

# Troy University Proficiency Profile (MAPP) Annual Report

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Proficiency Profile (MAPP) 2013-2014

Submitted  
to  
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The report examines general education assessment to ensure a cycle of continuous improvement in teaching and learning. To complete the analysis of results from the Proficiency Profile MAPP (Measure of Academic Proficiency and Progress) Assessment.

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## ABSTRACT

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### Dothan, Montgomery, Phenix City, Troy Global (Onsite), and eTroy (Online) Distance Learning

The MAPP test is designed to evaluate the performance of the university's general studies program. It is assumed that by the end of the sophomore year the typical student has taken the majority of their general studies classes. The test is designed to highlight any changes that need to be made to improve the general studies experience or to fill in any holes there may be in the general studies experience. The school is not interested so much in individual scores as in the overall scores of the students in different areas. That is the reason the MAPP test is given at the end of the sophomore year. Associates take the test after completion of 48 hours and prior to graduation (exit exam), and bachelors 60-89 hours. The MAPP test was referred to as the "Rising Junior" test at one time.

### Troy Campus

Students on the Troy campus are required to take the Proficiency Profile (MAPP) exam, which is an assessment of the students current skill level in reading, critical thinking, writing, and mathematics. As an ongoing effort of the universities mission to help students achieve academic excellence and successful degree completion, this process will play a major role toward achieving these goals. These goals of the university will serve to benefit students' academic goals and successes at TROY.

## Pre-test the following groups as entering freshmen:

- 1) Leadership Scholarship Recipients (Minimum 22 ACT)
    - a. Completion of the Proficiency Profile exam will be a requirement for receiving the scholarship.
  - 2) Conditionally Admitted Students (Below 20 ACT)
    - a. Completion of the Proficiency Profile exam will be a requirement for conditional admit.
  - 3) The Millennium Scholar's Award (Minimum 31 ACT)
    - a. Completion of the Proficiency Profile exam will be a requirement for receiving the scholarship.
  - 4) The Chancellor's Scholar's Award (Minimum 27 ACT)
    - a. Completion of the Proficiency Profile exam will be a requirement for receiving the scholarship.
- 
- I. The Pre exam will begin Fall 2014 with students completing the exam prior to the end of their first semester. The Post exam will be administered, during the Spring semester after the student has obtained at least 60 hours.
  - II. Requirement of the MAPP exam for Associate degree students for Montgomery and Global campus as an exit exam will continue.
  - III. The MAPP exam on the Montgomery, Dothan, Phenix City, and Global campuses will continue to be given to rising juniors who have completed between 60-89 hours.

## Pre Analysis (Understanding This Report)

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### Using Scores and Reports

Troy University Department of IRPE uses the Proficiency Profile (MAPP) scores to:

- gauge student learning outcomes of traditional, blended learning and distance learning students
- measure and document program effectiveness to meet requirements for accreditation and program funding
- assess student proficiency in core academic skill areas to identify strengths, weaknesses and opportunities to improve curriculum
- compare Troy's own performance against the performance of their peers

### Scores Reported

#### Norm-referenced Scores (Scaled Scores)

Eight scaled scores are reported for students taking the Proficiency Profile (MAPP) test:

- a total score
- four skills subscores (critical thinking, reading, writing, mathematics)
- three context-based subscores (humanities, social sciences, natural sciences)

The total score is reported on a scale that extends from 400 to 500. The seven subscores are reported on a scale that extends from 100 to 130.

#### Criterion-referenced Scores (Proficiency Classifications)

In addition to a total score, proficiency classifications (proficient, marginal or not proficient) measure how well your students have mastered each level of proficiency within three skill areas:

- Reading/Critical Thinking
- Writing
- Mathematics

Within each of these three skill areas, the specific skills tested by the Proficiency Profile (MAPP) test are classified into three proficiency levels, identified simply as Level 1, Level 2 and Level 3. Each proficiency level is defined in terms of a set of specific competencies expected of students.

## Comparative Data Reports

Proficiency Profile (MAPP) Comparative Data Guide (CDG) that provides invaluable information. This data is used to compare the scores and proficiency classifications Troy students with those of a large group of students at other institutions.

The annual CDG contains tables of scaled scores and percentiles for individual student scores and institutional means drawn directly from test takers across the nation. The CDG also provides percentiles for individual student subscores and a summary of proficiency classifications. Statistics are provided by class level (freshman, sophomore, etc.) and institution type and include a demographic summary.

# Analysis

## Summary of Scaled Scores *(All Students)*

Number of students tested: 812

Number of students included in these statistics: 782

	Possible Range	Troy Mean Score	National Mean Score	95% Confidence Limits* for Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Total Score</b>								
	400 to 500	<b>439.01</b>	<b>442.51</b>	438 to 440	19.48	425	435	450
<b>Skills Subscores</b>								
<b>Critical Thinking</b>	100 to 130	<b>110.45</b>	<b>111.35</b>	110 to 111	6.18	106	109	114
<b>Reading</b>	100 to 130	<b>115.92</b>	<b>117.37</b>	115 to 117	7.45	110	116	122
<b>Writing</b>	100 to 130	<b>113.55</b>	<b>113.92</b>	113 to 114	5.60	110	114	117
<b>Mathematics</b>	100 to 130	<b>111.64</b>	<b>112.97</b>	111 to 112	6.26	107	110	116
<b>Context-Based Subscores</b>								
<b>Humanities</b>	100 to 130	<b>114.11</b>	<b>114.40</b>	113 to 115	6.50	109	113	119
<b>Social Sciences</b>	100 to 130	<b>112.00</b>	<b>113.08</b>	111 to 113	6.28	107	112	116
<b>Natural Sciences</b>	100 to 130	<b>114.24</b>	<b>114.75</b>	114 to 115	6.44	110	114	119



\* The confidence limits are based on the assumption that the questions contributing to each scaled score are a sample from a much larger set of possible questions that could have been used to measure those same skills. If the group of students taking the test is a sample from some larger population of students eligible to be tested, the confidence limits include both sampling of students and sampling of questions as factors that could cause the mean score to vary. The confidence limits indicate the precision of the mean score of the students actually tested, as an estimate of the "true population mean" - the mean score that would result if all the students in the population could somehow be tested with all possible questions. These confidence limits were computed by a procedure that has a 95 percent probability of producing upper and lower limits that will surround the true population mean. The population size used in the calculation of the confidence limits for the mean scores in this report is 782. Reports based on a sample of fewer than 50 test takers are representative of the performance of **that sample only**. Reports based on **fewer than 50 test takers** should not be considered representative of the larger group of like students, and inferences or generalizations about the larger population or subgroup **should not** be made based on such small samples.

## More than 90 semester hours

	Possible Range	Mean Score	95% Confidence Limits* for Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Skills Subscores</b>							
<b>Total Score</b>	400 to 500	<b>437.45</b>	436 to 439	19.17	425	435	447
<b>Skills Subscores</b>							
<b>Critical Thinking</b>	100 to 130	<b>110.48</b>	109 to 111	6.07	106	110	114
<b>Reading</b>	100 to 130	<b>115.89</b>	115 to 117	7.45	110	116	122
<b>Writing</b>	100 to 130	<b>112.40</b>	112 to 113	5.81	108	113	117
<b>Mathematics</b>	100 to 130	<b>111.49</b>	111 to 112	6.69	107	110	116
<b>Context-Based Subscores</b>							
<b>Humanities</b>	100 to 130	<b>113.84</b>	113 to 115	6.28	109	113	119
<b>Social Sciences</b>	100 to 130	<b>111.87</b>	111 to 113	6.15	107	112	116
<b>Natural Sciences</b>	100 to 130	<b>114.53</b>	113 to 116	6.32	110	114	119

## 61 - 90 semester hours

	Possible Range	Mean Score	95% Confidence Limits* for Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Skills Subscores</b>							
<b>Total Score</b>	400 to 500	<b>440.40</b>	439 to 441	19.87	426	437	451
<b>Skills Subscores</b>							
<b>Critical Thinking</b>	100 to 130	<b>110.77</b>	110 to 112	6.32	106	110	114
<b>Reading</b>	100 to 130	<b>116.13</b>	115 to 117	7.45	110	116	122
<b>Writing</b>	100 to 130	<b>113.91</b>	113 to 115	5.55	111	114	117
<b>Mathematics</b>	100 to 130	<b>112.20</b>	111 to 113	6.25	108	111	116
<b>Context-Based Subscores</b>							
<b>Humanities</b>	100 to 130	<b>114.39</b>	114 to 115	6.59	109	114	119
<b>Social Sciences</b>	100 to 130	<b>112.24</b>	111 to 113	6.45	107	112	116
<b>Natural Sciences</b>	100 to 130	<b>114.42</b>	114 to 115	6.54	110	114	120

## 30 - 60 semester hours

	Possible Range	Mean Score	95% Confidence Limits* for Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Skills Subscores</b>							
<b>Total Score</b>	400 to 500	<b>435.43</b>	434 to 437	17.78	423	431	447
<b>Skills Subscores</b>							
<b>Critical Thinking</b>	100 to 130	<b>109.36</b>	108 to 110	5.67	106	109	113
<b>Reading</b>	100 to 130	<b>114.89</b>	114 to 116	7.49	109	114	122
<b>Writing</b>	100 to 130	<b>113.25</b>	112 to 114	5.42	109	113	117
<b>Mathematics</b>	100 to 130	<b>109.95</b>	109 to 111	5.38	107	108	113
<b>Context-Based Subscores</b>							
<b>Humanities</b>	100 to 130	<b>113.28</b>	112 to 114	6.36	108	112	118
<b>Social Sciences</b>	100 to 130	<b>111.16</b>	110 to 112	5.69	107	110	116
<b>Natural Sciences</b>	100 to 130	<b>113.20</b>	112 to 114	6.06	108	113	118

## Fewer than 30 semester hours

	Possible Range	Mean Score	95% Confidence Limits* for Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Skills Subscores</b>							
<b>Total Score</b>	400 to 500	<b>435.22</b>	431 to 440	19.15	426	432	446
<b>Critical Thinking</b>	100 to 130	<b>108.22</b>	106 to 111	4.87	104	108	113
<b>Reading</b>	100 to 130	<b>116.89</b>	114 to 119	7.26	113	118	122
<b>Writing</b>	100 to 130	<b>112.56</b>	111 to 115	7.01	111	113	117
<b>Mathematics</b>	100 to 130	<b>109.56</b>	107 to 112	6.50	105	107	111
<b>Context-Based Subscores</b>							
<b>Humanities</b>	100 to 130	<b>113.33</b>	111 to 116	5.94	108	116	118
<b>Social Sciences</b>	100 to 130	<b>111.78</b>	109 to 114	6.34	108	110	114
<b>Natural Sciences</b>	100 to 130	<b>113.89</b>	111 to 116	6.47	109	115	120

