

Course Placement Service Report



SOUTHERN ARKANSAS UNIVERSITY (0142)
Magnolia, AR

Placement Group: First-time Students

Subject Area: Science

Data Cohort: 20142015

Date of Report: August 10, 2016

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BIO&LAB/PHYS SCI

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Course Placement Report

Information for Making Placement Decisions

Placement Group: First-time Students

Summary of Placement Variables

This table summarizes the placement variables used in requested analyses for each reference course. The table shows number of students, mean value, and standard deviation.

The descriptive statistics for course completers are based on students who receive A-F grades. However, if you chose to treat W grades as unsuccessful outcomes, the statistics will also include students with W grades.

| | | First-time Students | | | Students who completed course | | |
|------------------|--|---------------------|-------------|------------|-------------------------------|-------------|------------|
| Reference course | Placement variable | N | Mean | SD | N | Mean | SD |
| BIO&LAB/PHYS SCI | ACT Science Score | 667 | 20.7 | 4.6 | 127 | 22.4 | 3.8 |
| | High School Natural Science Grade Avg | 589 | 3.2 | 0.7 | 117 | 3.4 | 0.7 |
| | ACT Science Score and High School Natural Science Grade Avg | 589 | 20.9 3.2 | 4.6 0.7 | 117 | 22.5 3.4 | 3.9 0.7 |

Summary of Course Outcomes

This table summarizes the course outcomes used in requested analyses for each reference course.

The table shows number of students, mean course grade, standard deviation, percent B or higher, percent C or higher, total of just W and I grades, and W grades not treated as successful.

| | | Grades used in analysis | | | | | | |
|------------------|---|-------------------------|------|-----|---------------------|---------------------|-------------------------|------------------------------------|
| Reference course | Placement variable | N | Mean | SD | Percent B or higher | Percent C or higher | Total of W and I grades | W grades treated as not successful |
| BIO&LAB/PHYS SCI | ACT Science Score | 127 | 2.3 | 1.3 | 47 | 76 | 0 | Yes |
| | High School Natural Science Grade Avg | 117 | 2.3 | 1.3 | 49 | 76 | 0 | Yes |
| | ACT Science Score and High School Natural Science Grade Avg | 117 | 2.3 | 1.3 | 49 | 76 | 0 | Yes |

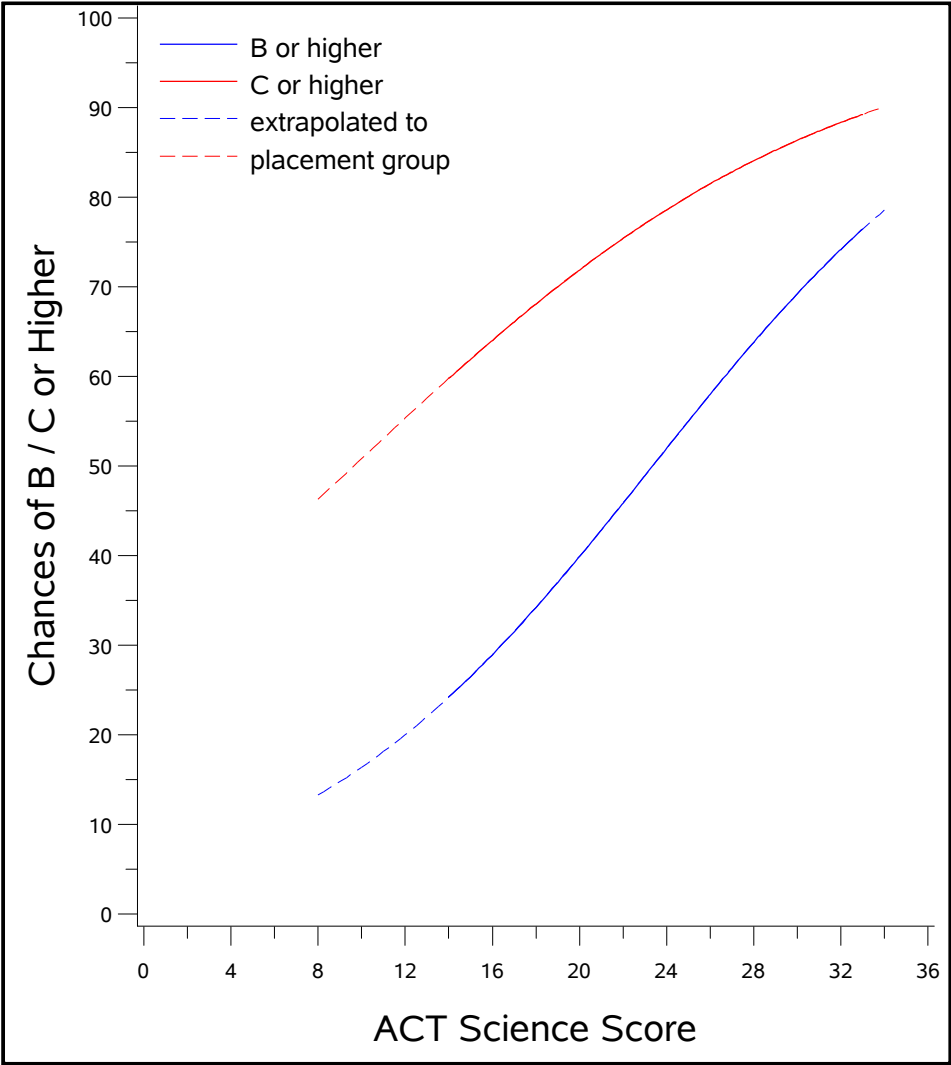
This table and graph report students' chances of achieving a B / C or higher in BIO&LAB/PHYS SCI, given their ACT Science Score. For example, the chance that a student with an ACT Science Score of 21 would obtain a B or higher in BIO&LAB/PHYS SCI is 43%.

