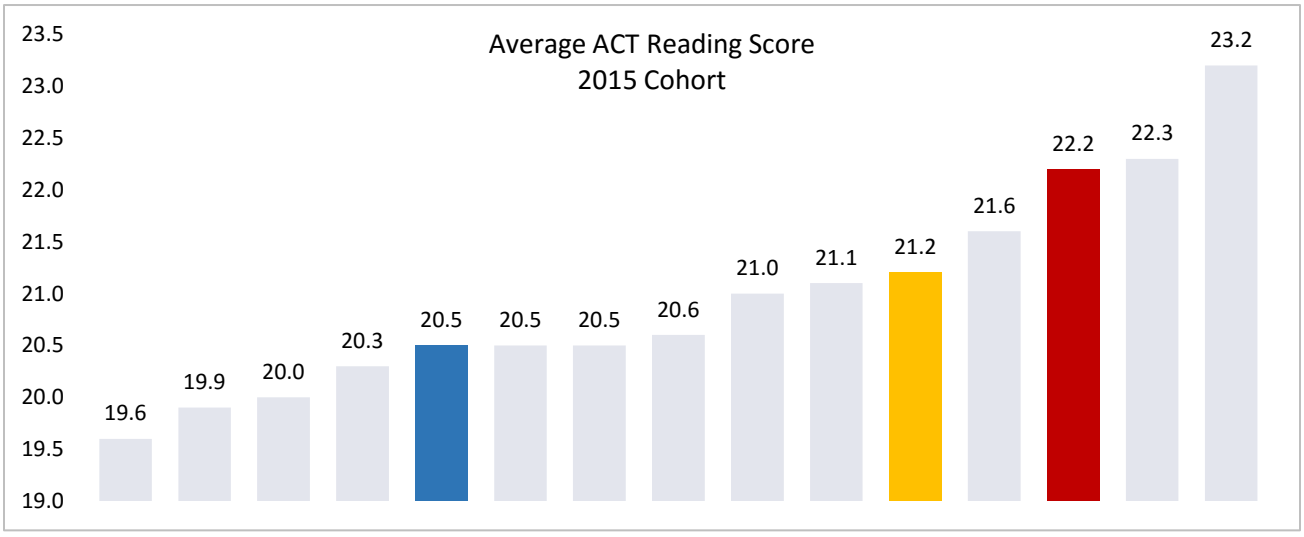
In 2014 there were 265 students who took 460 social studies electives. In 2015 there were 237 students who took 364 social studies electives. In 2016 there were 238 students that took 343 social studies electives. 41.8%, 39.9%, and 41.2% of the students in the respective cohorts completed more than the Core (more than three).

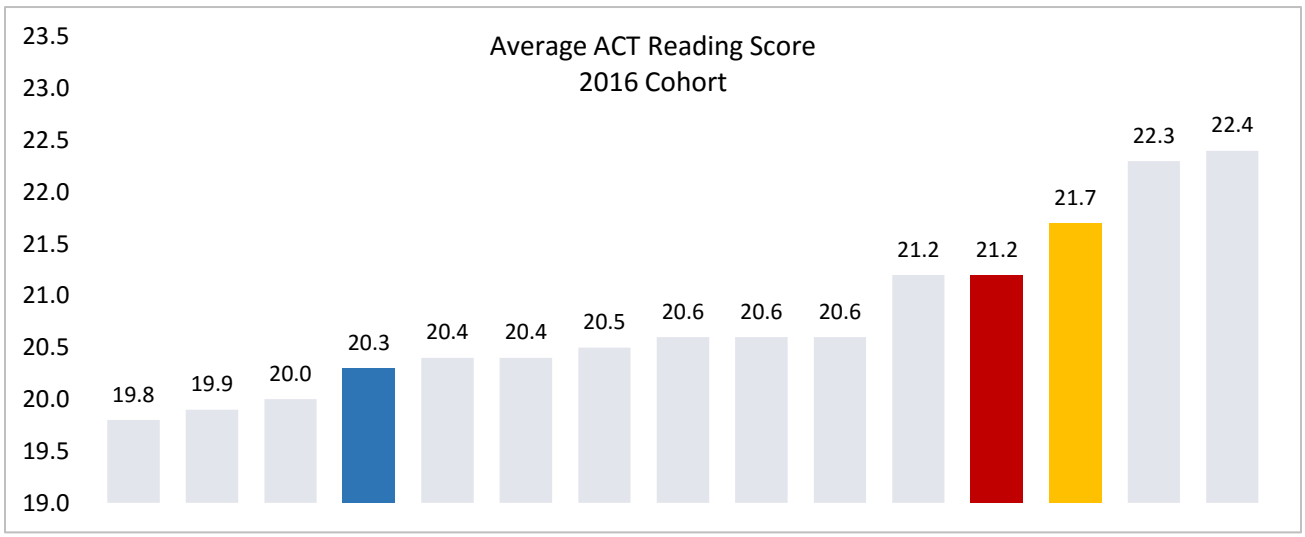
This report will examine reading achievement based on social studies course patterns. Disaggregating the data provides detailed information on ACT achievement based on specific course patterns.

AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

These charts place AA schools in relation to each other based on average ACT scores. All student ACT scores were used to calculate the state's average. The ACT benchmark is 22.