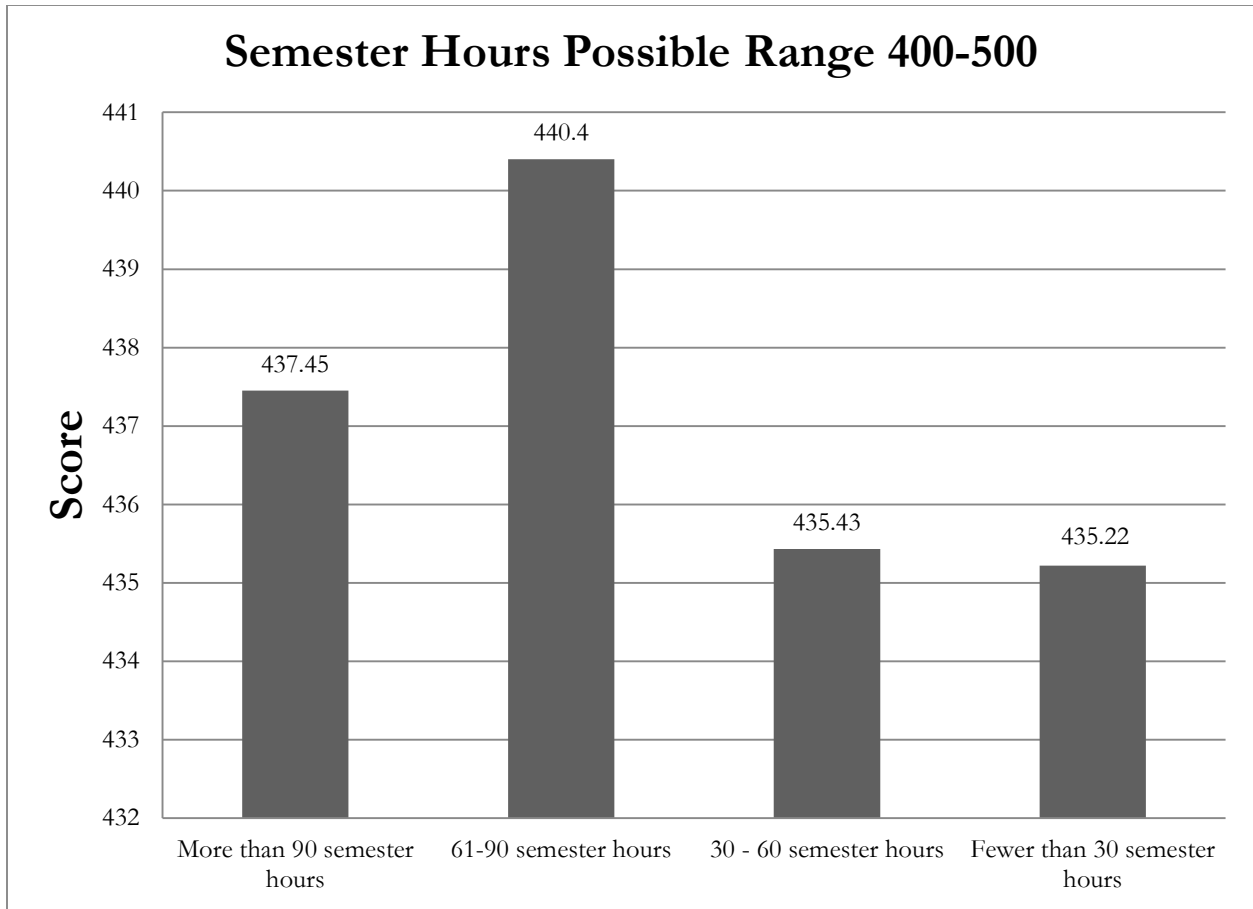


Figure 1

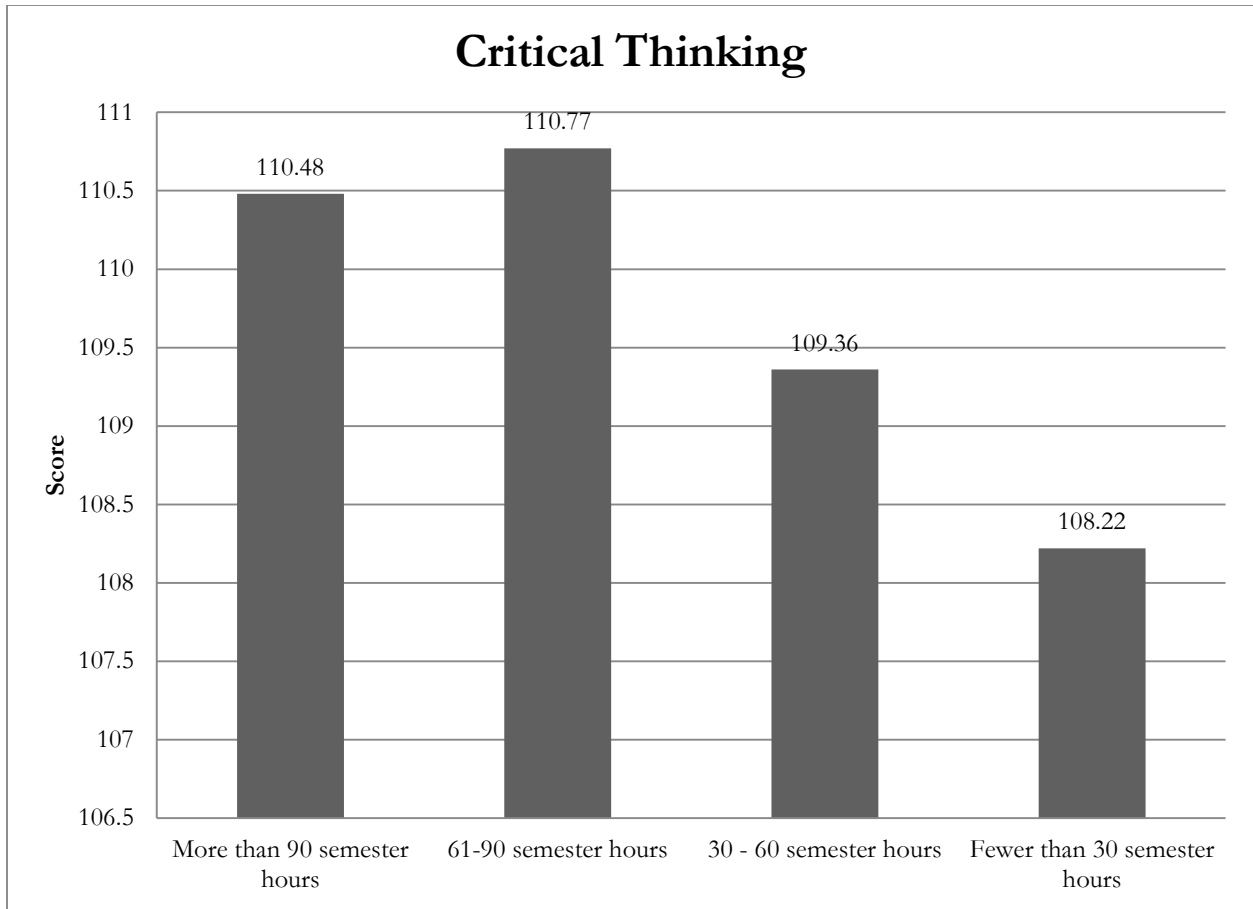


Figure 2

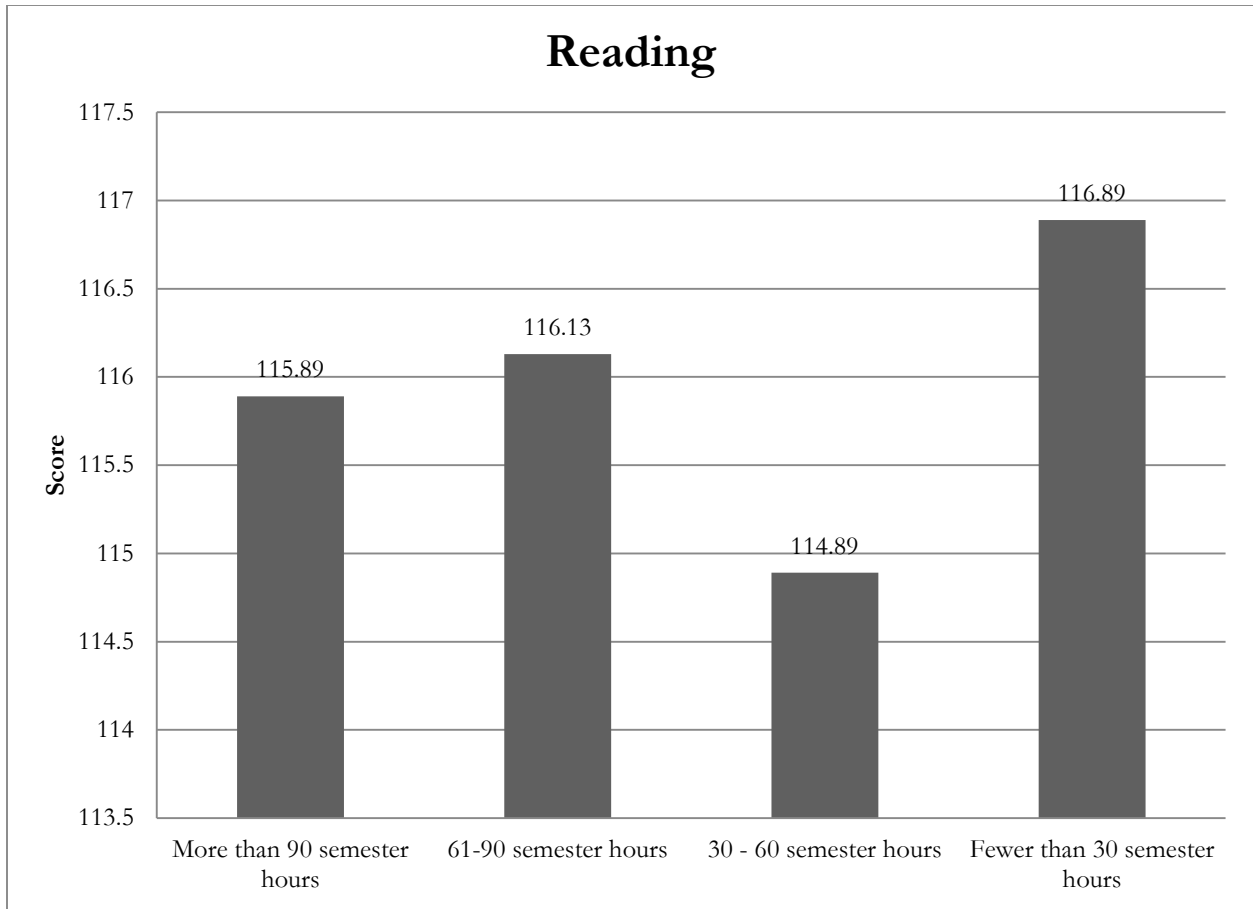


Figure 3



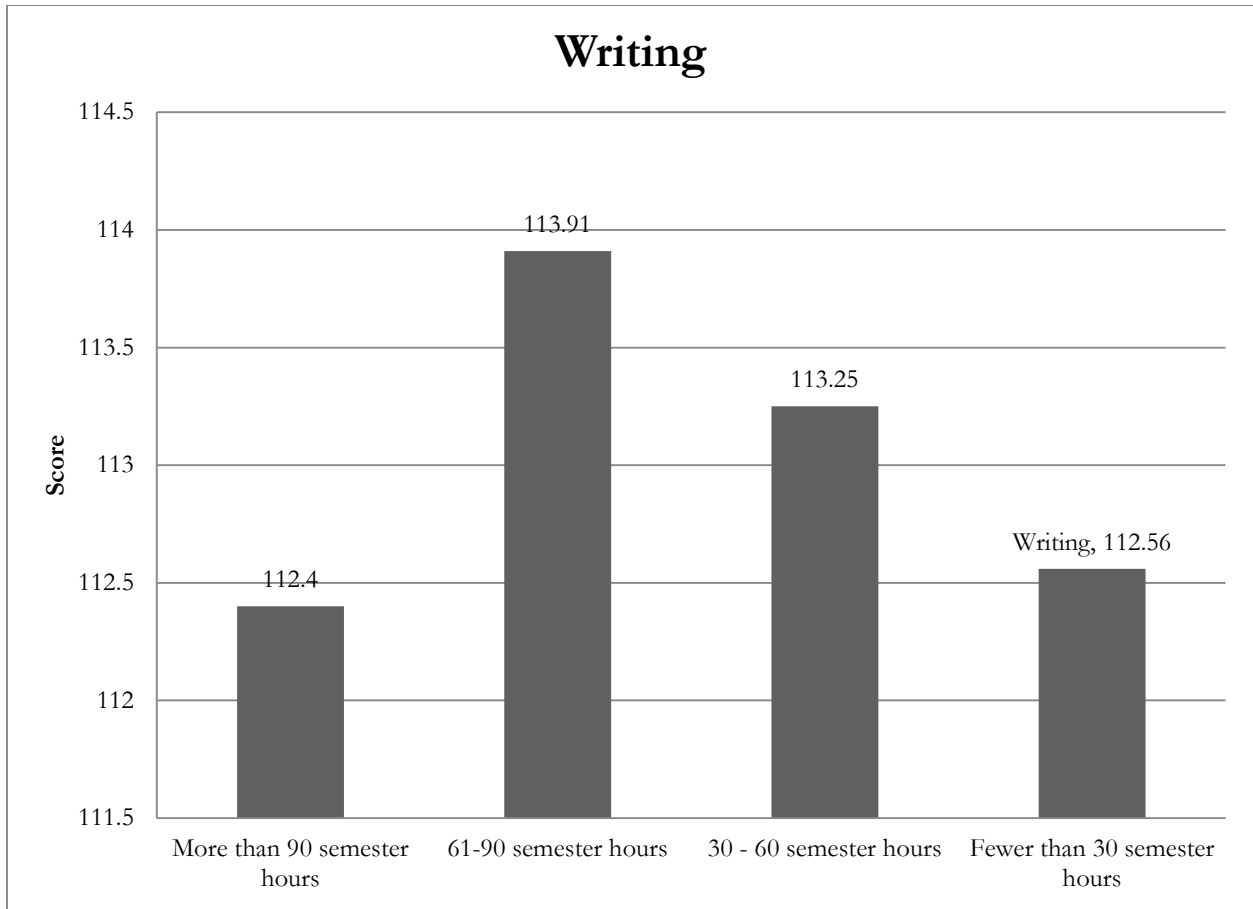


Figure 4

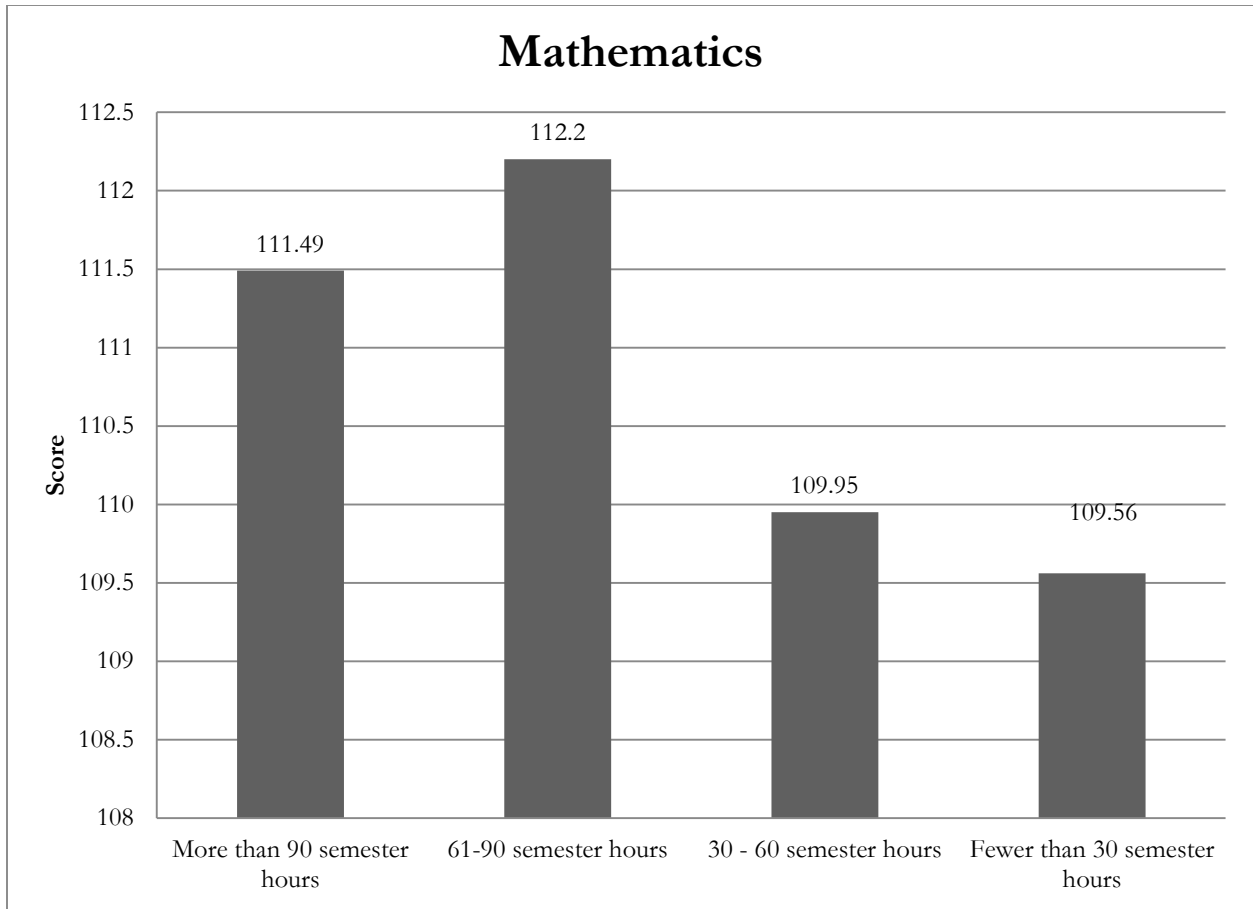


Figure 5

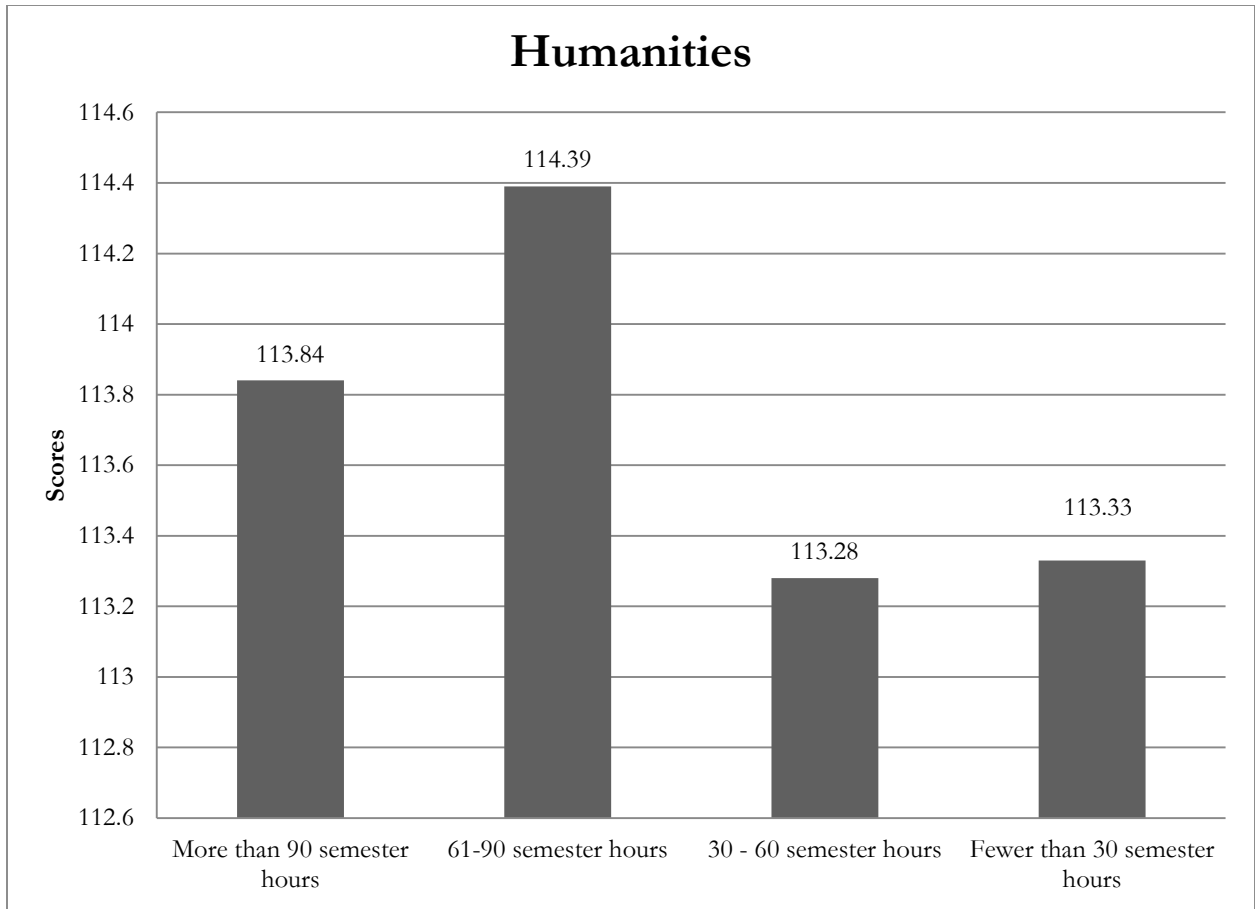


Figure 6

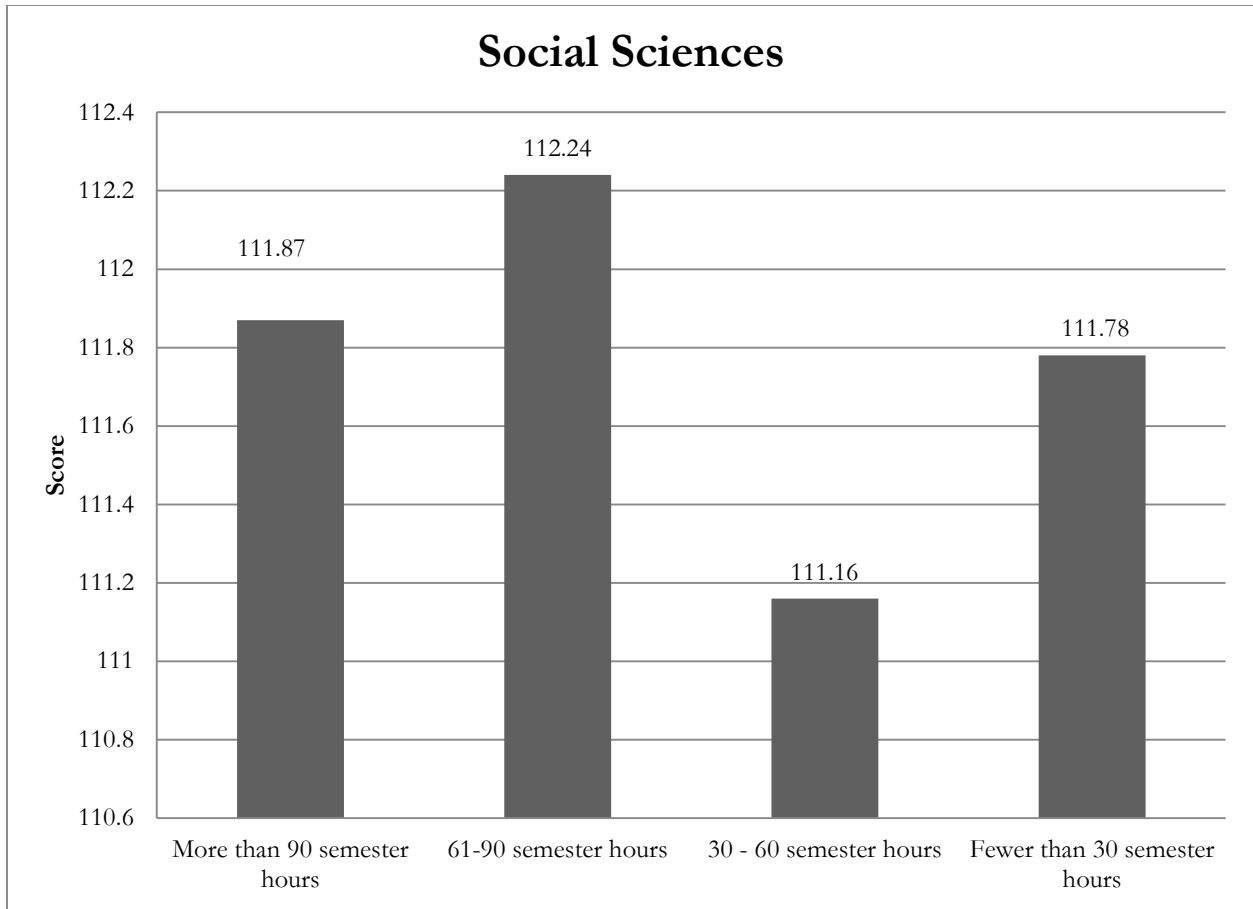


Figure 7

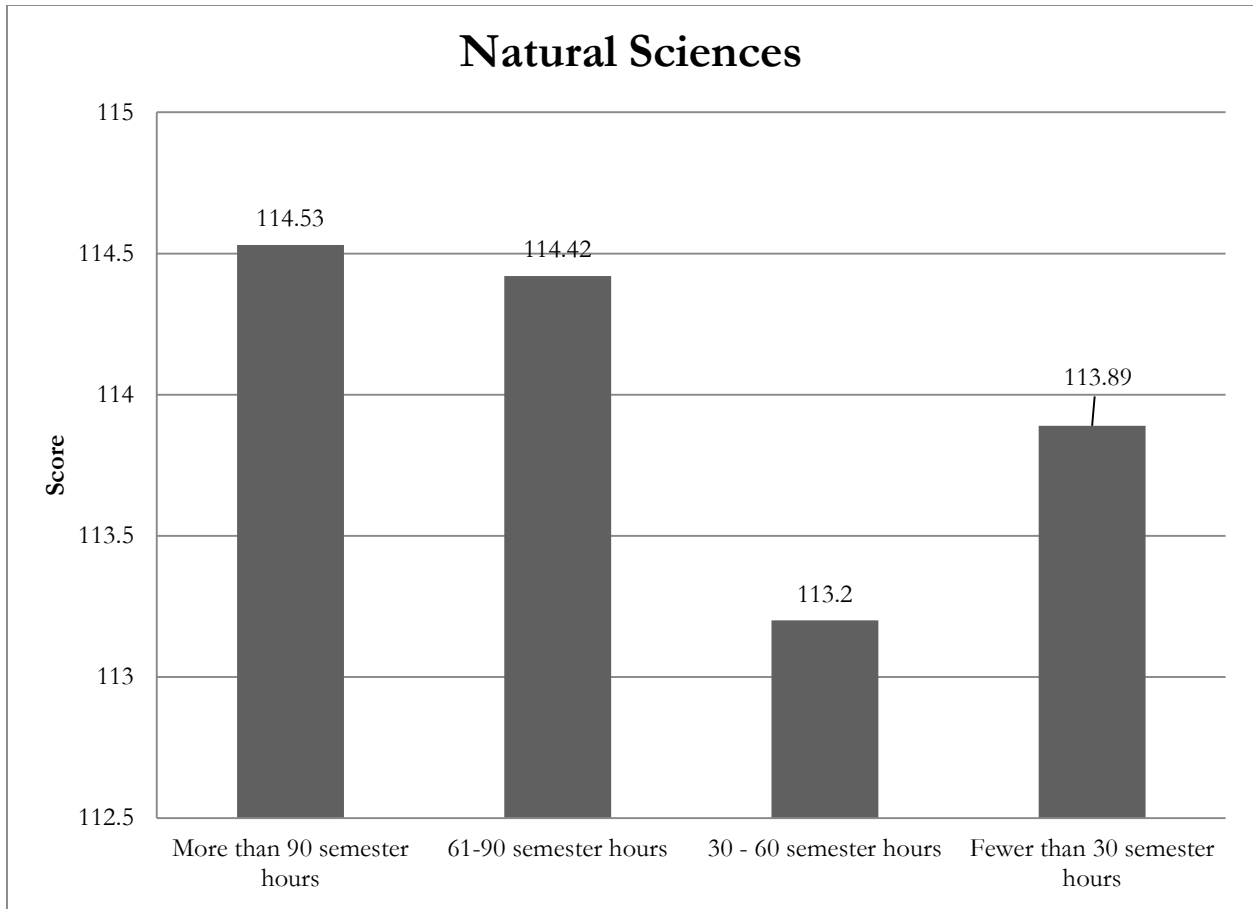


Figure 8



## Demographic Analysis

### Program Enrolled

Number of students tested: 848

Number of students included in these statistics: 817

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	817	438.11 (19.62)	110.21 (6.19)	115.52 (7.59)	113.22 (5.75)	111.64 (6.18)	113.89 (6.51)	111.73 (6.30)	113.88 (6.55)
<b>AA/AS</b>	47	434.23 (13.83)	109.60 (4.77)	115.23 (5.83)	113.45 (4.45)	108.77 (4.43)	113.55 (5.12)	110.77 (5.28)	113.64 (4.99)
<b>BA/BS</b>	698	439.91 (19.97)	110.66 (6.31)	116.30 (7.51)	113.90 (5.46)	111.67 (6.13)	114.43 (6.58)	112.26 (6.34)	114.45 (6.60)
<b>Transfer Program</b>	42	422.93 (9.24)	106.14 (3.76)	107.05 (3.92)	104.31 (3.39)	116.48 (6.51)	108.98 (4.26)	106.26 (3.25)	108.19 (3.90)
<b>Career/Vocational</b>	11	423.00 (9.09)	106.36 (3.65)	108.27 (5.03)	109.91 (4.10)	108.73 (2.60)	107.73 (2.56)	108.18 (4.22)	108.82 (3.56)
<b>Certificate</b>	2	444.50 (24.50)	113.50 (6.50)	116.00 (9.00)	111.50 (9.50)	115.50 (3.50)	117.00 (4.00)	115.50 (8.50)	112.00 (9.00)
<b>Life-Long Learning</b>	2	415.50 (10.50)	105.00 (2.00)	109.00 (1.00)	107.00 (6.00)	104.50 (3.50)	108.00 (0.00)	108.00 (6.00)	108.50 (3.50)
<b>Work Force Training</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Other</b>	15	422.13 (8.85)	105.40 (3.40)	110.13 (5.58)	109.00 (3.31)	108.13 (4.87)	108.60 (3.54)	108.27 (4.99)	108.93 (3.21)

## Transfer Status

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>Not a transfer</b>	517	438.99 (19.27)	110.45 (6.07)	116.03 (7.24)	113.75 (5.11)	111.30 (6.07)	114.27 (6.44)	112.04 (6.04)	114.21 (6.33)