If present, the boldface scores labeled as Opt. B and Opt. C in the table show the cutoff scores that are associated with the maximum accuracy rate. The information in the table and graph can be used to advise students about their chances of success in BIO&LAB/PHYS SCI.

Chance of Success in BIO&LAB/PHYS SCI,
Given ACT Science Score

| ACT Science Score | | Chance of success (B or higher) | Chance of success (C or higher) |
|-------------------|-----------|------------------------------------|------------------------------------|
| Opt. B | 34 | 79 | 90 |
| | 33 | 76 | 89 |
| | 32 | 74 | 88 |
| | 31 | 72 | 87 |
| | 30 | 69 | 86 |
| | 29 | 67 | 85 |
| | 28 | 64 | 84 |
| | 27 | 61 | 83 |
| | 26 | 58 | 82 |
| | 25 | 55 | 80 |
| | 24 | 52 | 79 |
| | 23 | 49 | 77 |
| | 22 | 46 | 75 |
| | 21 | 43 | 74 |
| | 20 | 40 | 72 |
| | 19 | 37 | 70 |
| | 18 | 34 | 68 |
| | 17 | 32 | 66 |
| | 16 | 29 | 64 |
| Opt. C | 15 | 27 | 62 |
| | 14 | 24 | 60 |
| | 13 | 22 | 58 |
| | 12 | 20 | 55 |
| | 11 | 18 | 53 |
| | 10 | 16 | 51 |
| | 8 | 13 | 46 |

Chance of Success in BIO&LAB/PHYS SCI,
Given ACT Science Score



Placement Information for BIO&LAB/PHYS SCI Using ACT Science Score

This table shows the effects of using different ACT Science Score cutoffs in BIO&LAB/PHYS SCI. For example, if you were to require students to have an ACT Science Score of at least 21 to be placed into BIO&LAB/PHYS SCI, then you would expect:

- about 48% of your students would be placed in a lower-level course
- about 60% of your placement decisions would be correct
- about 52% of those placed in BIO&LAB/PHYS SCI would obtain a B or higher