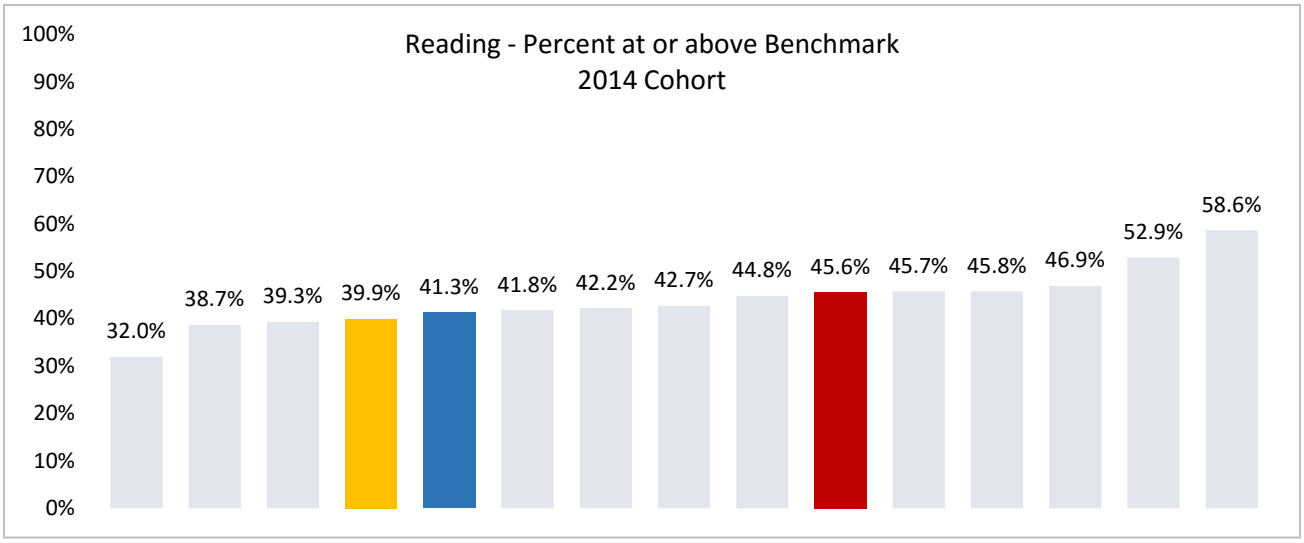


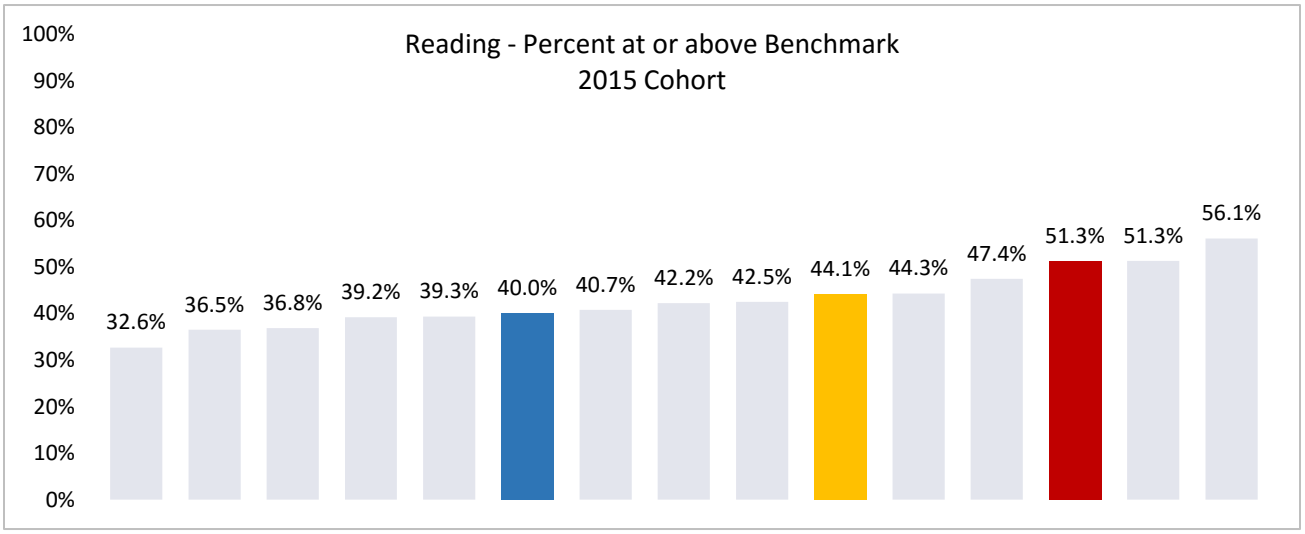


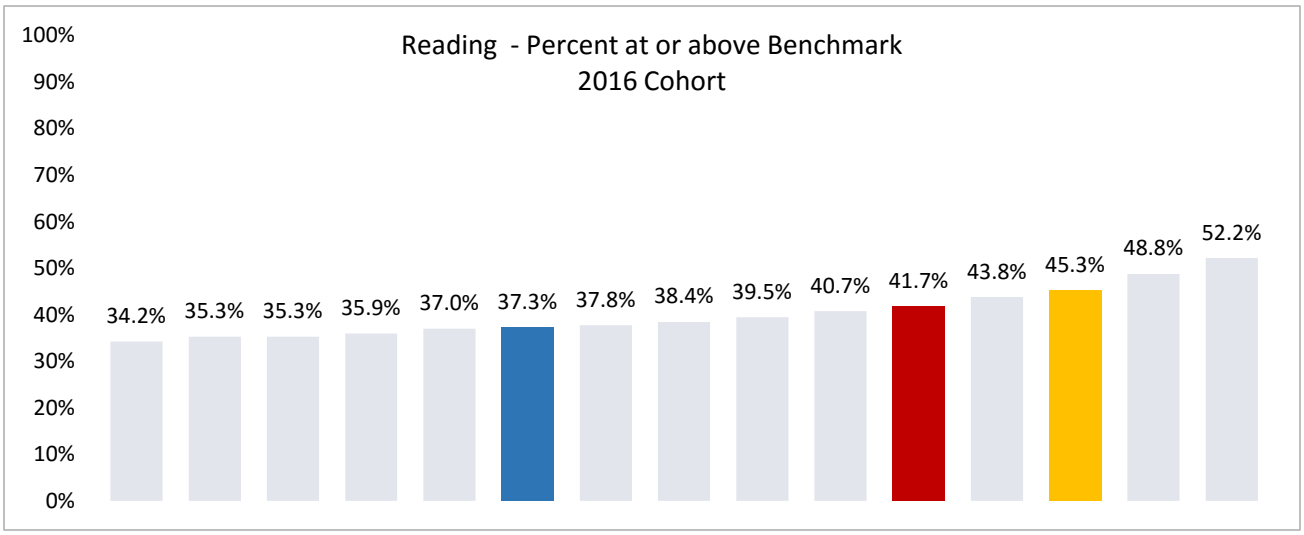


AA High School ACT Scores
Growth and Enhancement of Montana Students (GEMS Website)
Office of Public Instruction

These charts place AA schools in relation to each other based on the percentage of students at or above benchmark.