<b>0 - 15 hours transferred</b>	72	440.13 (21.72)	110.81 (6.54)	115.50 (8.51)	113.38 (6.82)	112.69 (6.63)	113.69 (7.11)	112.50 (6.89)	114.26 (6.88)
<b>16 - 30 hours transferred</b>	89	436.22 (19.00)	109.56 (6.39)	114.83 (7.53)	112.38 (6.73)	111.76 (6.32)	113.66 (6.68)	110.83 (6.44)	113.28 (6.55)
<b>Over 30 hours transferred</b>	104	440.68 (19.00)	110.91 (6.24)	116.55 (7.53)	113.67 (5.83)	112.54 (6.69)	113.98 (6.19)	112.50 (6.70)	115.16 (6.44)



## Major

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>Accounting</b>	47	439.04 (16.64)	109.81 (5.35)	115.66 (7.03)	112.70 (6.21)	113.57 (6.01)	114.23 (6.35)	111.06 (5.61)	114.09 (5.91)
<b>Chemistry</b>	6	450.50 (19.28)	112.83 (5.79)	118.67 (9.23)	111.83 (5.46)	121.33 (4.82)	116.67 (7.72)	114.67 (6.57)	117.17 (5.76)
<b>Communication</b>	30	436.77 (19.83)	110.03 (5.95)	115.07 (7.69)	114.33 (5.28)	109.23 (4.87)	113.60 (6.65)	112.80 (6.25)	112.77 (6.36)
<b>Computer &amp; Information Sciences</b>	43	446.88 (24.46)	111.93 (7.71)	117.37 (8.93)	114.51 (6.78)	115.77 (6.99)	115.28 (8.01)	113.33 (7.82)	116.07 (7.24)
<b>Criminal Justice</b>	63	432.79 (18.81)	109.00 (6.29)	114.05 (6.85)	112.29 (4.99)	109.24 (5.50)	112.40 (5.79)	110.37 (6.04)	112.97 (6.50)
<b>Earth, Atmosphere &amp; Marine Sciences</b>	1	420.00 (0.00)	107.00 (0.00)	114.00 (0.00)	101.00 (0.00)	108.00 (0.00)	109.00 (0.00)	112.00 (0.00)	112.00 (0.00)
<b>Economics</b>	1	457.00 (0.00)	114.00 (0.00)	121.00 (0.00)	117.00 (0.00)	122.00 (0.00)	119.00 (0.00)	114.00 (0.00)	119.00 (0.00)
<b>Education</b>	61	436.74 (16.27)	109.23 (5.16)	114.61 (7.09)	113.89 (4.81)	111.08 (4.84)	113.08 (6.12)	111.08 (5.41)	112.67 (5.77)
<b>Engineering &amp; Engineering Technologies</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>English</b>	27	442.67 (21.70)	111.96 (7.36)	117.19 (8.04)	115.11 (5.89)	110.93 (6.46)	115.96 (7.32)	113.30 (6.87)	114.96 (7.86)