| ACT Science Score | | | B or higher | | C or higher | |
|-------------------|----|--------------------------------------|---------------|--------------|---------------|--------------|
| | | Percent placed in lower-level course | Accuracy rate | Success rate | Accuracy rate | Success rate |
| Opt. B | 34 | 99 | 58 | 79 | 28 | 90 |
| | 33 | 99 | 58 | 78 | 28 | 90 |
| | 32 | 98 | 58 | 76 | 29 | 89 |
| | 31 | 97 | 59 | 74 | 30 | 88 |
| | 30 | 96 | 59 | 73 | 31 | 88 |
| | 29 | 95 | 60 | 71 | 32 | 87 |
| | 28 | 93 | 60 | 70 | 33 | 87 |
| | 27 | 90 | 61 | 67 | 35 | 85 |
| | 26 | 88 | 61 | 65 | 36 | 85 |
| | 25 | 82 | 62 | 62 | 40 | 83 |
| | 24 | 76 | 62 | 59 | 43 | 82 |
| | 23 | 66 | 62 | 56 | 49 | 81 |
| | 22 | 57 | 61 | 54 | 53 | 79 |
| | 21 | 48 | 60 | 52 | 57 | 79 |
| | 20 | 40 | 58 | 51 | 61 | 78 |
| | 19 | 31 | 56 | 49 | 65 | 77 |
| | 18 | 26 | 54 | 48 | 66 | 76 |
| | 17 | 18 | 51 | 46 | 69 | 75 |
| | 16 | 13 | 50 | 45 | 70 | 75 |
| | 15 | 9 | 48 | 44 | 71 | 74 |
| Opt. C | 14 | 6 | 46 | 44 | 72 | 74 |
| | 13 | 4 | 45 | 43 | 72 | 73 |
| | 12 | 2 | 44 | 43 | 72 | 73 |
| | 11 | 1 | 43 | 43 | 72 | 72 |
| | 10 | 0 | 42 | 42 | 72 | 72 |
| | 8 | | 42 | 42 | 72 | 72 |

If present, the shaded rows highlight the optimal cutoff scores (i.e., those that lead to the highest percentage of correct placement decisions).

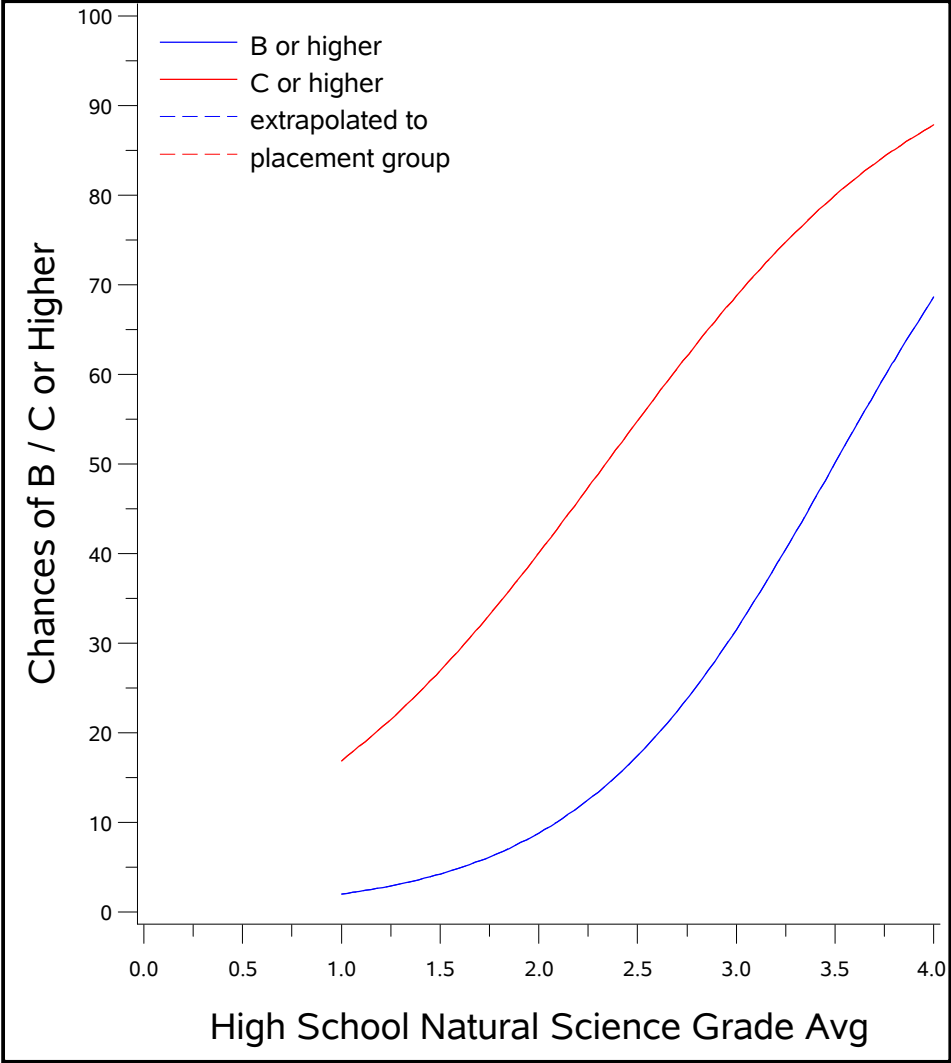
This table and graph report students' chances of achieving a B / C or higher in BIO&LAB/PHYS SCI, given their High School Natural Science Grade Avg. For example, the chance that a student with a High School Natural Science Grade Avg of 2.5 would obtain a B or higher in BIO&LAB/PHYS SCI is 17%.