ACT Reading – Social Studies
Helena School District Analysis

ACT National Curriculum Survey and the ACT College and Career Readiness Standards
Every three to five years, ACT conducts the ACT National Curriculum Survey. The most recent survey was published in 2012. The results of the survey are used to guide the development of ACT's curriculum-based assessments and validate the ACT Standards and Benchmarks. Any changes to ACT Standards are clearly identified in the published ACT National Curriculum Results for each subject area. – ACT National Curriculum Survey

ACT College and Career Readiness Standards and Benchmarks
The benchmark score for Reading is 22. ACT research indicates that a minimum score of 22 provides a 50% chance of obtaining a B or higher and about a 75% chance of obtaining a C or higher in a credit-bearing introductory social science college course. -- The ACT Profile Report, National Graduating Class of 2015

ACT College and Career Readiness Standards for Reading are available on the ACT website, along with Reading Curriculum Review Worksheets that can be used for curriculum alignment. – ACT College and Career Readiness Standards

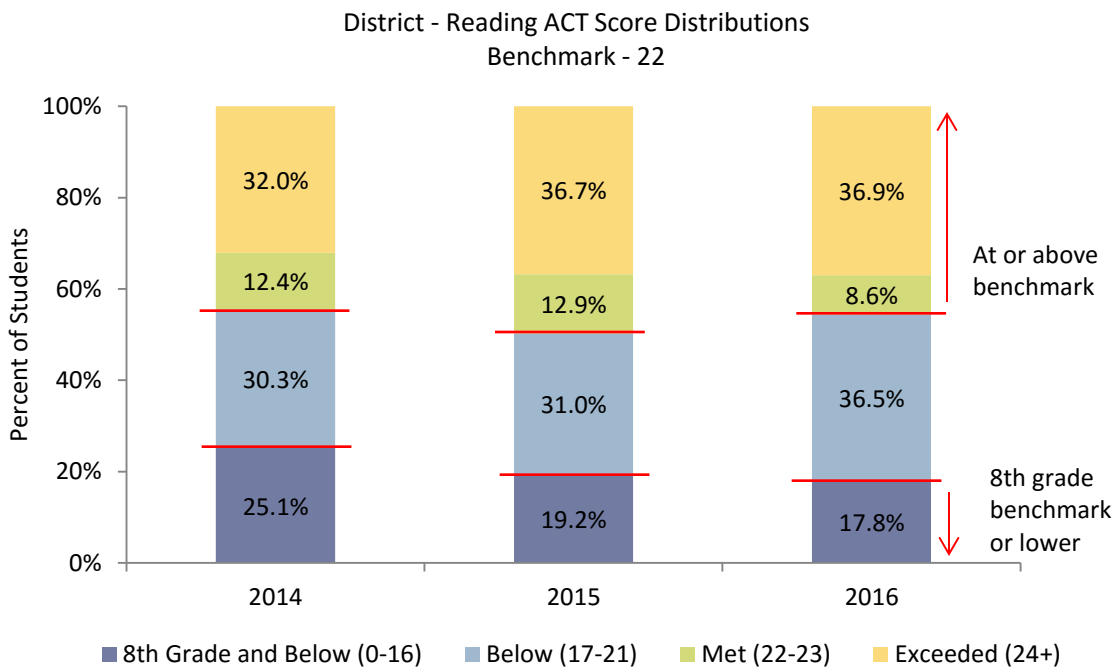
ACT Course Recommendations
ACT recommends that students take Core or More, which is a minimum of three or more years of social science. Course value is defined as the average ACT score change compared to course sequences in which students took less than the Core. The course value added numbers listed below come from the most recent (2015) ACT Profile Report for Helena School District. Helena School District scores follow the dash, and the national averages are in parentheses.

US Hist, World Hist, Am Gov, & other Hist (3.6) 2.8
Other combination of 4 or more years Social Science (1.4) 2.8
US Hist, World Hist, & Am Gov (0.9) 0.2
Other combination of 3 or 3.5 years of Social Science (2.6) 1.9

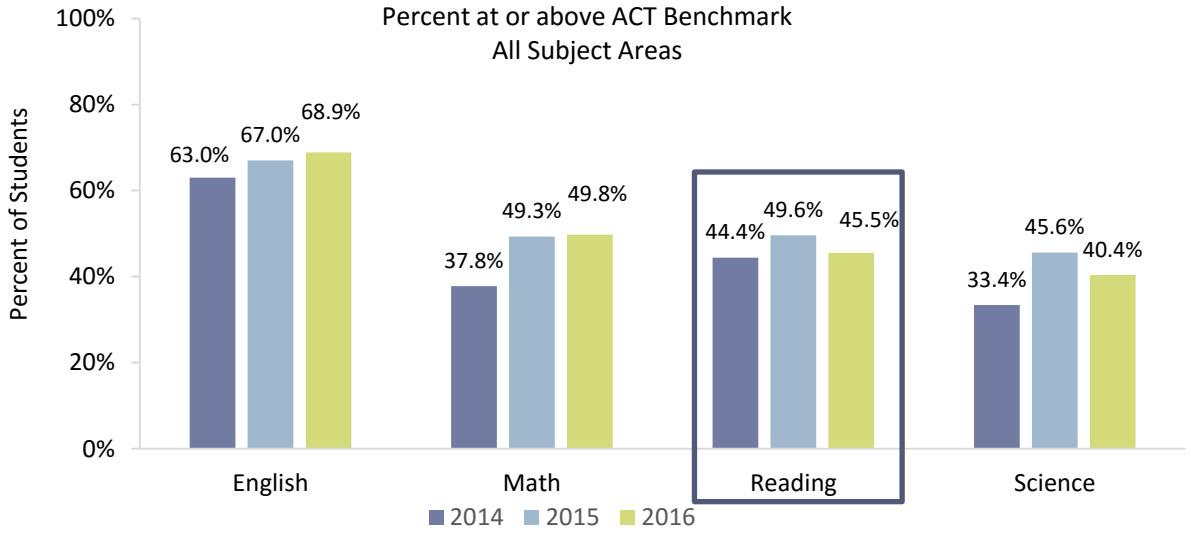
-- The ACT Profile Report - National Graduating Class of 2015 and The ACT Profile Report - District, Montana State Testing 2014-2015 Grade 11 Tested Students, Helena Public Schools

Enrollment Numbers
Enrollment numbers for the courses listed in this report are limited to those students in the given cohort who took the ACT during the spring test date or the spring make-up date as reported by ACT. A teacher of record may see a difference in student counts if there are mixed grade levels in the same class or if students didn't take the ACT test during the spring test date or make-up date.

Overview Charts



Equally important as the gains at the top of the distribution are the changes at the bottom of the distribution. **In 2015 and 2016, fewer students scored at the 8th grade benchmark or lower.**



The average ACT score was 21.2, 21.9, and 21.8 in the 2014, 2015, and 2016 cohorts respectively.