<b>Environmental Sciences</b>	4	427.50 (12.11)	106.50 (4.97)	111.50 (6.98)	105.75 (4.32)	118.00 (9.14)	108.25 (3.63)	108.00 (4.69)	111.75 (5.76)

<b>Agriculture</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Foreign Languages &amp; Literature</b>	3	444.67 (3.86)	114.33 (0.47)	118.00 (3.74)	115.67 (3.86)	110.67 (1.89)	118.00 (2.16)	114.67 (5.79)	116.00 (2.83)
<b>Geological Sciences</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Health &amp; Medical Sciences</b>	47	440.85 (17.68)	111.64 (5.49)	116.32 (7.79)	114.87 (5.11)	110.77 (4.71)	115.11 (6.89)	112.79 (5.67)	114.83 (6.44)
<b>History</b>	9	456.11 (16.66)	118.22 (5.33)	122.78 (5.24)	117.00 (3.46)	112.11 (5.65)	121.56 (4.57)	119.00 (6.58)	119.44 (4.17)
<b>Liberal Studies</b>	1	439.00 (0.00)	113.00 (0.00)	115.00 (0.00)	116.00 (0.00)	108.00 (0.00)	112.00 (0.00)	110.00 (0.00)	119.00 (0.00)
<b>Marketing</b>	16	441.50 (22.13)	111.13 (6.29)	116.75 (8.07)	114.44 (5.61)	111.88 (6.80)	114.13 (6.10)	112.75 (6.43)	115.31 (6.85)
<b>Mathematical Sciences</b>	15	456.53 (23.96)	113.07 (7.09)	120.13 (8.68)	117.20 (5.33)	119.00 (6.24)	116.67 (7.92)	115.73 (6.69)	117.60 (7.74)
<b>Music</b>	5	435.60 (18.16)	110.40 (4.13)	112.20 (6.34)	111.60 (6.41)	114.00 (6.20)	112.80 (3.97)	108.40 (3.61)	114.00 (5.55)
<b>Philosophy</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Physics &amp; Astronomy</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Allied Health</b>	2	435.00 (16.00)	109.50 (0.50)	119.50 (6.50)	110.00 (5.00)	109.50 (4.50)	115.00 (1.00)	116.50 (4.50)	112.50 (4.50)
<b>Political Science</b>	12	439.42 (10.26)	112.25 (5.29)	118.17 (4.06)	113.25 (2.65)	109.67 (3.30)	115.50 (4.03)	115.58 (4.21)	114.58 (3.88)
<b>Psychology</b>	93	434.37 (16.92)	109.27 (5.59)	115.82 (6.67)	112.89 (5.01)	108.89 (5.03)	113.60 (6.24)	111.48 (5.51)	113.38 (5.56)