If present, the boldface scores labeled as Opt. B and Opt. C in the table show the cutoff scores that are associated with the maximum accuracy rate. The information in the table and graph can be used to advise students about their chances of success in BIO&LAB/PHYS SCI.

Chance of Success in BIO&LAB/PHYS SCI,
Given High School Natural Science Grade Avg

| High School Natural Science Grade Avg | | Chance of success (B or higher) | Chance of success (C or higher) |
|---------------------------------------|------------|---------------------------------|---------------------------------|
| Opt. B | 4.0 | 69 | 88 |
| | 3.8 | 62 | 85 |
| | 3.7 | 58 | 84 |
| | 3.5 | 50 | 80 |
| | 3.3 | 42 | 76 |
| | 3.0 | 32 | 69 |
| | 2.8 | 25 | 63 |
| Opt. C | 2.7 | 22 | 61 |
| | 2.5 | 17 | 55 |
| | 2.3 | 13 | 49 |
| | 2.0 | 9 | 40 |
| | 1.7 | 6 | 32 |
| | 1.5 | 4 | 27 |
| | 1.3 | 3 | 23 |
| | 1.0 | 2 | 17 |

Chance of Success in BIO&LAB/PHYS SCI,
Given High School Natural Science Grade Avg



Placement Information for BIO&LAB/PHYS SCI Using High School Natural Science Grade Avg

This table shows the effects of using different High School Natural Science Grade Avg cutoffs in BIO&LAB/PHYS SCI. For example, if you were to require students to have a High School Natural Science Grade Avg of at least 2.5 to be placed into BIO&LAB/PHYS SCI, then you would expect:

- about 13% of your students would be placed in a lower-level course
- about 53% of your placement decisions would be correct
- about 48% of those placed in BIO&LAB/PHYS SCI would obtain a B or higher

| High School Natural Science Grade Avg | | | B or higher | | C or higher | |
|---------------------------------------|------------|--------------------------------------|---------------|--------------|---------------|--------------|
| | | Percent placed in lower-level course | Accuracy rate | Success rate | Accuracy rate | Success rate |
| Opt. B | 4.0 | 75 | 66 | 69 | 47 | 88 |
| | 3.8 | 73 | 67 | 68 | 48 | 88 |
| | 3.7 | 61 | 69 | 65 | 56 | 86 |
| | 3.5 | 56 | 69 | 63 | 59 | 86 |
| | 3.3 | 43 | 67 | 59 | 66 | 83 |
| | 3.0 | 24 | 60 | 52 | 73 | 80 |
| | 2.8 | 23 | 59 | 52 | 73 | 80 |
| Opt. C | 2.7 | 16 | 55 | 49 | 75 | 78 |
| | 2.5 | 13 | 53 | 48 | 75 | 77 |
| | 2.3 | 7 | 49 | 46 | 75 | 75 |
| | 2.0 | 3 | 46 | 44 | 74 | 74 |
| | 1.7 | 2 | 45 | 44 | 74 | 74 |
| | 1.5 | 1 | 44 | 43 | 73 | 73 |
| | 1.3 | 1 | 44 | 43 | 73 | 73 |
| | 1.0 | | 43 | 43 | 72 | 72 |

If present, the shaded rows highlight the optimal cutoff scores (i.e., those that lead to the highest percentage of correct placement decisions).