There are 46, 44, and 75 students in the respective cohorts who scored 21, which is one point below benchmark. **Therefore, 7.2%, 7.4%, and 12.9% of the students in the respective cohorts are within one point of the benchmark.**

Social Studies and Reading Analysis

2014 - 16 Cohorts

The ACT Reading Test

25% - Social Studies

25% - Natural Sciences

25% - Literary Narrative or 25% - Prose Fiction

25% - Humanities

The reading selections and accompanying questions cover content from social studies, natural sciences, literary narrative or prose fiction, and the humanities. Students have 35 minutes to read the selections and answer 40 multiple-choice questions that measure reading comprehension. The reading selections are comparable to first-year college curricula.

Text Complexity Proficiency Rating

In addition to the ACT Reading score, each student will receive a proficiency rating on his/her understanding of complex texts. This measurement is derived from a subset of questions on the Reading test. There are three points on the scale: below proficient, proficient, and above proficient. The proficiency rating reflects a student's ability to identify the central meaning and purposes for a range of increasingly difficult texts.

ACT will include the proficiency rating in score reports for 2017 statewide testing cohort. For more information on text complexity, see ACT's College and Career Readiness Standards for Reading and the text complexity rubric.

According to ACT research, the element of text complexity that is measured and reflected in the proficiency rating is evident in the following college course types: American history, literature, other history, other natural science, physics (without calculus), sociology, and zoology. These course types were used to develop the proficiency score points for understanding complex texts. Three of these course types, American history, other history, and sociology, were used to develop the ACT Reading benchmark. – ACT College and Career Readiness Standards – Reading, The ACT Student Report, Reading Test Description for the ACT, and Relating the ACT Indicator *Understanding Complex Texts* to College Course Grade

Overview Table

Social Studies Course Patterns

Percent at or above Benchmark in Social Studies and Average ACT Score

Social Studies Course Patterns		Cohort	N Enrolled	N at or above Benchmark	% at or above Benchmark	ACT Avg.
American Gov AP American Hist AP	With One or Both European Hist AP Psychology AP	2014	14	14	100%	30.3
		2015	20	20	100%	29.5
		2016	24	23	95.8%	28.2
American Gov AP American Hist AP	Without European Hist AP Psychology AP	2014	36	32	88.8%	26.8
		2015	36	33	91.6%	27.4
		2016	49	38	77.5%	25.6
Only One American Gov AP American Hist AP European Hist AP Psychology AP		2014	54	42	77.7%	25.1
		2015	54	39	72.2%	25.0
		2016	73	47	64.3%	23.5
One or More Electives Current Issues Montana History Psychology Social Problems Sociology Special Topics Western Civilization Western History World History	Without AP	2014	200	73	36.5%	20.2
		2015	157	69	43.9%	21.3
		2016	133	45	33.8%	20.6
American Gov American Hist World Cultures	Without Electives	2014	253	87	34.3%	19.7
		2015	216	71	32.8%	19.3
		2016	182	55	30.2%	19.9

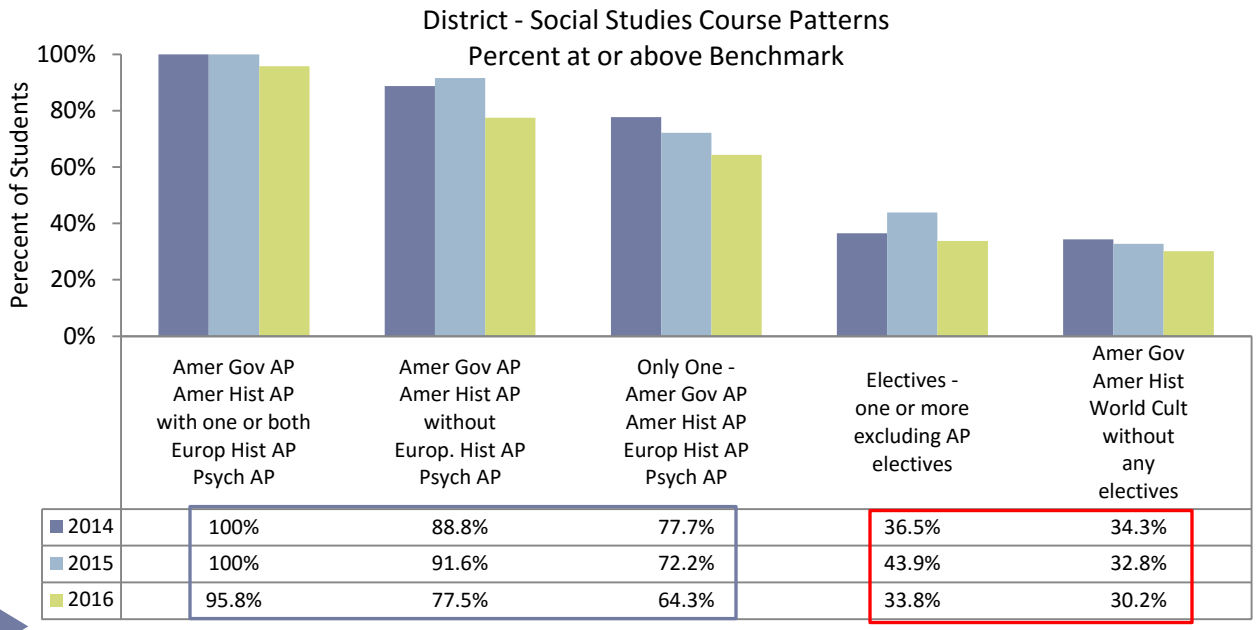
The majority of students in AP course patterns met or exceeded the benchmark, and the average ACT score for AP course patterns was above benchmark.

Psychology was taught second semester of 2016, so student counts are not visible. Grades were extracted from PowerSchool in January 2016.

