

Accuplacer Scores and Student Achievement at UHD

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Introduction. In this report, we consider the Fall 2002 cohort of 1,098 FTIC students at UHD, disaggregated by their initial scores on the three Accuplacer tests used for placement at UHD: Elementary Algebra (APEA), Reading Comprehension (APRC), and Sentence Skills (APSS). The following three tables (see below) track the level of achievement of these cohorts according to various key academic markers of student progress, over the period from Fall 2002 through Fall 2004. The academic markers are as follow:

- Enrolled in Fall 2004 (retention).
- Passed or bypassed developmental reading.
- Passed or bypassed developmental English.
- Passed or bypassed developmental math.
- College ready. This means a student has passed or bypassed all three developmental subjects.
- Completed freshman English. This means a student has passed ENG 1302.
- Completed core math. This means a student has passed MATH 1301 or MATH 1310.
- Completed core history. This means a student has passed any two of HIST 1305, HIST 1306, HIST 2303, or HIST 2309.
- Completed all three core subjects: freshman English, core math, and core history.

All data was collected from BANNER and includes only courses taken at UHD; transfer course grades were not included.

The minimum score possible for each of these tests is 20, however, not all students from this FTIC cohort show valid Accuplacer test scores in BANNER. Therefore, a small number of FTIC students (52 to 55) are not accounted for in the tables. The Accuplacer placement thresholds are as follow:

- APEA: 20-52, MATH 0300; 53-72, MATH 1300; 63+, MATH 1310; 73+, MATH 1301
- APRC: 20-77, RDG 1300
- APSS: 20-79, ENG 1300 or ENG 130A; 80+, ENG 1301

The Accuplacer cohorts are arranged into columns and the academic markers are arranged into rows. For example, consider FTIC students who scored from 41 to 45 on APEA; data for these students are contained in the sixth column of the first table. Reading down this column, we can see that $34/83 = 41\%$ of these students were still enrolled at UHD in Fall 2004. Likewise, we can see that $52/83 = 62\%$ of these students had become college ready by Fall 2004, and so forth. The first column in each table (shaded yellow) depicts the overall progress of the entire FTIC cohort. We will use the percentages in these columns as baseline values for comparison purposes.

The shading of the remaining cells in the table is designed to highlight when a cohort has considerably underperformed or outperformed the corresponding baseline percentage (contained in the same row at the left). The orange cells contain percentages that are no more than one-half the baseline value; the gray cells contain percentages that are no more than three-fourths of the baseline value. On the other hand, the turquoise cells contain percentages that are at least one-fourth greater than the baseline value; the green cells contain percentages that are at least one-half greater than the baseline value.

Conclusions. For each Accuplacer test and nearly all academic markers, student achievement closely corresponds (and sometimes perfectly corresponds) to the Accuplacer score. One can observe this correspondence by reading across the rows of the tables. In general, the higher the score, the higher the level of achievement. Indeed, this correspondence can be observed even in subjects different from the subject of the test. For example, the APEA score clearly corresponds to student achievement in developmental English. Likewise, the APRC score clearly corresponds to student achievement in developmental math. Hence, the tables seem to provide evidence supporting the validity of Accuplacer as a placement instrument.

One exception to this correspondence is retention rate. There seems to be a weak relationship at best between Accuplacer scores and the retention rate, for any of the three tests.

Finally, by examining the distribution of the orange and gray cells in the tables, we may attempt to discover Accuplacer scores that correspond to a high likelihood of an unsuccessful academic outcome at UHD. While no score is entirely hopeless, with only one exception, all the orange cells are grouped into

columns matching Accuplacer scores below 40 on a given test. This would suggest that persons scoring below 40 on any of the three Accuplacer test are particularly vulnerable. For instance, of the 73 students who scored below 40 on the APRC test, only 26 became college ready within two years, and only 3 completed freshman English, core math, and core history within two years. A similar situation occurs with both the APEA and APSS scores. Of the 378 students who scored 40 or below on the APEA test, only 116 became college ready within two years. And only 34 of these completed freshman English, core math, and core history within two years. Of the 60 students who scored below 40 on the APSS test, only 20 became college ready within two years. And only 4 of these completed freshman English, core math, and core history within two years.

