

# Course Placement Service Report



**SOUTHERN ARKANSAS UNIVERSITY (0142)**  
**Magnolia, AR**

**Placement Group:** IN-STATE

**Subject Area:** Science

**Data Cohort:** 20142015

**Date of Report:** August 10, 2016

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# **Course Placement Report**

Information for Making Placement Decisions

**Placement Group: IN-STATE**

### 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.

		IN-STATE			Students who completed course		
Reference course	Placement variable	N	Mean	SD	N	Mean	SD
BIO&LAB/PHYS SCI	ACT Science Score	479	20.7	4.5	91	21.9	3.6
	High School Natural Science Grade Avg	420	3.2	0.7	83	3.4	0.7
	ACT Science Score and High School Natural Science Grade Avg	420	20.9 3.2	4.4 0.7	83	21.9 3.4	3.7 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	91	2.3	1.3	47	74	0	Yes
	High School Natural Science Grade Avg	83	2.3	1.3	49	73	0	Yes
	ACT Science Score and High School Natural Science Grade Avg	83	2.3	1.3	49	73	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 45%.

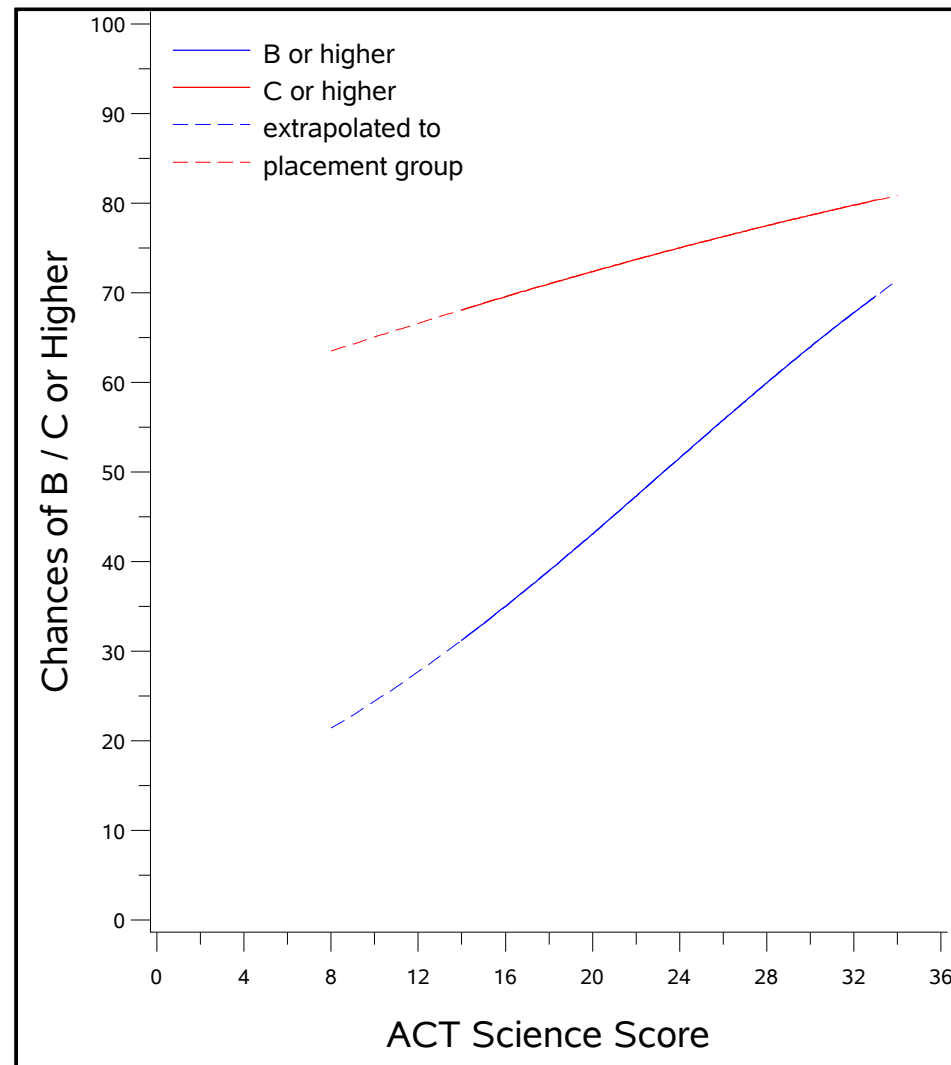
If present, the boldface scores labeled as Opt. B and Opt. C in the table show the cutoff scores that are associated with the maximum accuracy rate. The information in the table and graph can be used to advise students about their chances of success in BIO&LAB/PHYS SCI.