Informational Texts

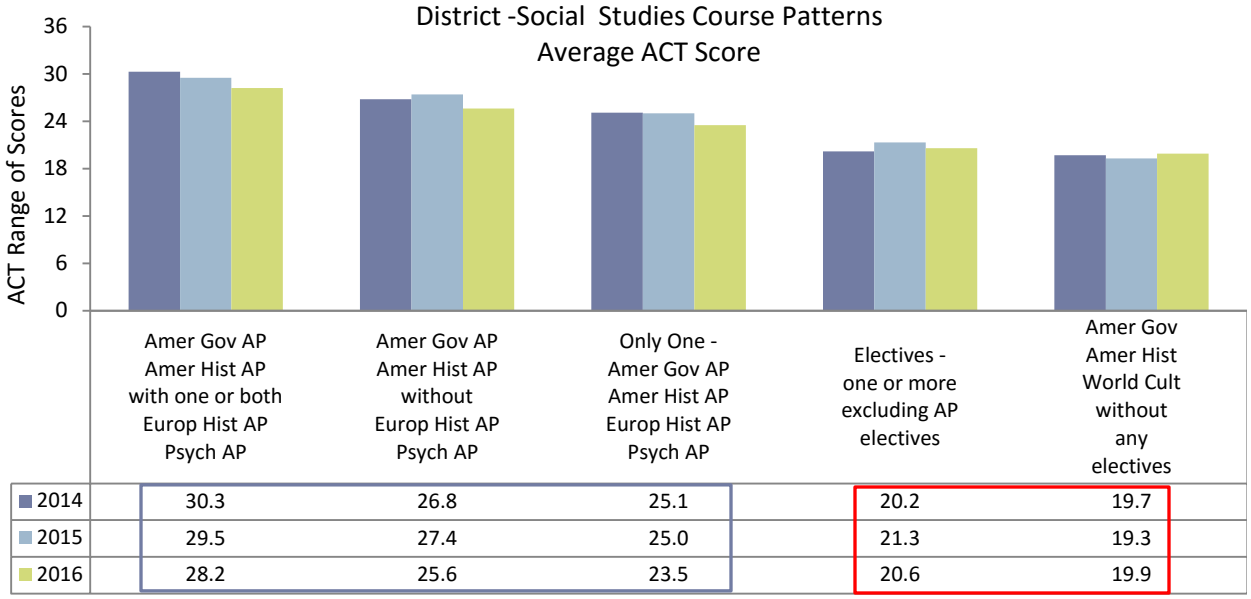
ACT's text complexity rubric describes how the purpose, structure, language, abstractness, density, and knowledge demands vary in somewhat challenging, more challenging, complex, and highly complex texts. Students scoring in the 20-23 range on the ACT test show proficiency when reading somewhat challenging texts. Students scoring in the 24-27 range show proficiency when reading somewhat challenging texts and more challenging texts. Students scoring in the 28-32 range show proficiency when reading more challenging texts and complex texts. Students scoring in the 33-36 range on the ACT test demonstrate mastery when reading complex and highly complex texts.

The highest performing students comprehend complex purpose, general academic and domain specific language, discipline-specific content, complex sentence structure, abstract concepts, and explicit and implicit meaning in **complex** and **highly complex texts**. In addition, these students exhibit the ability to read dense text (high information), recognize intertextual connections, maintain objectivity when reading complex issues with multiple perspectives, and draw connections between multiple texts. –ACT College and Career Readiness Standards – Reading



2014	100%	88.8%	77.7%	36.5%	34.3%
2015	100%	91.6%	72.2%	43.9%	32.8%
2016	95.8%	77.5%	64.3%	33.8%	30.2%

The majority of students met or exceeded the benchmark in AP course patterns (blue box). A smaller percentage of students who completed the Core but didn't take any additional electives met or exceeded the benchmark compared to students who took one or more social studies elective (red box).



2014	30.3	26.8	25.1	20.2	19.7
2015	29.5	27.4	25.0	21.3	19.3
2016	28.2	25.6	23.5	20.6	19.9

The ACT Reading benchmark is 22. The average ACT score for students in AP course patterns exceeded the benchmark (blue box). Students who completed the Core and didn't take any additional social studies courses had lower average ACT scores compared to students who took one or more non-AP elective (red box).

The 8th grade benchmark for Reading is 16. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

30 -- 89th percentile	26 -- 78th percentile	22 -- 61st percentile
29 – 86th percentile	25 – 75th percentile	21 – 55th percentile
28 – 84th percentile	24 - 71st percentile	20 – 48th percentile
27 – 81st percentile	23 – 66th percentile	19 – 42nd percentile

Overview Table

Reading and Social Studies

Percent at or above Benchmark in Social Studies and Average ACT Score

Course Patterns	Cohort	Total N Enrolled	N Enrolled CHS	N Enrolled HHS	N at or above Benchmark	% at or above Benchmark	ACT Avg.
American Gov AP	2014	54	37	17	50	92.5%	27.6
	2015	76	40	36	70	92.1%	27.9
	2016	100	55	45	78	78.0%	25.8
American History AP	2014	94	57	37	84	89.3%	27.3
	2015	82	42	40	73	89.0%	27.4
	2016	108	61	47	91	84.2%	26.2
European History AP	2014	21	16	5	20	95.2%	29.3
	2015	26	11	15	25	96.1%	29.6
	2016	37	18	19	33	89.1%	26.8
Psychology AP	2014	15	--	15	10	66.6%	25.6
	2015	23	--	23	19	82.6%	27.6
	2016	36	--	36	26	72.2%	25.2
American Government	2014	498	250	248	207	41.5%	20.7
	2015	406	173	233	167	41.1%	20.6
	2016	375	159	216	135	36.0%	20.6
American History	2014	526	258	268	195	37.0%	20.1
	2015	485	204	281	211	43.5%	20.9
	2016	438	178	260	158	36.0%	20.6

The achievement percentages and the average ACT scores listed in this table reflect all the course preparation each student completed. For example, of the 100 American Government AP students in the 2016 cohort, some of the students completed American History AP, European History AP, and Pscyhology AP, while others did not.

The graphs on the previous pages that depict student acheivment based on specific course patterns provide disaggregated data that is more reflective of actual course preparation.

The charts of the following page provide enrollment data for the district and each high school.

Subscore Analysis

2014 - 16 Cohorts

Reading Test
The reading test covers content from social studies, natural sciences, literary narrative or prose fiction, and the humanities, each carrying a weight of 25%. These four content areas are combined into two subscores: Social Studies/Sciences and Arts/Literature. The subscore range is from 0-18.

The social studies questions are based on passages from anthropology, archaeology, biography, business, economics, education, geography, history, political science, psychology, and sociology.

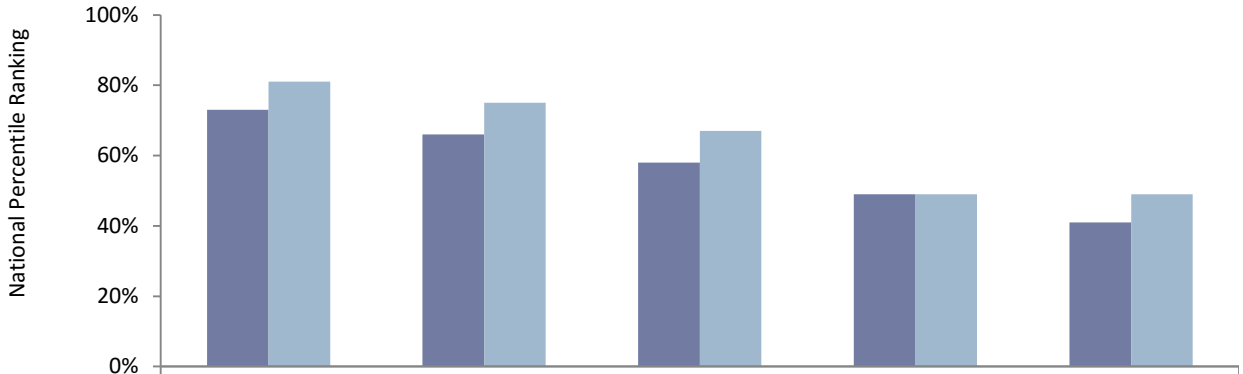
The natural sciences questions are based on passages from anatomy, astronomy, biology, botany, chemistry, ecology, geology, medicine, meteorology, microbiology, natural history, physiology, physics, technology, and zoology.