Chance of a B or Higher in BIO&LAB/PHYS SCI, Given ACT Science Score and High School Natural Science Grade Avg

The matrix reports students' chances of achieving a B or higher in BIO&LAB/PHYS SCI, given their ACT Science Score and High School Natural Science Grade Avg. For example, the chance that a student with an ACT Science Score of 17 and a High School Natural Science Grade Avg of 2.2 would obtain a B or higher in BIO&LAB/PHYS SCI is 10%.

If present, the dark gold area shows the combinations of ACT Science Score and High School Natural Science Grade Avg values that are at or near a 50% chance level. The combinations that maximize the percentage of correct placement decisions (accuracy rate) always correspond to a chance of 50%.

High School Natural Science Grade Avg

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4.0 | 30 | 32 | 33 | 35 | 36 | 38 | 40 | 41 | 43 | 45 | 47 | 49 | 50 | 52 | 54 | 56 | 57 | 59 | 61 | 63 | 64 | 66 | 68 | 69 | 71 | 72 | 74 | 75 | 76 | 77 | 79 | 80 | 81 | 82 | 83 | 84 |
| 3.9 | 27 | 29 | 30 | 32 | 33 | 35 | 36 | 38 | 40 | 42 | 43 | 45 | 47 | 49 | 51 | 52 | 54 | 56 | 58 | 59 | 61 | 63 | 64 | 66 | 68 | 69 | 71 | 72 | 74 | 75 | 76 | 78 | 79 | 80 | 81 | 82 |
| 3.8 | 25 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 37 | 38 | 40 | 42 | 43 | 45 | 47 | 49 | 51 | 52 | 54 | 56 | 58 | 60 | 61 | 63 | 65 | 66 | 68 | 69 | 71 | 72 | 74 | 75 | 76 | 78 | 79 | 80 |
| 3.7 | 22 | 23 | 25 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 37 | 38 | 40 | 42 | 44 | 45 | 47 | 49 | 51 | 53 | 54 | 56 | 58 | 60 | 61 | 63 | 65 | 66 | 68 | 69 | 71 | 72 | 74 | 75 | 77 | 78 |
| 3.6 | 20 | 21 | 22 | 23 | 25 | 26 | 27 | 29 | 30 | 32 | 34 | 35 | 37 | 39 | 40 | 42 | 44 | 46 | 47 | 49 | 51 | 53 | 54 | 56 | 58 | 60 | 61 | 63 | 65 | 66 | 68 | 70 | 71 | 73 | 74 | 75 |
| 3.5 | 18 | 19 | 20 | 21 | 22 | 24 | 25 | 26 | 28 | 29 | 31 | 32 | 34 | 35 | 37 | 39 | 40 | 42 | 44 | 46 | 47 | 49 | 51 | 53 | 55 | 56 | 58 | 60 | 62 | 63 | 65 | 67 | 68 | 70 | 71 | 73 |
| 3.4 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 24 | 25 | 26 | 28 | 29 | 31 | 32 | 34 | 35 | 37 | 39 | 41 | 42 | 44 | 46 | 48 | 49 | 51 | 53 | 55 | 57 | 58 | 60 | 62 | 63 | 65 | 67 | 68 | 70 |
| 3.3 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 24 | 25 | 26 | 28 | 29 | 31 | 32 | 34 | 36 | 37 | 39 | 41 | 42 | 44 | 46 | 48 | 50 | 51 | 53 | 55 | 57 | 58 | 60 | 62 | 64 | 65 | 67 |
| 3.2 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 24 | 25 | 26 | 28 | 29 | 31 | 32 | 34 | 36 | 37 | 39 | 41 | 43 | 44 | 46 | 48 | 50 | 51 | 53 | 55 | 57 | 59 | 60 | 62 | 64 |
| 3.1 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 24 | 25 | 27 | 28 | 29 | 31 | 33 | 34 | 36 | 37 | 39 | 41 | 43 | 44 | 46 | 48 | 50 | 52 | 53 | 55 | 57 | 59 | 60 |
| 3.0 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 24 | 25 | 27 | 28 | 30 | 31 | 33 | 34 | 36 | 38 | 39 | 41 | 43 | 45 | 46 | 48 | 50 | 52 | 54 | 55 | 57 |
| 2.9 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 27 | 28 | 30 | 31 | 33 | 34 | 36 | 38 | 39 | 41 | 43 | 45 | 46 | 48 | 50 | 52 | 54 |
| 2.8 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 33 | 35 | 36 | 38 | 40 | 41 | 43 | 45 | 47 | 48 | 50 |
| 2.7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 33 | 35 | 36 | 38 | 40 | 41 | 43 | 45 | 47 |
| 2.6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 36 | 38 | 40 | 42 | 43 |
| 2.5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 20 | 21 | 22 | 23 | 24 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 37 | 38 | 40 |
| 2.4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 25 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 37 |
| 2.3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 25 | 26 | 27 | 29 | 30 | 32 | 34 |
| 2.2 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 25 | 26 | 28 | 29 | 31 |
| 2.1 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 24 | 25 | 26 | 28 |
| 2.0 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 24 | 25 |
| 1.9 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 1.8 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1.7 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| 1.6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | |
| 1.5 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 14 | |
| 1.4 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 |
| 1.3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 |
| 1.2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | |
| 1.1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | |
| 1.0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | | |
| 0.9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | |
| 0.8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | |
| 0.7 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | |
| 0.6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | |
| 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