**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	71	81
	33	70	80
	32	68	80
	31	66	79
	30	64	79
	29	62	78
	28	60	78
	27	58	77
	26	56	76
	25	54	76
	<b>24</b>	52	75
	23	49	74
	22	47	74
	21	45	73
	20	43	72
	19	41	72
	18	39	71
	17	37	70
	16	35	70
	15	33	69
	14	31	68
	13	29	67
	12	28	67
	11	26	66
	10	24	65
	8	21	64

Note: The chances of success for one or both criteria are all above or below 50%. No optimal cutoff score exists.

**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 49% of your students would be placed in a lower-level course
- about 57% 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	56	71	28	81
	33	99	56	71	28	81
	32	98	56	70	28	80
	31	97	56	68	29	80
	30	96	57	67	29	80
	29	95	57	66	30	79
	28	94	57	65	31	79
	27	91	58	62	33	78
	26	89	58	61	34	78
	25	83	58	59	37	77
	24	76	58	57	40	77
	23	66	58	54	45	76
	22	57	58	53	49	75
	21	49	57	52	53	75
	20	39	56	50	57	75
	19	30	54	49	61	74
	18	24	53	48	64	74
	17	16	51	47	67	74
	16	13	50	47	68	73
	15	8	48	46	70	73
	14	6	47	46	71	73
	13	4	46	45	72	73
	12	2	46	45	72	73
	11	1	45	45	73	73
	10	0	45	45	73	73
	8		45	45	73	73