The English questions may come from literary narrative or prose fiction. Literary narrative questions are based on passages from short stories, novels, memoirs, and personal essays. Prose fiction questions are based on intact short stories or excerpts from short stories and novels.

The humanities questions are based on passages from architecture, art, dance, ethics, film, language, literary criticism, music, philosophy, radio, television, and theater. -- Reading Test Description for the ACT

National Distributions of Cumulative Percents
ACT does not define benchmarks for the subscores, but ACT does provide national distributions of cumulative percents for ACT subscores. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

Rankings for National Distributions of Cumulative Percents
Arts/Literature and Social Studies/Natural Sciences



	Amer Gov AP Amer Hist AP with one or both Europ. Hist AP Psych AP	Amer Gov AP Amer Hist AP without Europ. Hist AP Psych AP	Only One - Amer Gov AP Amer Hist AP Europ Hist AP Psych AP	Electives - one or more excluding AP electives	Amer Gov Amer Hist World Cult without any electives
Arts/ Literature	73%	66%	58%	49%	41%
Social Studies/ Natural Sci	81%	75%	67%	49%	49%

The chart lists the national percentile rankings associated with the ACT score points for Arts/Literature and Social Studies/Natural Sciences. The national percentile rankings for the same score point vary from one subject area to the next, as well as for the subscores within a subject area. The national percentage ranking for the average subscore for each course pattern is listed in the chart to more accurately provide a means of comparison. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT –Tested High School Graduates from 2013, 2014, and 2015

In four of the five course patterns, students scored higher on the Social Studies/Natural Sciences questions than they scored on the Arts/Literature questions.

Cross Curricular ACT Reading Analysis

2014 - 16 Cohorts

The ACT Reading Test

25% - Social Studies

25% - Natural Sciences

25% - Literary Narrative or 25% - Prose Fiction

25% - Humanities

The reading selections and accompanying questions cover content from social studies, natural sciences, literary narrative or prose fiction, and the humanities. Students have 35 minutes to read the selections and answer 40 multiple-choice questions that measure reading comprehension. The reading selections are comparable to first-year college curricula.

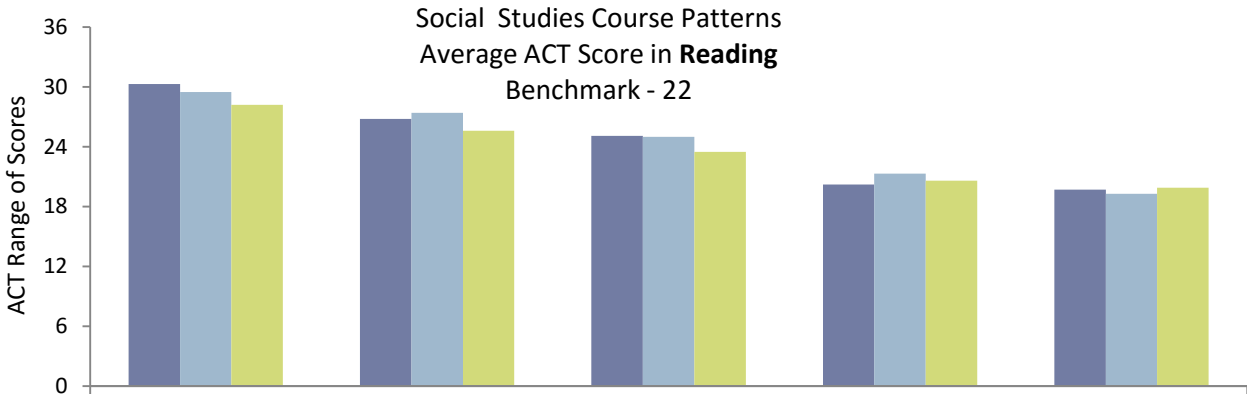
Text Complexity Proficiency Rating

In addition to the ACT Reading score, each student will receive a proficiency rating on his/her understanding of complex texts. This measurement is derived from a subset of questions on the Reading test. There are three points on the scale: below proficient, proficient, and above proficient. The proficiency rating reflects a student's ability to identify the central meaning and purposes for a range of increasingly difficult texts.

ACT will include the proficiency rating in score reports for 2017 statewide testing cohort. For more information on text complexity, see ACT's College and Career Readiness Standards for Reading and the text complexity rubric.

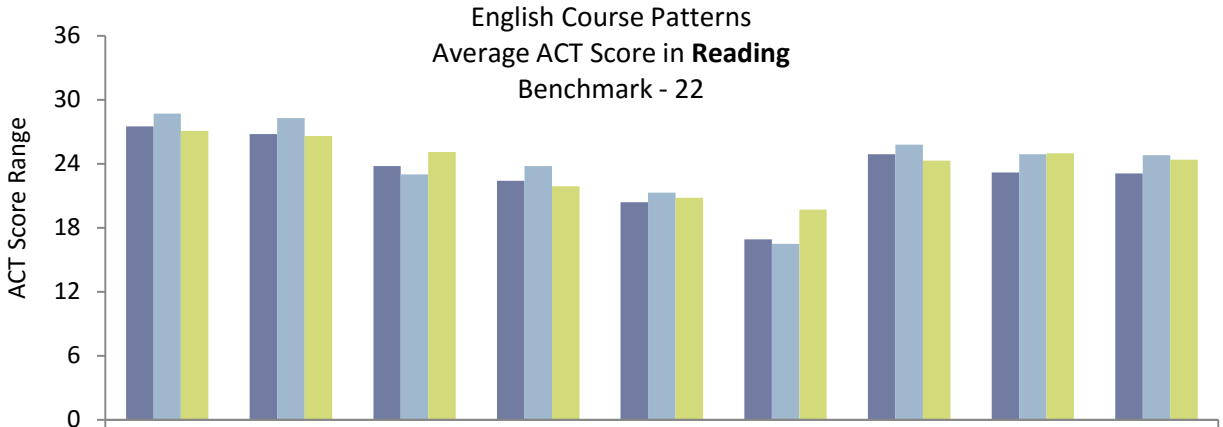
According to ACT research, the element of text complexity that is measured and reflected in the proficiency rating is evident in the following college course types: American history, literature, other history, other natural science, physics (without calculus), sociology, and zoology. These course types were used to develop the proficiency score points for understanding complex texts. Three of these course types, American history, other history, and sociology, were used to develop the ACT Reading benchmark. – ACT College and Career Readiness Standards – Reading, The ACT Student Report, Reading Test Description for the ACT, and Relating the ACT Indicator Understanding Complex Texts to College Course Grade