<b>Religion &amp; Theology</b>	1	415.00 (0.00)	107.00 (0.00)	101.00 (0.00)	106.00 (0.00)	109.00 (0.00)	104.00 (0.00)	108.00 (0.00)	105.00 (0.00)
<b>Social Work</b>	38	428.76 (14.80)	107.84 (5.44)	112.95 (5.45)	111.97 (4.99)	107.74 (4.26)	112.24 (5.43)	108.26 (4.78)	111.92 (5.67)
<b>Sociology</b>	12	433.50 (12.45)	109.75 (3.54)	118.00 (5.45)	110.92 (2.87)	108.42 (5.02)	115.08 (4.97)	112.25 (4.85)	114.75 (3.83)
<b>Undecided</b>	1	429.00 (0.00)	107.00 (0.00)	110.00 (0.00)	115.00 (0.00)	107.00 (0.00)	116.00 (0.00)	104.00 (0.00)	108.00 (0.00)
<b>Other A</b>	73	435.77 (15.89)	109.16 (5.47)	115.71 (6.53)	113.22 (4.61)	110.05 (5.06)	113.34 (6.00)	111.42 (5.37)	113.47 (5.86)
<b>Other B</b>	1	450.00 (0.00)	111.00 (0.00)	123.00 (0.00)	117.00 (0.00)	113.00 (0.00)	114.00 (0.00)	118.00 (0.00)	119.00 (0.00)
<b>Other C</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Anthropology &amp; Archeology</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Architecture &amp; Environmental Design</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Art &amp; Art History</b>	10	448.40 (22.17)	114.20 (6.16)	117.30 (8.63)	114.60 (7.99)	115.20 (5.74)	117.20 (6.60)	115.10 (7.12)	115.30 (7.81)
<b>Banking &amp; Finance</b>	3	442.00 (20.93)	110.33 (6.55)	113.33 (9.29)	111.00 (8.29)	121.67 (2.49)	112.00 (6.53)	110.67 (6.02)	115.00 (8.60)
<b>Biological Sciences</b>	56	449.41 (21.97)	113.04 (6.68)	118.48 (7.60)	115.77 (5.77)	115.45 (6.50)	115.36 (7.04)	114.21 (6.90)	117.57 (6.61)
<b>Business Administration</b>	101	439.57 (18.90)	110.73 (6.14)	115.26 (7.71)	112.99 (6.02)	113.14 (6.19)	114.00 (6.05)	111.64 (6.47)	114.18 (6.50)

## Gender

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>Male</b>	234	441.38 (22.18)	111.10 (6.86)	115.85 (8.33)	113.26 (6.16)	113.70 (6.62)	114.09 (7.18)	112.55 (6.88)	114.68 (7.17)
<b>Female</b>	518	438.04 (18.20)	110.19 (5.90)	116.05 (6.97)	113.66 (5.31)	110.71 (5.89)	114.23 (6.19)	111.81 (6.00)	114.04 (6.09)

## GPA

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>None yet, entering freshman</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>3.50 - 4.00</b>	234	449.37 (20.14)	113.48 (6.59)	119.41 (7.40)	115.93 (5.64)	114.04 (6.02)	117.10 (6.85)	115.03 (6.38)	116.97 (6.84)
<b>3.00 - 3.49</b>	249	439.90 (18.59)	110.58 (5.98)	115.96 (7.19)	113.83 (5.43)	112.13 (6.35)	114.32 (6.30)	111.90 (6.30)	114.39 (6.30)
<b>2.50 - 2.99</b>	228	430.73 (15.26)	107.93 (4.83)	113.35 (6.76)	111.58 (4.87)	109.57 (5.43)	111.70 (5.38)	109.82 (5.20)	111.98 (5.36)
<b>2.00 - 2.49</b>	65	427.63 (13.13)	107.92 (4.65)	112.11 (5.13)	110.69 (4.67)	108.77 (5.88)	110.82 (4.54)	109.28 (4.55)	111.77 (4.82)
<b>1.00 - 1.99</b>	6	435.83 (18.33)	109.33 (4.03)	116.67 (7.54)	114.67 (5.59)	107.83 (4.74)	115.50 (4.54)	110.67 (5.28)	113.50 (6.40)

## Hours Working

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>0</b>	235	440.91 (19.62)	110.85 (6.34)	116.06 (7.78)	113.47 (6.04)	113.21 (6.54)	114.60 (6.54)	112.15 (6.41)	114.50 (7.06)
<b>1 - 15</b>	167	439.94 (19.90)	110.69 (6.19)	115.83 (7.87)	113.65 (5.49)	112.14 (6.25)	114.10 (7.32)	112.18 (6.27)	114.41 (6.07)
<b>16 - 30</b>	181	438.24 (18.70)	110.14 (6.06)	115.45 (7.32)	113.98 (5.30)	111.14 (5.89)	113.58 (6.02)	111.78 (6.21)	113.80 (6.40)
<b>more than 30</b>	199	436.68 (19.37)	110.04 (6.06)	116.24 (6.76)	113.17 (5.39)	109.83 (5.70)	114.02 (6.09)	111.88 (6.17)	114.17 (5.99)

## Enrollment Status

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>Full Time</b>	708	439.34 (19.68)	110.50 (6.24)	115.87 (7.54)	113.61 (5.65)	111.88 (6.35)	114.10 (6.53)	111.99 (6.34)	114.27 (6.51)
<b>Part Time</b>	74	435.86 (17.12)	109.97 (5.57)	116.32 (6.57)	112.92 (5.09)	109.41 (4.76)	114.19 (6.21)	112.09 (5.63)	113.89 (5.75)

## Ethnicity

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>African American</b>	212	427.29 (12.48)	107.16 (4.34)	112.80 (5.55)	111.51 (4.45)	107.42 (3.87)	110.98 (4.56)	109.35 (4.57)	111.25 (4.87)
<b>Black Hispanic</b>	15	431.20 (15.80)	107.67 (4.73)	113.60 (7.09)	112.07 (5.13)	109.67 (4.91)	111.07 (4.25)	109.07 (4.58)	112.80 (6.41)
<b>Hispanic</b>	10	439.00 (15.49)	113.00 (6.31)	116.90 (6.55)	113.40 (4.48)	109.20 (4.26)	115.30 (6.91)	113.20 (6.37)	115.80 (5.62)
<b>Latino</b>	2	455.50 (5.50)	115.00 (4.00)	121.00 (2.00)	116.00 (1.00)	118.50 (5.50)	114.00 (0.00)	117.00 (1.00)	122.50 (3.50)
<b>American Indian or Alaskan Native</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Other/Decline</b>	26	432.31 (21.66)	108.58 (6.50)	113.92 (7.76)	109.81 (7.07)	111.77 (6.22)	112.42 (6.66)	111.19 (5.97)	111.81 (7.01)
<b>Asian, Asian American or Pacific Islander</b>	68	428.56 (14.13)	107.26 (4.74)	109.00 (5.34)	106.63 (4.98)	117.31 (6.86)	110.07 (5.12)	107.49 (4.20)	109.63 (5.29)
<b>White</b>	449	446.70 (19.23)	112.61 (6.18)	118.58 (7.23)	115.82 (4.70)	112.86 (5.93)	116.37 (6.55)	114.04 (6.43)	116.46 (6.22)

## Credit Hours

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>None, entering freshman</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Fewer than 30 semester hours or fewer than 45 quarter hours</b>	9	435.22 (19.15)	108.22 (4.87)	116.89 (7.26)	112.56 (7.01)	109.56 (6.50)	113.33 (5.94)	111.78 (6.34)	113.89 (6.47)
<b>30 - 60 semester hours or 45 - 90 quarter hours</b>	142	435.43 (17.78)	109.36 (5.67)	114.89 (7.49)	113.25 (5.42)	109.95 (5.38)	113.28 (6.36)	111.16 (5.69)	113.20 (6.06)
<b>61 - 90 semester hours or 91 - 145 quarter hours</b>	495	440.53 (19.85)	110.79 (6.33)	116.20 (7.42)	113.97 (5.51)	112.21 (6.27)	114.43 (6.59)	112.29 (6.44)	114.46 (6.55)
<b>More than 90 semester hours or more than 145 quarter hours</b>	136	437.45 (19.17)	110.48 (6.07)	115.89 (7.45)	112.40 (5.81)	111.49 (6.69)	113.84 (6.28)	111.87 (6.15)	114.53 (6.32)

## Curriculum Completed

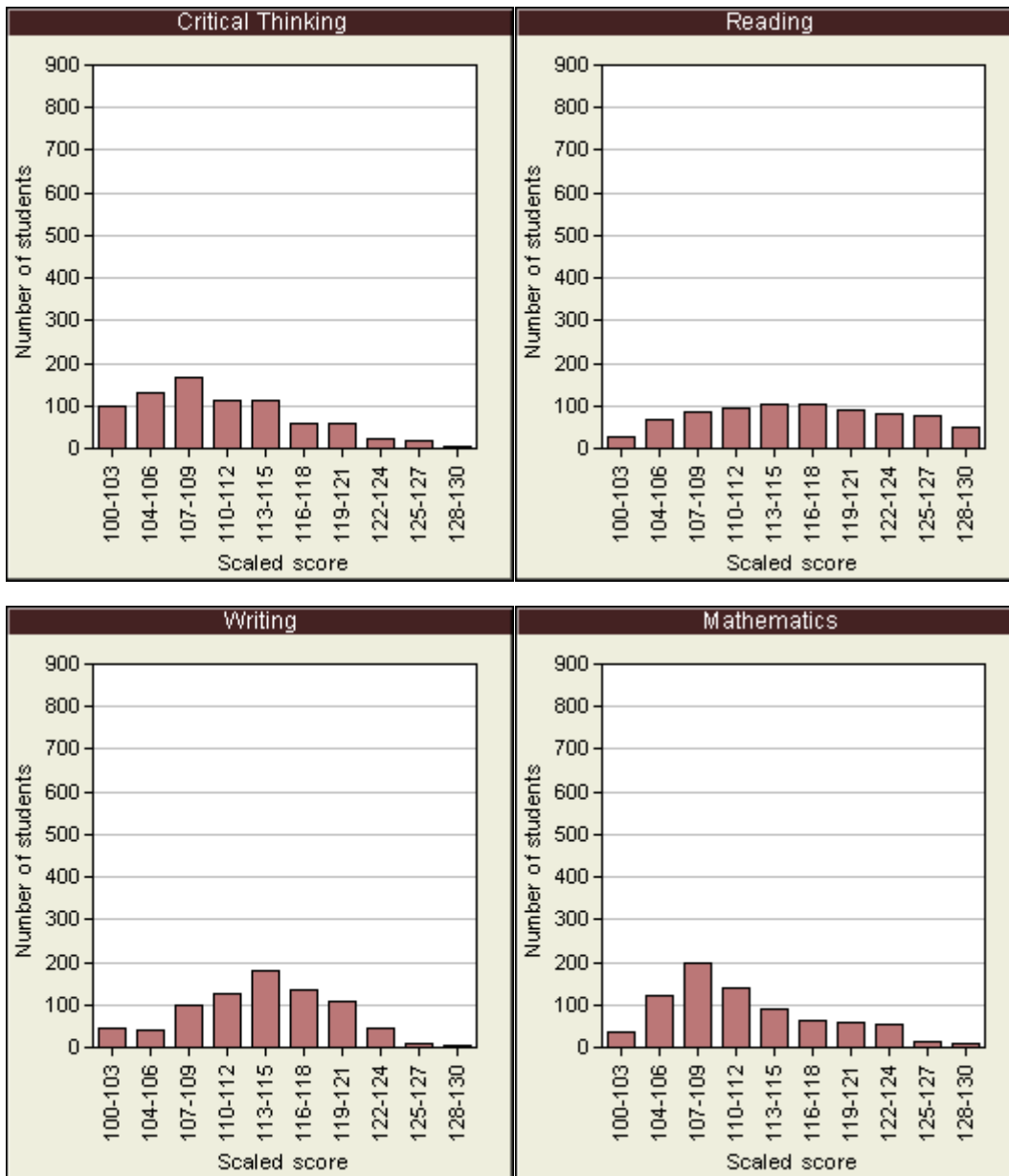
	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	782	439.01 (19.48)	110.45 (6.18)	115.92 (7.45)	113.55 (5.60)	111.64 (6.26)	114.11 (6.50)	112.00 (6.28)	114.24 (6.44)
<b>None</b>	15	428.40 (11.90)	106.60 (2.89)	111.67 (6.13)	109.73 (5.67)	111.13 (5.56)	111.33 (4.67)	108.13 (3.70)	110.00 (4.32)
<b>About 25%</b>	18	433.00 (23.57)	109.83 (6.87)	112.89 (8.08)	110.39 (8.51)	111.56 (6.18)	112.00 (6.70)	111.17 (6.41)	113.06 (7.19)
<b>About 50%</b>	75	434.15 (18.41)	109.11 (5.30)	113.73 (7.29)	111.99 (5.73)	111.07 (6.34)	112.25 (6.24)	110.47 (5.92)	113.01 (5.87)
<b>About 75%</b>	387	438.67 (19.69)	110.41 (6.18)	115.69 (7.56)	113.67 (5.62)	111.42 (6.19)	114.04 (6.55)	111.96 (6.21)	114.00 (6.61)
<b>100%</b>	287	441.66 (18.95)	111.09 (6.34)	117.21 (7.05)	114.19 (5.06)	112.13 (6.34)	114.97 (6.39)	112.72 (6.39)	115.17 (6.21)