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

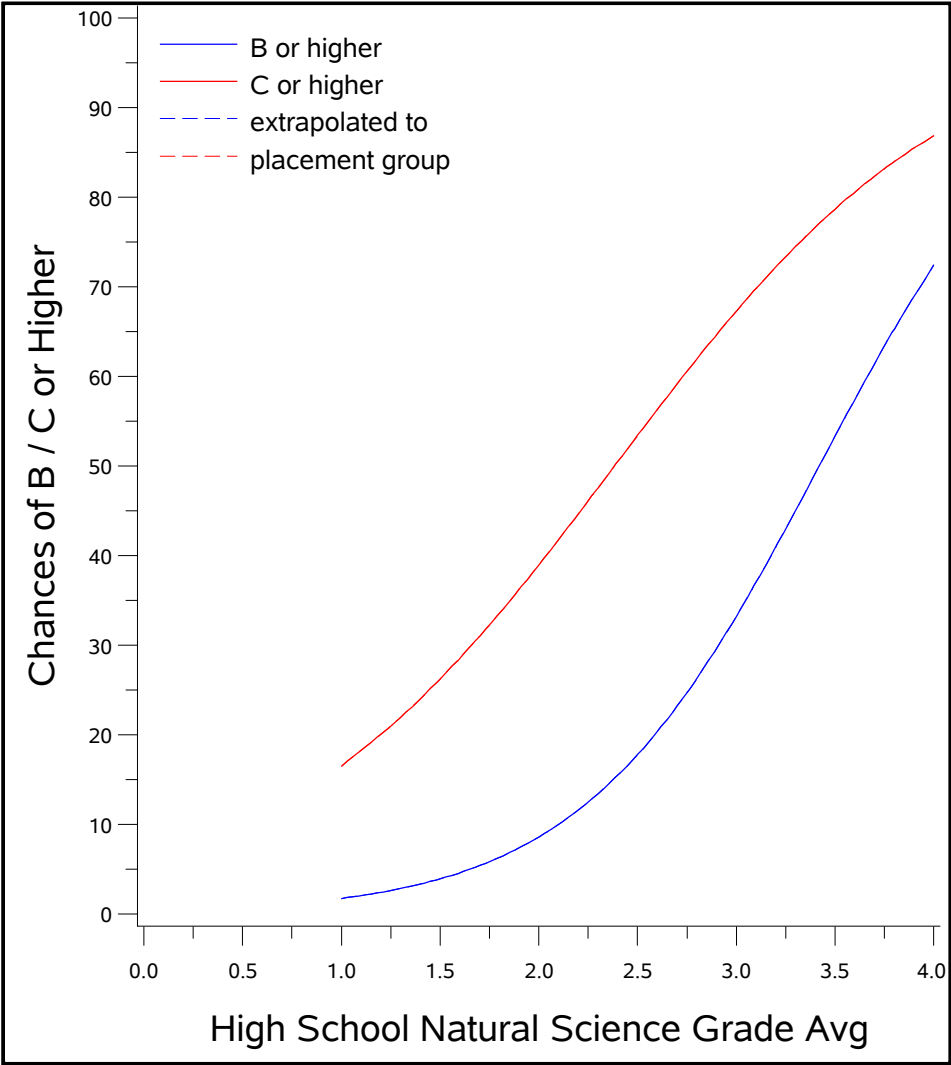
This table and graph report students' chances of achieving a B / C or higher in BIO&LAB/PHYS SCI, given their High School Natural Science Grade Avg. For example, the chance that a student with a High School Natural Science Grade Avg of 2.5 would obtain a B or higher in BIO&LAB/PHYS SCI is 18%.

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	72	87
	3.8	65	84
	3.7	61	82
	<b>3.5</b>	53	79
	3.3	45	75
	3.0	33	67
	2.8	26	62
Opt. C	2.7	23	59
	<b>2.5</b>	18	53
	2.3	13	48
	2.0	9	39
	1.7	5	31
	1.5	4	26
	1.3	3	22
	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 12% of your students would be placed in a lower-level course
- about 55% of your placement decisions would be correct
- about 50% 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	78	65	72	45	87
	3.8	77	66	72	46	87
	3.7	64	69	68	55	85
	3.5	57	69	66	58	84
	3.3	43	68	61	65	82
	3.0	25	61	54	72	78
	2.8	24	61	54	72	78
Opt. C	2.7	16	57	51	73	76
	2.5	12	55	50	74	75
	2.3	7	50	47	73	74
	2.0	3	47	46	72	72
	1.7	2	47	46	72	72
	1.5	1	46	45	72	72
	1.3	1	45	45	71	71
	1.0		45	45	71	71

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 12%.

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

Note: One or both of the statistica

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 47%.

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

Note: One or both of the statistica

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 56% of your students would be placed in a lower-level course
- about 69% 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						
85 - 90						
82 - 84						
79 - 81						
76 - 78						
73 - 75						
70 - 72						
67 - 69						
64 - 66						
61 - 63						
58 - 60						
55 - 57						
52 - 54						
49 - 51						
46 - 48						
43 - 45						
40 - 42						
37 - 39						
34 - 36						
31 - 33						
28 - 30						
25 - 27						
22 - 24						
19 - 21						
16 - 18						
10 - 15						
1 - 9						

Note: Statistics are not reported for negative relationships.

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	-1.98		0.28		
	ACT Science Score	0.09	0.1607	0.03	0.6119	0.09
	Intercept	-5.69		-2.79		
	High School Natural Science Grade Avg	1.66	0.0002	1.17	0.0028	0.45
	Intercept	-5.64		-2.31		
	ACT Science Score and High School Natural Science Grade Avg	-0.00 1.68	0.9537 0.0008	-0.03 1.24	0.6751 0.0043	0.45