	Fall 2002 FTIC	APEA 20-25	APEA 26-30	APEA 31-35	APEA 36-40	APEA 41-45	APEA 46-52	APEA 53-72	APEA Above 72
<i>% enrolled Fall 2004</i>	43 471/1098	39 34/87	32 35/110	33 34/104	42 32/77	41 34/83	47 65/137	48 102/211	47 111/237
<i>% passing or bypassing developmental reading</i>	92 1015/1098	78 68/87	89 98/110	90 94/104	84 65/77	94 78/83	96 132/137	96 202/211	96 227/237
<i>% passing or bypassing developmental English</i>	91 995/1098	74 64/87	84 92/110	86 89/104	86 66/77	93 77/83	98 134/137	94 199/211	95 224/237
<i>% passing or bypassing developmental math</i>	63 688/1098	21 18/87	26 29/110	35 36/104	39 30/77	54 45/83	64 87/137	81 171/211	98 233/237
<i>% college ready</i>	60 656/1098	19 17/87	25 27/110	34 35/104	38 29/77	52 52/83	64 87/137	77 163/211	91 216/237
<i>% completing freshman English</i>	53 577/1098	34 30/87	37 41/110	40 42/104	47 36/77	51 42/83	63 86/137	57 121/211	63 150/237
<i>% completing core math</i>	40 440/1098	11 10/87	13 14/110	18 19/104	22 17/77	33 27/83	43 59/137	54 114/211	66 157/237
<i>% completing core history</i>	33 366/1098	22 19/87	20 22/110	29 30/104	23 18/77	30 25/83	39 53/137	35 74/211	46 108/237
<i>% completing all three core subjects</i>	23 249/1098	8 7/87	6 7/110	10 10/104	10 8/77	18 15/83	28 38/137	30 63/211	38 91/237

	Fall 2002 FTIC	APRC 20-29	APRC 30-39	APRC 40-49	APRC 50-59	APRC 60-69	APRC 70-77	APRC Above 77
<i>% enrolled Fall 2004</i>	43 471/1098	33 8/24	43 21/49	36 21/58	34 45/132	49 91/186	40 77/192	45 180/400
<i>% passing or bypassing developmental reading</i>	92 1015/1098	79 19/24	88 43/49	84 49/58	78 103/132	89 166/186	93 179/192	100 400/400
<i>% passing or bypassing developmental English</i>	91 995/1098	46 11/24	76 37/49	78 45/58	81 107/132	88 164/186	95 183/192	98 393/400
<i>% passing or bypassing developmental math</i>	63 688/1098	33 8/24	47 23/49	57 33/58	46 61/132	62 116/186	68 131/192	68 272/400
<i>% college ready</i>	60 656/1098	25 6/24	41 20/49	50 29/58	42 55/132	57 106/186	66 126/192	68 270/400
<i>% completing freshman English</i>	53 577/1098	8 2/24	33 16/49	43 25/58	42 56/132	55 102/186	55 105/192	59 237/400
<i>% completing core math</i>	40 440/1098	25 6/24	22 11/49	38 22/58	29 38/132	42 78/186	43 83/192	45 178/400
<i>% completing core history</i>	33 366/1098	4 1/24	12 6/49	26 15/58	18 24/132	33 62/186	36 69/192	43 171/400
<i>% completing all three core subjects</i>	23 249/1098	4 1/24	4 2/49	19 11/58	11 14/132	24 45/186	27 52/192	29 11/400

	Fall 2002 FTIC	APSS 20-29	APSS 30-39	APSS 40-49	APSS 50-59	APSS 60-69	APSS 70-79	APSS Above 79
<i>% enrolled Fall 2004</i>	43 471/1098	38 3/8	33 17/52	37 20/54	38 26/69	43 36/83	40 59/147	45 281/629
<i>% passing or bypassing developmental reading</i>	92 1015/1098	88 7/8	79 41/52	76 41/54	90 62/69	83 69/83	92 135/147	96 605/629
<i>% passing or bypassing developmental English</i>	91 995/1098	50 4/8	62 32/52	61 33/54	77 53/69	82 68/83	83 122/147	100 629/629
<i>% passing or bypassing developmental math</i>	63 688/1098	38 3/8	48 25/52	43 23/54	51 35/69	55 46/83	54 80/147	69 433/629
<i>% college ready</i>	60 656/1098	25 2/8	35 18/52	31 17/54	46 32/69	46 38/83	52 77/147	68 429/629
<i>% completing freshman English</i>	53 577/1098	25 2/8	17 9/52	35 19/54	39 27/69	42 35/83	37 54/147	63 396/629
<i>% completing core math</i>	40 440/1098	38 3/8	31 16/52	30 16/54	29 20/69	36 30/83	32 47/147	45 284/629
<i>% completing core history</i>	33 366/1098	13 1/8	10 5/52	24 13/54	20 14/69	22 19/83	24 36/147	41 260/629
<i>% completing all three core subjects</i>	23 249/1098	13 1/8	6 3/52	15 8/54	12 8/69	12 10/83	16 24/147	29 185/629