ACT Science Score

Chance of a C or Higher in BIO&LAB/PHYS SCI, Given ACT Science Score and High School Natural Science Grade Avg

The matrix reports students' chances of achieving a C or higher in BIO&LAB/PHYS SCI, given their ACT Science Score and High School Natural Science Grade Avg. For example, the chance that a student with an ACT Science Score of 17 and a High School Natural Science Grade Avg of 2.2 would obtain a C or higher in BIO&LAB/PHYS SCI is 42%.

If present, the dark gold area shows the combinations of ACT Science Score and High School Natural Science Grade Avg values that are at or near a 50% chance level. The combinations that maximize the percentage of correct placement decisions (accuracy rate) always correspond to a chance of 50%.

High School Natural Science Grade Avg

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4.0 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 | 91 | 91 | 92 | 92 | 93 | 93 | 93 | 94 |
| 3.9 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 | 91 | 91 | 92 | 92 | 93 | 93 |
| 3.8 | 64 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 | 91 | 91 | 92 | 92 |
| 3.7 | 61 | 62 | 64 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 | 91 | 91 |
| 3.6 | 58 | 60 | 61 | 62 | 64 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 |
| 3.5 | 56 | 57 | 58 | 60 | 61 | 62 | 64 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 |
| 3.4 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 | 88 | 88 |
| 3.3 | 50 | 52 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 | 87 | 87 |
| 3.2 | 47 | 49 | 50 | 52 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 85 | 85 | 86 |
| 3.1 | 45 | 46 | 47 | 49 | 50 | 52 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 | 84 | 84 |
| 3.0 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 83 |
| 2.9 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 81 |
| 2.8 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 2.7 | 34 | 36 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 56 | 57 | 58 | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 2.6 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 | 75 | 76 |
| 2.5 | 30 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 | 73 | 74 |
| 2.4 | 27 | 28 | 30 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 71 | 72 |
| 2.3 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 67 | 68 | 69 |
| 2.2 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 67 |
| 2.1 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 | 63 | 65 |
| 2.0 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 | 61 | 62 |
| 1.9 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 59 |
| 1.8 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 | 47 | 49 | 50 | 51 | 53 | 54 | 55 | 57 |
| 1.7 | 15 | 16 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 | 47 | 49 | 50 | 51 | 53 | 54 |
| 1.6 | 13 | 14 | 15 | 16 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 | 47 | 49 | 50 | 51 |
| 1.5 | 12 | 13 | 13 | 14 | 15 | 16 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 | 47 | 48 |
| 1.4 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 16 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 |
| 1.3 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 | 42 | 43 |
| 1.2 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 | 37 | 38 | 39 | 40 |
| 1.1 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 | 37 | 38 |
| 1.0 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 |
| 0.9 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 |
| 0.8 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 0.7 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 0.6 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 0.5 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

ACT Science Score

Placement Information for BIO&LAB/PHYS SCI Using ACT Science Score and High School Natural Science Grade Avg

This table shows the impact of using different combinations of ACT Science Scores and High School Natural Science Grade Avgs as cutoff scores in BIO&LAB/PHYS SCI. For example, if you were to require students to have at least a 50% chance of a B or higher based on their ACT Science Scores and High School Natural Science Grade Avgs to be placed into BIO&LAB/PHYS SCI (see page 9), then you would expect:

- about 63% of your students would be placed in a lower-level course
- about 70% of your placement decisions would be correct
- about 65% of those placed in BIO&LAB/PHYS SCI would obtain a B or higher

| | B or higher | | | C or higher | | |
|--------------|---------------|---------------|--------------|---------------|---------------|--------------|
| Chance range | Percent below | Accuracy rate | Success rate | Percent below | Accuracy rate | Success rate |
| 91 - 99 | | | | 98 | 30 | 92 |
| 85 - 90 | | | | 82 | 43 | 89 |
| 82 - 84 | 99 | 59 | 82 | 68 | 53 | 88 |
| 79 - 81 | 99 | 60 | 81 | 62 | 56 | 87 |
| 76 - 78 | 97 | 61 | 79 | 54 | 61 | 85 |
| 73 - 75 | 95 | 61 | 77 | 47 | 65 | 84 |
| 70 - 72 | 92 | 63 | 75 | 43 | 67 | 83 |
| 67 - 69 | 85 | 65 | 73 | 36 | 69 | 81 |
| 64 - 66 | 80 | 67 | 71 | 29 | 72 | 80 |
| 61 - 63 | 75 | 68 | 70 | 24 | 73 | 79 |
| 58 - 60 | 71 | 69 | 68 | 20 | 74 | 78 |
| 55 - 57 | 68 | 69 | 67 | 18 | 74 | 77 |
| 52 - 54 | 66 | 70 | 66 | 16 | 74 | 77 |
| 49 - 51 | 63 | 70 | 65 | 13 | 74 | 76 |
| 46 - 48 | 58 | 70 | 63 | 11 | 74 | 75 |
| 43 - 45 | 54 | 69 | 61 | 9 | 74 | 75 |
| 40 - 42 | 50 | 69 | 60 | 7 | 74 | 74 |
| 37 - 39 | 46 | 68 | 59 | 5 | 73 | 73 |
| 34 - 36 | 43 | 67 | 57 | 4 | 73 | 73 |
| 31 - 33 | 38 | 65 | 56 | 3 | 73 | 73 |
| 28 - 30 | 33 | 63 | 54 | 2 | 72 | 72 |
| 25 - 27 | 28 | 61 | 52 | 2 | 72 | 72 |
| 22 - 24 | 22 | 58 | 50 | 2 | 72 | 72 |
| 19 - 21 | 19 | 56 | 48 | 1 | 72 | 72 |
| 16 - 18 | 16 | 54 | 48 | 0 | 71 | 71 |
| 10 - 15 | 11 | 50 | 46 | 0 | 71 | 71 |
| 1 - 9 | 3 | 44 | 43 | | | |

If present, the shaded rows highlight the optimal cutoff combinations (i.e., those that lead to the highest percentage of correct placement decisions).

Logistic Regression Weights and Correlations

This table contains the estimated logistic regression weights used to calculate the chances of success in each course. The weights associated with each set of placement variables are shown with the corresponding significance level (p-value). This information can be used to calculate the chances of success for a given student.

A p-value is an estimate of the probability that a regression weight of magnitude equal to that reported in the table would occur by chance if the true regression weight were 0; the smaller the p-value, the more highly "statistically significant" the regression weight is. The correlation between the placement variables and course grades also is listed.

| | | B or higher | | C or higher | | |
|------------------|--|----------------------------|------------------|----------------------------|------------------|-------------|
| Course | Placement variable(s) | Logistic regression weight | P-value | Logistic regression weight | P-value | Correlation |
| BIO&LAB/PHYS SCI | Intercept | -2.85 | | -0.87 | | |
| | ACT Science Score | 0.12 | 0.0175 | 0.09 | 0.1239 | 0.19 |
| | Intercept | -5.45 | | -2.78 | | |
| | High School Natural Science Grade Avg | 1.56 | <.0001 | 1.19 | 0.0006 | 0.43 |
| | Intercept | -6.45 | | -3.67 | | |
| | ACT Science Score and High School Natural Science Grade Avg | 0.07 1.38 | 0.2237 0.0006 | 0.05 1.10 | 0.4088 0.0023 | 0.44 |