## Age

	Number	Total Score	Critical Thinking	Reading	Writing	Mathematics	Humanities	Social Sciences	Natural Sciences
<b>Total Group</b>	744	439.29 (19.53)	110.52 (6.22)	115.96 (7.52)	113.58 (5.64)	111.79 (6.26)	114.18 (6.54)	112.06 (6.31)	114.28 (6.50)
<b>&lt;20</b>	25	456.64 (22.76)	114.52 (7.92)	120.60 (8.19)	117.84 (4.59)	116.64 (6.51)	117.44 (8.29)	116.12 (7.50)	118.88 (7.32)
<b>20 - 29</b>	587	439.68 (19.51)	110.52 (6.25)	115.75 (7.70)	113.65 (5.72)	112.28 (6.26)	114.07 (6.68)	111.99 (6.32)	114.22 (6.59)
<b>30 - 39</b>	73	435.29 (14.66)	110.11 (5.12)	116.19 (5.93)	113.04 (4.50)	108.82 (4.67)	114.14 (4.84)	111.63 (5.48)	114.14 (5.44)
<b>40 - 49</b>	41	434.54 (18.61)	109.85 (5.64)	116.56 (6.34)	111.73 (5.67)	109.05 (5.08)	114.44 (5.92)	112.20 (6.03)	113.76 (5.35)
<b>50 - 59</b>	16	429.06 (19.11)	108.19 (5.57)	113.88 (6.21)	111.81 (5.35)	107.19 (5.06)	112.88 (5.45)	110.38 (6.09)	111.38 (5.41)
<b>60 - 69</b>	2	431.50 (8.50)	106.50 (0.50)	115.00 (7.00)	113.50 (0.50)	109.50 (1.50)	111.00 (3.00)	110.00 (0.00)	112.50 (5.50)
<b>&gt;=70</b>	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

## Scaled Score Distributions Skills Subscores



## Summary of Proficiency Classifications

Skill Dimension	Proficiency Classification		
	Proficient	Marginal	Not Proficient
<b>Reading, Level 1</b>	52%	22%	26%
<b>Reading, Level 2</b>	26%	16%	58%
<b>Critical Thinking</b>	5%	11%	84%
<b>Writing, Level 1</b>	58%	26%	16%
<b>Writing, Level 2</b>	18%	31%	51%
<b>Writing, Level 3</b>	5%	23%	72%
<b>Mathematics, Level 1</b>	39%	26%	35%
<b>Mathematics, Level 2</b>	23%	19%	59%
<b>Mathematics, Level 3</b>	5%	14%	81%

## Comparative Data Analysis

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The following considerations should be kept in mind when interpreting comparative data:

- This data should be considered comparative rather than normative because the institutions included in the data do not represent proportionally the various types of higher education institutions. The data are drawn entirely from institutions that choose to use ETS Proficiency Profile. Such a self-selected sample may not be representative of all institutions.
- The number of students tested and sampling procedures vary from one institution to another. Therefore, it is impossible to verify that the students tested at each institution are representative of all that institution's students.
- The tables report data for institutions that have tested 30 or more students at the selected class level or number of credit hours attained. Institutions with fewer than 30 test takers at that class level are excluded from these calculations.

\*The score distribution used to compute these statistics has been modified, to prevent the statistics from being dominated by a few very large institutions. If an institution contributed more than 4700 students to this data set, the score of each of its students has been weighted by the fraction  $4700/n$ , where  $n$  is the number of students from that institution. For example, if an institution tested 9400 students, the score of each of its students would receive a weight of  $4700/9400 = 1/2$ . In computing the statistics, each of its students would count only half as much as a student from an institution that tested 4700 or fewer students. Therefore, an institution testing 9400 students would influence the statistics just as much as if it had tested only 4700 students.

### Institution List

School Name	Number of Students
Alabama A&M University, AL	2,253
Alabama State University, AL	5,123
Armstrong Atlantic State University, GA	4,866
Athens State University, AL	2,889
Clayton State University, GA	3,133
College of Coastal Georgia, GA	623
Darton College, GA	842
Mississippi Valley State University, MS	457
University of Central Arkansas, AR	312
University of North Florida, FL	2,821
University of South Alabama, AL	701
Total	24,020

## Comparative Subscores

\*Please note that all calculations refer to the eleven university's being compared unless labeled differently.

Critical Thinking	Troy University	Reading	Troy University	Writing	Troy University	Math	Troy University	Total Scores	Troy University
110.60	110.45	116.60	115.92	113.20	113.55	111.90	111.64	439.10	439.01

Humanities	Troy University	Social Sciences	Troy University	Natural Sciences	Troy University
113.90	114.11	112.40	112.00	114.20	114.24

## Troy Global (Onsite), and eCampus (Online) Distance Learning

### Troy Global (Onsite), and eCampus (Online) Distance Learning Descriptive Statistics

	N	Minimum	Maximum	Std. Deviation	Troy Mean	National Mean
Total Score	113	400.0	488.0	21.7982	<b>439.496</b>	<b>442.51</b>
Critical Thinking	113	100	126	6.366	<b>111.75</b>	<b>111.35</b>
Reading	113	102	130	7.390	<b>118.04</b>	<b>117.37</b>
Writing	113	100	125	5.703	<b>113.09</b>	<b>113.92</b>
Mathematics	113	100	127	6.704	<b>110.42</b>	<b>112.97</b>
Humanities	113	101	130	7.197	<b>114.76</b>	<b>114.40</b>
Social Sciences	113	100	130	6.285	<b>113.53</b>	<b>113.08</b>
Natural Sciences	113	100	130	6.299	<b>115.19</b>	<b>114.75</b>

### Definitions

- Mean, Arithmetic mean.
- The sum of a list of numbers, divided by the number of numbers.
- Median.
- "Middle value" of a list. The smallest number such that at least half the numbers in the list are no greater than it. If the list has an odd number of entries, the median is the middle entry in the list after sorting the list into increasing order. If the list has an even number of entries, the median is the smaller of the two

middle numbers after sorting. The median can be estimated from a histogram by finding the smallest number such that the area under the histogram to the left of that number is 50%.

- Standard Deviation (SD).
- The standard deviation of a set of numbers is the rms of the set of deviations between each element of the set and the mean of the set. See also sample standard deviation.
- Sample Sum.
- The sum of a random sample from a population. The expected value of the sample sum is the sample size times the population mean. For sampling with replacement, the SE of the sample sum is the population standard deviation, times the square-root of the sample size. For sampling without replacement, the SE of the sample sum is the finite-population correction  $((N-n)/(N-1))^{1/2}$  times the SE of the sample sum for sampling with replacement, with  $N$  the size of the population and  $n$  the size of the sample.
- **Kurtosis tells you how tall and sharp the central peak is**, relative to a standard bell curve.
- Variance, population variance
- The variance of a list is the square of the standard deviation of the list, that is, the average of the squares of the deviations of the numbers in the list from their mean. The variance of a random variable  $X$ ,  $\text{Var}(X)$ , is the expected value of the squared difference between the variable and its expected value:  $\text{Var}(X) = E((X - E(X))^2)$ . The variance of a random variable is the square of the standard error (SE) of the variable.
- **Harmonic mean** (sometimes called the **subcontrary mean**) is one of several kinds of average. Typically, it is appropriate for situations when the average of rates is desired.
- The harmonic mean  $H$  of the positive real numbers  $x_1, x_2, \dots, x_n > 0$  is defined to be
- $$H = \frac{n}{\frac{1}{x_1} + \frac{1}{x_2} + \dots + \frac{1}{x_n}} = \frac{n}{\sum_{i=1}^n \frac{1}{x_i}} = \frac{n \prod_{j=1}^n x_j}{\sum_{i=1}^n \prod_{j=1}^n x_j / x_i}$$
- Geometric Distribution.
- The geometric distribution describes the number of trials up to and including the first success, in independent trials with the same probability of success. The geometric distribution depends only on the single parameter  $p$ , the probability of success in each trial. For example, the number of times one must toss a fair coin until the first time the coin lands heads has a geometric distribution with parameter  $p = 50\%$ . The geometric distribution assigns probability  $p \times (1-p)^{k-1}$  to the event that it takes  $k$  trials to the first success. The expected value of the geometric distribution is  $1/p$ , and its SE is  $(1-p)^{1/2}/p$ .
- Geometric Mean.
- The geometric mean of  $n$  numbers  $\{x_1, x_2, x_3, \dots, x_n\}$  is the  $n$ th root of their product:
- $(x_1 \times x_2 \times x_3 \times \dots \times x_n)^{1/n}$ .