Cross Curricular Reading Analysis



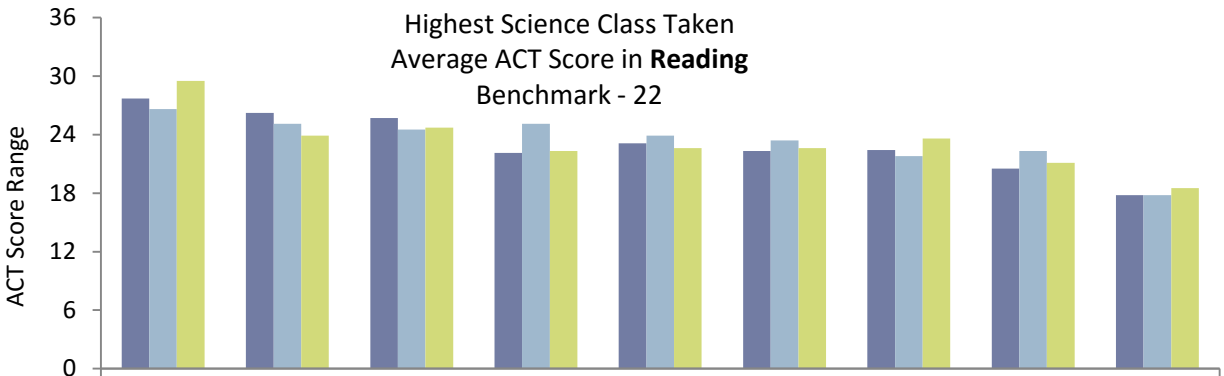
	Amer Gov AP Amer Hist AP with one or both Europ Hist AP Psych AP	Amer Gov AP Amer Hist AP without Europ Hist AP Psych AP	Only One - Amer Gov AP Amer Hist AP Europ Hist AP Psych AP	Electives - one or more excluding AP electives	Amer Gov Amer Hist World Cult without any electives
2014	30.3	26.8	25.1	20.2	19.7
2015	29.5	27.4	25.0	21.3	19.3
2016	28.2	25.6	23.5	20.6	19.9

The average ACT score is below benchmark for students in social studies course patterns that did not include any AP courses (red box).



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
2014	27.5	26.8	23.8	22.4	20.4	16.9	24.9	23.2	23.1
2015	28.7	28.3	23.0	23.8	21.3	16.5	25.8	24.9	24.8
2016	27.1	26.6	25.1	21.9	20.8	19.7	24.3	25.0	24.4

The average ACT score is below benchmark for English students who took English 4 Core options and Technical Writing (red box).



	Chem 2 H w/ Physics	Chem 2 H w/o Physics	Physics w/o Chem 2 H w/ Chem 1	Physics w/o Chem 2 H Chem 1	Chem 1 w/o Chem 2 H Physics	Chem 1 w/o Chem 2 H Physics Bio 2 Bio 2 H	Bio 2 H w/o Chem Physics	Bio 2 w/o Chem Physics	Bio 1 w/o Chem Physics Bio 2 Bio 2 H Physical Sci
2014	27.7	26.2	25.7	22.1	23.1	22.3	22.4	20.5	17.8
2015	26.6	25.1	24.5	25.1	23.9	23.4	21.8	22.3	17.8
2016	29.5	23.9	24.7	22.3	22.6	22.6	23.6	21.1	18.5

The average ACT score is below benchmark for science students who took Biology 1 and no additional upper level science classes.

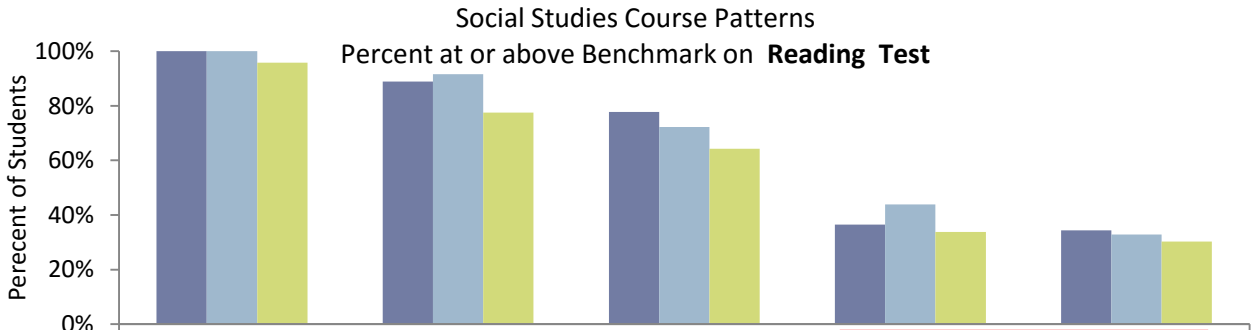
Informational Texts

ACT's text complexity rubric describes how the purpose, structure, language, abstractness, density, and knowledge demands vary in somewhat challenging, more challenging, complex, and highly complex texts. Students scoring in the 20-23 range on the ACT test show proficiency when reading somewhat challenging texts. Students scoring in the 24-27 range show proficiency when reading somewhat challenging texts and more challenging texts. Students scoring in the 28-32 range show proficiency when reading more challenging texts and complex texts. Students scoring in the 33-36 range on the ACT test demonstrate mastery when reading complex and highly complex texts. – ACT College and Career Readiness Standards – Reading

The 8th grade benchmark for Reading is 16. -- National Distributions of Cumulative Percents for ACT Test Scores, ACT-Tested High School Graduates from 2013, 2014, and 2015

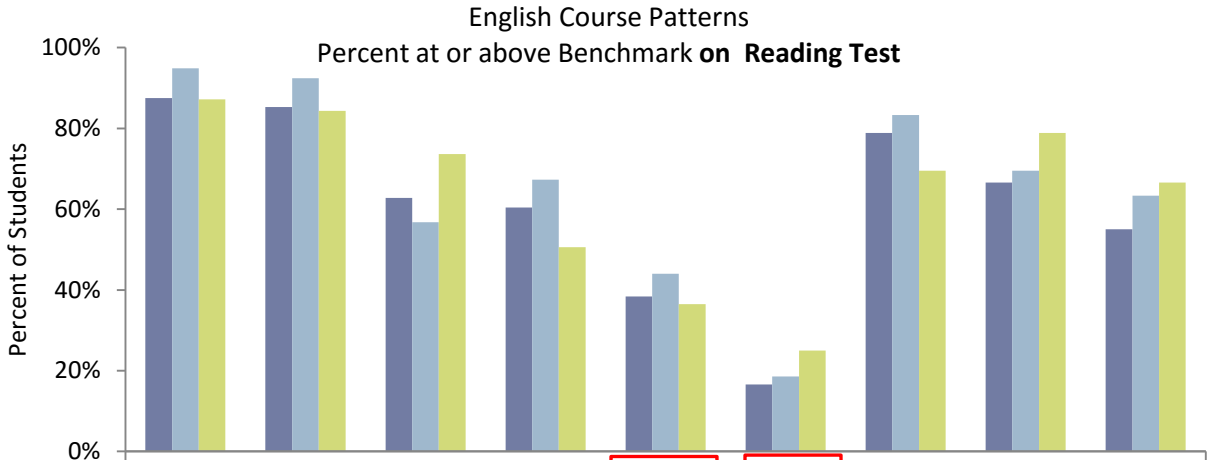
31 – 92nd percentile
30 -- 89th percentile
29 – 86th percentile
28 – 84th percentile
27 – 81st percentile
26 -- 78th percentile
25 – 75th percentile
24 -- 71st percentile
23 – 66th percentile
22 -- 61st percentile
21 – 55th percentile
20 – 48th percentile
19 – 42nd percentile

Cross Curricular ACT Reading Analysis



	Amer Gov AP Amer Hist AP with one or both Europ Hist AP Psych AP	Amer Gov AP Amer Hist AP without Europ. Hist AP Psych AP	Only One - Amer Gov AP Amer Hist AP Europ Hist AP Psych AP	Electives - one or more excluding AP electives	Amer Gov Amer Hist World Cult without any electives
2014	100%	88.8%	77.7%	36.5%	34.3%
2015	100%	91.6%	72.2%	43.9%	32.8%
2016	95.8%	77.5%	64.3%	33.8%	30.2%

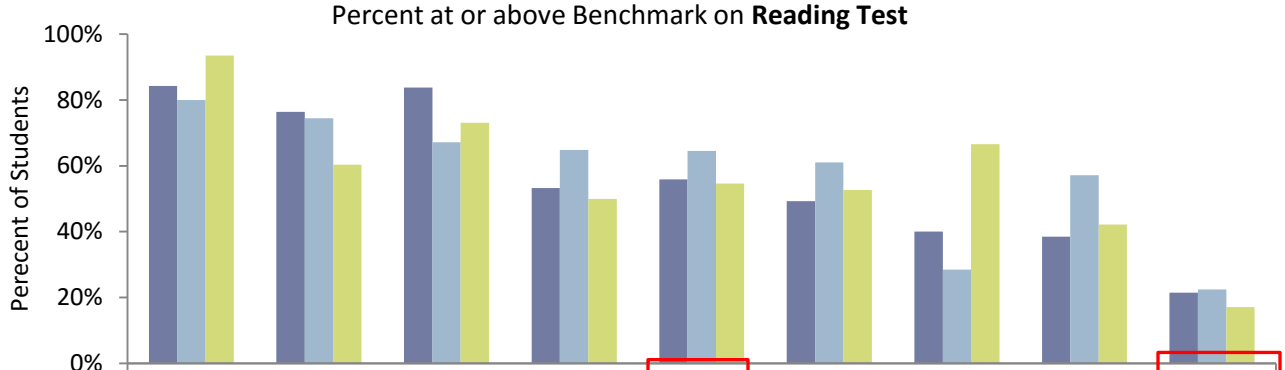
A continued focus on **reading in social studies courses** provides students with reading experiences that increase comprehension and build skills in understanding complex texts in **social studies.** As content area experts, social studies teachers are in a position to guide the development of these skills starting in middle school and continuing in high school.



	Eng 4 AP w/ Eng 3 AP Eng 2 H Eng 1 H	Eng 4 AP w/wo Eng 3 AP Eng 3 H Eng 2 H	College Writing (HHS)	College Writing (CHS)	English 4 Core Options	Tech Writing	Eng 3 AP w/o Eng 4 AP	Eng 3 H w/o Eng 4 AP	Eng 2 H w/o Eng 4 AP Eng 3 AP Eng 3 H
2014	87.5%	85.3%	62.8%	60.4%	38.4%	16.6%	78.9%	66.6%	55.0%
2015	94.9%	92.4%	56.8%	67.3%	44.0%	18.6%	83.3%	69.5%	63.3%
2016	87.2%	84.3%	73.6%	50.6%	36.5%	25.0%	69.5%	78.9%	66.6%

The focus on **close reading** of **informational texts and literary narratives** in English courses provides students with reading experiences that increase comprehension and build skills in understanding complex texts. As content area experts, English teachers are in a position to guide the development of these skills starting in middle school and continuing in high school.

Highest Science Class Taken
Percent at or above Benchmark on **Reading Test**



	Chem 2 H w/ Physics	Chem 2 H w/o Physics	Physics w/o Chem 2 H w/ Chem 1	Physics w/o Chem 2 H Chem 1	Chem 1 w/o Chem 2 H Physics	Chem 1 w/o Chem 2 H Physics Bio 2 Bio 2 H	Bio 2 H w/o Chem Physics	Bio 2 w/o Chem Physics	Bio 1 w/o Chem Physics Bio 2 Physical Sci
2014	84.3%	76.4%	83.8%	53.3%	55.9%	49.3%	40.0%	38.5%	21.5%
2015	80.0%	74.4%	67.2%	64.8%	64.5%	61.0%	28.5%	57.1%	22.4%
2016	93.5%	60.4%	73.1%	50.0%	54.6%	52.7%	66.6%	42.2%	17.1%

A continued focus on **reading** in **science courses** provides students with reading experiences that increase comprehension and build skills in understanding complex texts in the **sciences**. As content area experts, science teachers are in a position to guide the development of these skills starting in middle school and continuing in high school.

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