## Appendix I

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### MAPP Levels

#### Reading and Critical Thinking

##### *Level 1*

To be considered proficient at Level 1, students should be able to:

- recognize factual material explicitly presented in a reading passage
- understand the meaning of particular words or phrases in the context of a reading passage

##### *Level 2*

To be considered proficient at Level 2, students should be able to:

- synthesize material from different sections of a passage
- recognize valid inferences derived from material in the passage
- identify accurate summaries of a passage or of significant sections of the passage
- understand and interpret figurative language
- discern the main idea, purpose or focus of a passage or a significant portion of the passage

##### *Level 3*

To be considered proficient at Level 3, students should be able to:

- evaluate competing causal explanations
- evaluate hypotheses for consistency with known facts
- determine the relevance of information for evaluating an argument or conclusion
- determine whether an artistic interpretation is supported by evidence contained in a work
- evaluate the appropriateness of procedures for investigating a question of causation
- evaluate data for consistency with known facts, hypotheses or methods
- recognize flaws and inconsistencies in an argument

### Writing

##### *Level 1*

To be considered proficient at Level 1, students should be able to:



- recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions)
- recognize appropriate transition words
- recognize incorrect word choice
- order sentences in a paragraph
- order elements in an outline

### *Level 2*

To be considered proficient at Level 2, students should be able to:

- incorporate new material into a passage
- recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions) when these elements are complicated by intervening words or phrases
- combine simple clauses into single, more complex combinations
- recast existing sentences into new syntactic combinations

### *Level 3*

To be considered proficient at Level 3, students should be able to:

- discriminate between appropriate and inappropriate use of parallelism
- discriminate between appropriate and inappropriate use of idiomatic language
- recognize redundancy
- discriminate between correct and incorrect constructions
- recognize the most effective revision of a sentence

## Mathematics

### *Level 1*

To be considered proficient at Level 1, students should be able to:

- Solve word problems that would most likely be solved by arithmetic and do not involve conversion of units or proportionality. These problems can be multistep if the steps are repeated rather than embedded.
- Solve problems involving the informal properties of numbers and operations, often involving the Number Line, including positive and negative numbers, whole numbers and fractions (including conversions of common fractions to percent, such as converting  $\frac{1}{4}$  to 25 percent).
- Solve problems requiring a general understanding of square roots and the squares of numbers.
- Solve a simple equation or substitute numbers into an algebraic expression.
- Find information from a graph. This task may involve finding a specified piece of information in a graph that also contains other information.

### *Level 2*

To be considered proficient at Level 2, students should be able to:

- Solve arithmetic problems with some complications, such as complex wording, maximizing or minimizing and embedded ratios. These problems include algebra problems that can be solved by arithmetic (the answer choices are numeric).
- Simplify algebraic expressions, perform basic translations, and draw conclusions from algebraic equations and inequalities. These tasks are more complicated than solving a simple equation, though they may be approached arithmetically by substituting numbers.
- Interpret a trend represented in a graph, or choose a graph that reflects a trend.
- Solve problems involving sets; problems have numeric answer choices.

### *Level 3*

To be considered proficient at Level 3, students should be able to:

- solve word problems that would be unlikely to be solved by arithmetic; the answer choices are either algebraic expressions or numbers that do not lend themselves to back-solving
- solve problems involving difficult arithmetic concepts, such as exponents and roots other than squares and square roots, and percent of increase or decrease
- generalize about numbers (e.g., identify the values of  $(x)$  for which an expression increases as  $(x)$  increases)
- Solve problems requiring an understanding of the properties of integers, rational numbers, etc.
- interpret a graph in which the trends are to be expressed algebraically or one of the following is involved: exponents and roots other than squares and square roots, percent of increase or decrease
- solve problems requiring insight or logical reasoning

## Appendix II (Technical Information)

	Total_scaled_score	Critical_Thinking_scaled_score	Reading_scaled_score	Writing_scaled_score	Math_scaled_score
<b>N of Cases</b>	812	812	812	812	812
<b>Minimum</b>	400.000	100.000	100.000	100.000	100.000
<b>Maximum</b>	500.000	128.000	130.000	130.000	130.000
<b>Range</b>	100.000	28.000	30.000	30.000	30.000
<b>Sum</b>	355,764.000	89,450.000	93,927.000	92,010.000	90,456.000
<b>Median</b>	435.000	109.000	116.000	114.000	110.000
<b>Arithmetic Mean</b>	438.133	110.160	115.674	113.313	111.399
<b>Standard Error of Arithmetic Mean</b>	0.693	0.219	0.264	0.200	0.222
<b>95.0% Lower Confidence Limit</b>	436.773	109.731	115.156	112.920	110.963
<b>95.0% Upper Confidence Limit</b>	439.493	110.589	116.191	113.706	111.835
<b>Trimmed Mean (10%, Two Sided)</b>	436.647	109.711	115.644	113.492	110.903
<b>No. of Observations Trimmed Out</b>	164	164	164	164	164
<b>Geometric Mean</b>	437.696	109.988	115.429	113.168	111.224
<b>Harmonic Mean</b>	437.267	109.819	115.185	113.022	111.052
<b>Standard Deviation</b>	19.746	6.226	7.517	5.701	6.328
<b>Variance</b>	389.886	38.768	56.509	32.506	40.043
<b>Coefficient of Variation</b>	0.045	0.057	0.065	0.050	0.057
<b>Skewness(G1)</b>	0.659	0.611	0.031	-0.192	0.692
<b>Standard Error of Skewness</b>	0.086	0.086	0.086	0.086	0.086
<b>Kurtosis(G2)</b>	0.042	-0.174	-0.946	-0.171	-0.142
<b>Standard Error of Kurtosis</b>	0.171	0.171	0.171	0.171	0.171
<b>Shapiro-Wilk Statistic</b>	0.965	0.960	0.975	0.986	0.948
<b>Shapiro-Wilk p-value</b>	0.000	0.000	0.000	0.000	0.000
<b>Anderson-Darling Statistic</b>	8.757	9.009	4.803	3.185	15.610
<b>Adjusted Anderson-Darling Statistic</b>	8.765	9.018	4.807	3.188	15.624
<b>p-value</b>	<0.01	<0.01	<0.01	<0.01	<0.01

	Humanities_scaled_score	Social_Sciences_scaled_score	Natural_Sciences_scaled_score
<b>N of Cases</b>	812	812	812
<b>Minimum</b>	100.000	100.000	100.000
<b>Maximum</b>	130.000	128.000	130.000
<b>Range</b>	30.000	28.000	30.000
<b>Sum</b>	92,434.000	90,750.000	92,577.000
<b>Median</b>	113.000	110.000	114.000
<b>Arithmetic Mean</b>	113.835	111.761	114.011
<b>Standard Error of Arithmetic Mean</b>	0.231	0.221	0.228
<b>95.0% Lower Confidence Limit</b>	113.381	111.328	113.564
<b>95.0% Upper Confidence Limit</b>	114.289	112.194	114.459
<b>Trimmed Mean (10%, Two Sided)</b>	113.506	111.400	113.861
<b>No. of Observations Trimmed Out</b>	164	164	164
<b>Geometric Mean</b>	113.647	111.587	113.827
<b>Harmonic Mean</b>	113.460	111.415	113.644
<b>Standard Deviation</b>	6.591	6.287	6.496
<b>Variance</b>	43.445	39.529	42.201
<b>Coefficient of Variation</b>	0.058	0.056	0.057
<b>Skewness(G1)</b>	0.383	0.456	0.216
<b>Standard Error of Skewness</b>	0.086	0.086	0.086
<b>Kurtosis(G2)</b>	-0.566	-0.514	-0.508
<b>Standard Error of Kurtosis</b>	0.171	0.171	0.171
<b>Shapiro-Wilk Statistic</b>	0.973	0.966	0.985
<b>Shapiro-Wilk p-value</b>	0.000	0.000	0.000
<b>Anderson-Darling Statistic</b>	7.093	8.493	3.361
<b>Adjusted Anderson-Darling Statistic</b>	7.099	8.501	3.364
<b>p-value</b>	<0.01	<0.01	<0.01

## Model of Dataset

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Total scaled score = a

Critical Thinking scaled score = b

Reading scaled score = c

Writing scaled score = d

Math scaled score = e

Humanities scaled score = f

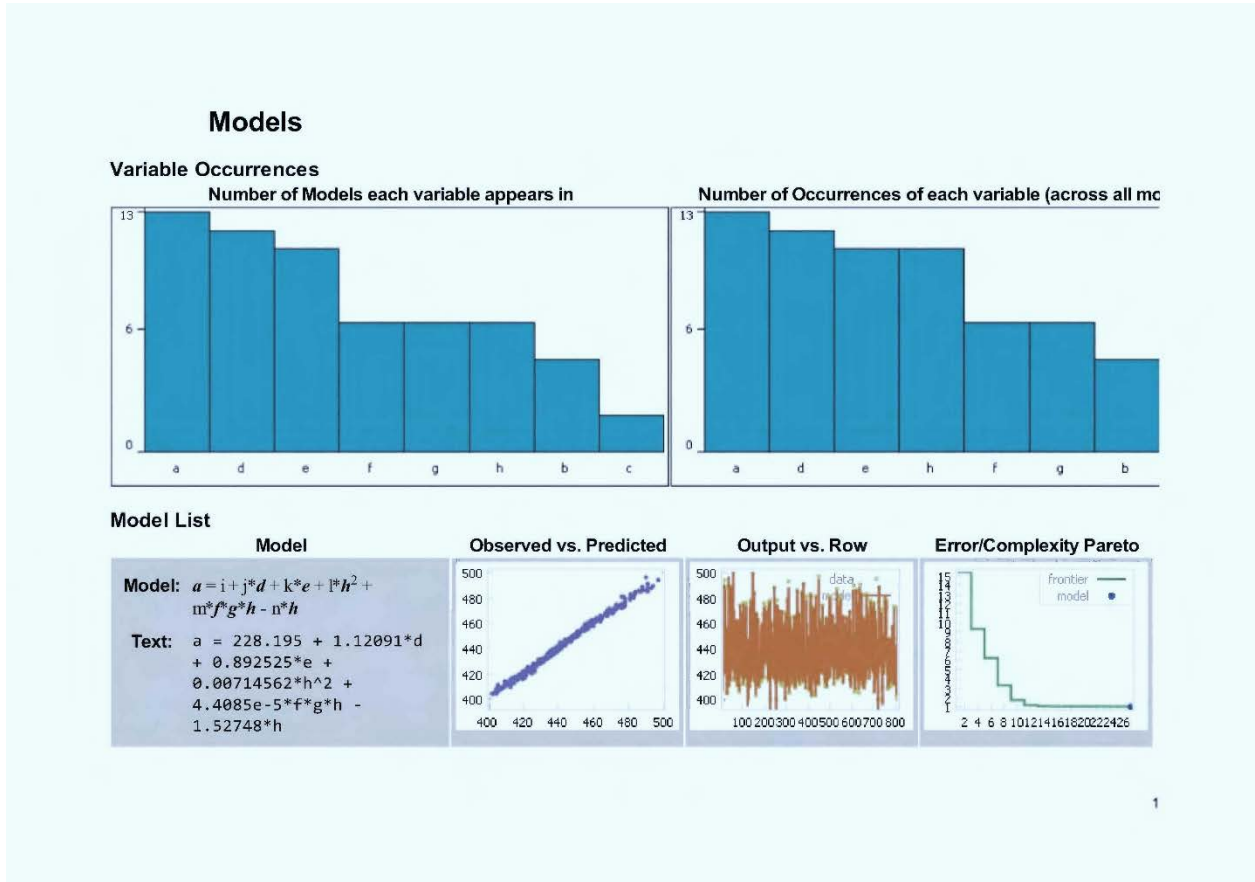
Social Sciences scaled score = g

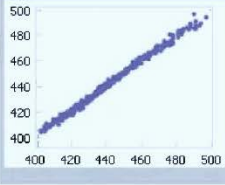
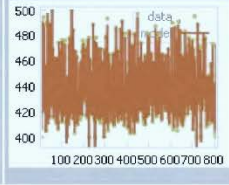
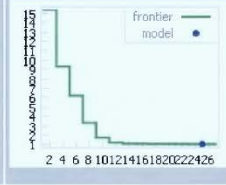
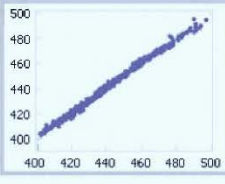
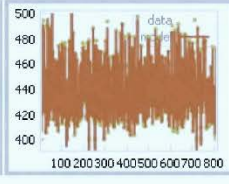
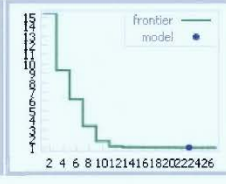
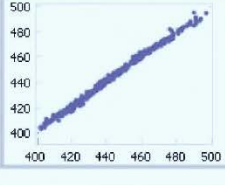
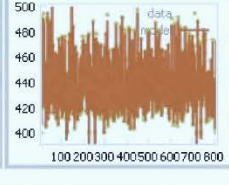
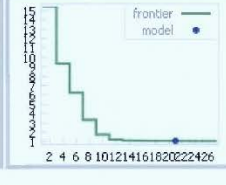
Natural Sciences scaled score = h

## Model:

$$a = 228.195 + 1.12091 * d + 0.892525 * e + 0.00714562 * h^2 + 4.4085e - 5 * f * g * h - 1.52748 * h$$

$$(Total\ scaled\ score) = 228.195 + 1.12091(Critical\ Thinking\ scaled\ score) + 0.892525(Math\ scaled\ score) + 0.00714562(Natural\ Sciences\ scaled\ score)^2 + 4.4085(Math\ scaled\ score) - 5(Humanities\ scaled\ score)(Social\ Sciences\ scaled\ score)(Natural\ Sciences\ scaled\ score) - 1.52748(Natural\ Sciences\ scaled\ score)$$



Model	Observed vs. Predicted	Output vs. Row	Error/Complexity Pareto
<p><b>Model:</b> <math>a = i + j*d + k*e + l*f*g + m*h^2 - n*h</math></p> <p><b>Text:</b> <math>a = 284.581 + 1.07655*d + 0.916227*e + 0.00523839*f*g + 0.0162329*h^2 - 3.06128*h</math></p>			
<p><b>Model:</b> <math>a = i + j*d + k*e + l*h*h + m*f*g*h</math></p> <p><b>Text:</b> <math>a = 140.7 + 1.09279*d + 0.919468*e + 0.000425119*b*h + 4.50341e-5*f*g*h</math></p>			
<p><b>Model:</b> <math>a = i + j*d + k*e + l*b + m*f*g*h</math></p> <p><b>Text:</b> <math>a = 137.643 + 1.09361*d + 0.928575*e + 0.0573106*b + 4.57097e-5*f*g*h</math></p>			

e	0.29394	100%	0.29394	0%	0
h	0.20381	100%	0.20381	0%	0
f	0.19149	100%	0.19149	0%	0
g	0.18607	100%	0.18607	0%	0
b	0.015245	100%	0.015245	0%	0

$a = 137.6 + 1.094*d + 0.9286*e + 0.05731*b + 4.571e-5*f*g*h$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
d	0.31554	100%	0.31554	0%	0
e	0.29727	100%	0.29727	0%	0
f	0.19466	100%	0.19466	0%	0
h	0.19156	100%	0.19156	0%	0
g	0.18914	100%	0.18914	0%	0
b	0.018052	100%	0.018052	0%	0

$a = 142.2 + 1.091*d + 0.9258*e + 4.732e-5*f*g*h$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
d	0.31457	100%	0.31457	0%	0
e	0.29627	100%	0.29627	0%	0
f	0.20144	100%	0.20144	0%	0
h	0.19823	100%	0.19823	0%	0

impact is.

**Details:** Given a model equation of the form  $z = f(x, y, \dots)$ , the influence metrics of  $x$  on  $z$  are defined as follows:

$$\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$$

**Sensitivity:**  $\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$ , evaluated at all input data points.

**% Positive:** The percent of data points where  $\frac{\partial z}{\partial x} > 0$

**% Negative:** The number of data points where  $\frac{\partial z}{\partial x} < 0$

$$\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$$

**Positive magnitude:**  $\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$ , at all points where  $\frac{\partial z}{\partial x} > 0$

$$\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$$

**Negative magnitude:**  $\left| \frac{\partial z}{\partial x} \right| \cdot \frac{\sigma(x)}{\sigma(z)}$ , at all points where  $\frac{\partial z}{\partial x} < 0$

where:

$\frac{\partial z}{\partial x}$  is the partial derivative of  $z$  with respect to  $x$ ,  
 $\sigma(x)$  is the standard deviation of  $x$  in the input

### Variable Sensitivity

$$a = 228.2 + 1.121*d + 0.8925*e + 0.007146*h^2 + 4.408e-5*f*g*h - 1.527*h$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
d	0.32358	100%	0.32358	0%	0
e	0.28593	100%	0.28593	0%	0
h	0.21856	100%	0.21856	0%	0
f	0.18786	100%	0.18786	0%	0
g	0.18254	100%	0.18254	0%	0

$$a = 284.6 + 1.077*d + 0.9162*e + 0.005238*f*g + 0.01623*h^2 - 3.061*h$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
d	0.31138	100%	0.31138	0%	0
e	0.294	100%	0.294	0%	0
h	0.21076	100%	0.21076	0%	0
f	0.19567	100%	0.19567	0%	0
g	0.1901	100%	0.1901	0%	0

$$a = 140.7 + 1.093*d + 0.9195*e + 0.0004251*b*h + 4.503e-5*f*g*h$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
d	0.31481	100%	0.31481	0%	0

Explanation of terms
<p><b>Sensitivity:</b> The relative impact within this model that a variable has on the target variable.</p> <p><b>% Positive:</b> The likelihood that increasing this variable will increase the target variable. If % positive = 70%, then 70% of the time increases in this variable lead to increases in the target variable (but the remaining 30% of the time it either decreases it or has no impact). If % positive = 0%, increases in this variable will not increase the target variable.</p> <p><b>Positive Magnitude:</b> When increases in this variable lead to increases in the target variable, this is generally how big the positive impact is.</p> <p><b>% Negative:</b> The likelihood that increasing this variable will decrease the target variable. If % negative = 60%, then 60% of the time increases in this variable lead to decreases in the target variable (but the remaining 40% of the time it either increases it or has no impact). If % negative = 0%, increases in this variable will not decrease the target variable.</p> <p><b>Negative Magnitude:</b> When increases in this variable lead to decreases in the target variable, this is generally how big the negative</p>



g	0.19574	100%	0.19574	0%	0
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$$a = 138.2 + e + 1.061 \cdot d + 4.684e-5 \cdot f \cdot g \cdot h$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
e	0.31859	100%	0.31859	0%	0
d	0.30455	100%	0.30455	0%	0
f	0.19851	100%	0.19851	0%	0
h	0.19535	100%	0.19535	0%	0
g	0.19288	100%	0.19288	0%	0

$$a = 143.5 + d + e + 4.789e-5 \cdot f \cdot g \cdot h$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude
e	0.31964	100%	0.31964	0%	0
d	0.28799	100%	0.28799	0%	0
f	0.20363	100%	0.20363	0%	0
h	0.20038	100%	0.20038	0%	0
g	0.19786	100%	0.19786	0%	0

$$a = 226.7 + d + 6.853e-5 \cdot b \cdot c \cdot e$$

Variable	Sensitivity	% Positive	Positive Magnitude	% Negative	Negative Magnitude

data,  
 $\sigma(z)$  is the standard deviation of z,  
 $|x|$  denotes the absolute value of x and  
 $\bar{x}$  denotes the mean of x.

Size:	27
Error:	1.05994
Rendered:	$\alpha = 228 + 1.12d + 0.893e + 0.00715h^2 + 4.41e-5fgh - 1.53h$
Text:	$a = 228.1949091 + 1.120908611*d + 0.8925251265*e + 0.007145619769*h^2 + 4.408498293e-5*f*g*h - 1.527478376*h$

Size:	25
Error:	1.07729
Rendered:	$\alpha = 285 + 1.08d + 0.916e + 0.00524fg + 0.0162h^2 - 3.06h$
Text:	$a = 284.5807881 + 1.076546911*d + 0.9162272452*e + 0.005238392189*f*g + 0.01623289157*h^2 - 3.061278088*h$

Size:	23
Error:	1.07766
Rendered:	$\alpha = 141 + 1.09d + 0.919e + 0.000425bh + 4.5e-5fgh$
Text:	$a = 140.7000996 + 1.092786561*d + 0.9194675686*e + 0.000425118874*b*h + 4.503414814e-5*f*g*h$

Size:	21
Error:	1.08776
Rendered:	$\alpha = 138 + 1.09d + 0.929e + 0.0573b + 4.57e-5fgh$
Text:	$a = 137.643112 + 1.09360959*d + 0.928575118*e + 0.05731055963*b + 4.570970388e-5*f*g*h$

Size:	17
Error:	1.09467
Rendered:	$\alpha = 142 + 1.09d + 0.926e + 4.73e-5fgh$

# Index

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<p>&lt;</p> <p>&lt;20 years, <i>1</i></p> <p>&gt;</p> <p>&gt;=70 years, <i>1</i></p> <p>0</p> <p>0 - 15 hours transferred, <i>1</i></p> <p>0 hours, <i>1</i></p> <p>1</p> <p>1 - 15 hours, <i>1</i></p> <p>1.00 - 1.99, <i>1</i></p> <p>100%, <i>1</i></p> <p>16 - 30 hours, <i>1</i></p> <p>16 - 30 hours transferred, <i>1</i></p> <p>2</p> <p>2.00 - 2.49, <i>1</i></p> <p>2.50 - 2.99, <i>1</i></p> <p>20 - 29 years, <i>1</i></p> <p>2012-2013, <i>1</i></p> <p>3</p> <p>3.00 - 3.49, <i>1</i></p> <p>3.50 - 4.00, <i>1</i></p> <p>30 - 39 years, <i>1</i></p> <p>30 - 60 semester hours, <i>1</i></p> <p>30 - 60 semester hours or 45 - 90 quarter hours, <i>1</i></p> <p>4</p> <p>40 - 49 years, <i>1</i></p> <p>5</p> <p>50 - 59 years, <i>1</i></p>	<p>6</p> <p>60 - 69 years, <i>1</i></p> <p>60-89 hours, <i>1</i></p> <p>61 - 90 semester hours or 91 - 145 quarter hours, <i>1</i></p> <p><b>A</b></p> <p>About 25%, <i>1</i></p> <p>About 50%, <i>1</i></p> <p>About 75%, <i>1</i></p> <p>ABSTRACT, <i>1</i></p> <p>Accounting, <i>1</i></p> <p>achieving, <i>1</i></p> <p>African American, <i>1</i></p> <p>Age, <i>1</i></p> <p>Agriculture, <i>1</i></p> <p>Alabama A&amp;M University, AL, <i>1</i></p> <p>Alabama State University, AL, <i>1</i></p> <p>algebra, <i>1</i></p> <p>algebraic expression, <i>1</i></p> <p>Allied Health, <i>1</i></p> <p>American Indian or Alaskan Native, <i>1</i></p> <p>Analysis, <i>1</i></p> <p>Anthropology &amp; Archeology, <i>1</i></p> <p>Appendix, <i>1</i></p> <p>Architecture &amp; Environmental Design, <i>1</i></p> <p>arithmetic, <i>1</i></p> <p>Arithmetic, <i>1</i></p> <p>Armstrong Atlantic State University, GA, <i>1</i></p> <p>artistic interpretation, <i>1</i></p> <p>Asian, Asian American or Pacific Islander, <i>1</i></p> <p>Associates, <i>1</i></p> <p>Athens State University, AL, <i>1</i></p> <p>average, <i>1</i></p> <p><b>B</b></p> <p>Banking &amp; Finance, <i>1</i></p> <p>basic grammatical elements, <i>1</i></p> <p>Biological Sciences, <i>1</i></p> <p>Black Hispanic, <i>1</i></p> <p>Business Administration, <i>1</i></p>
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