

## How Many Students Change Major and When?

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In the Fall 2005 new student (first-time and new transfer-in) cohort, students had on average 1.4 majors over the six years I tracked these students' academic careers. Of the 3,097 students in the cohort, 993 changed major or 32%. (Note, 254 students dropped out after one semester and 331 students transferred after one semester. That is, 19% of the cohort left before they could change major. Thus, 40% of students who *could have changed* their major did so.)

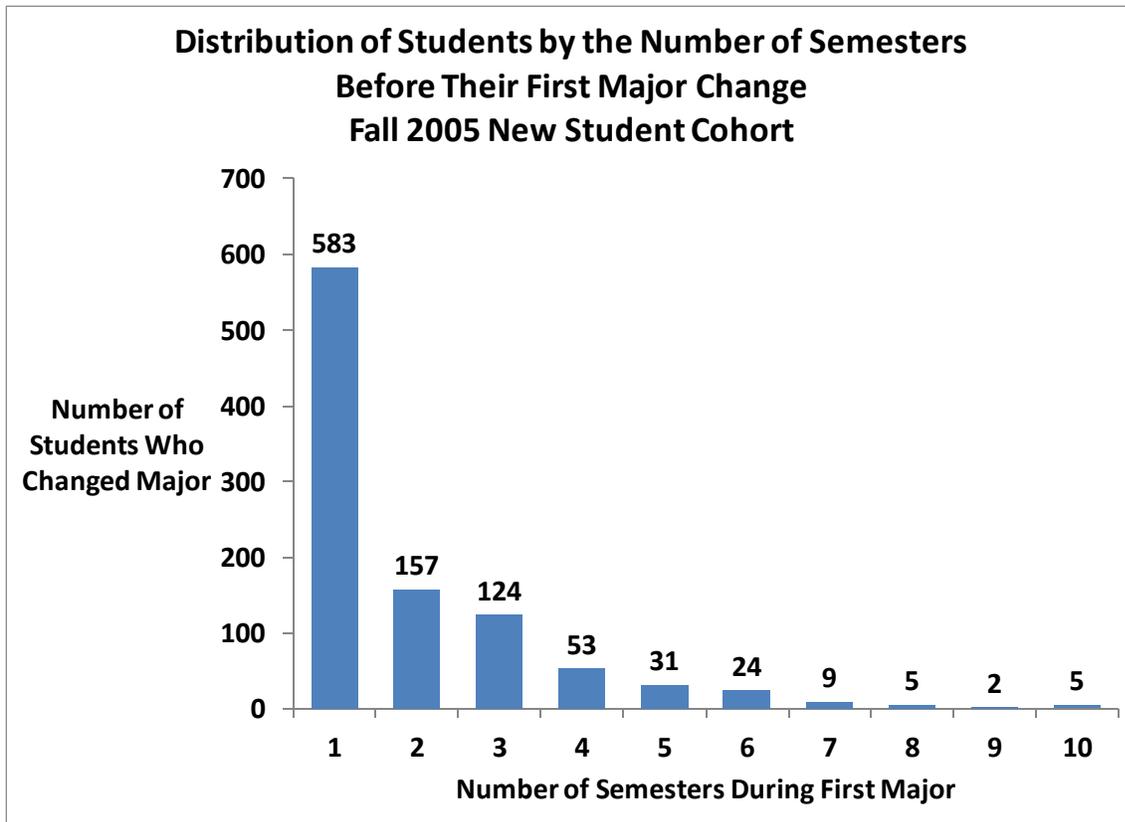
Two caveats about the data: First, major is only recorded once per semester. If a student changed major five times during a semester, only the last major is recorded. Second, most of the analyses here do not include changes of option within major. I did a few analyses at the option level and the data do not change very much. Only 11% of major changes occurred within the major at the option level.

Most students (80% of those who changed major) changed major only once. Only six percent of the Fall 2005 new student cohort changed major more than once. The rest did not change or changed only once.

Number of Major Changes	Number of Students
1	792
2	173
3	24
4	4
	993

Figure 1

The majority of students who changed major did so during their first semester (59% of those who changed majors, changed during their first semester). Only 13% of the entire Fall 2005 new student cohort changed major after beginning their second semester.



**Figure 2**

The 583 students who changed major after one semester had accumulated an average of six earned credits at that point. The nine students who changed after seven semesters had earned an average of 38 credits (see Figure 3).

Number of Semesters Before First Major Change	Number of Students Who Changed Major	Credits Earned Before First Major Change
1	583	6
2	157	12
3	124	20
4	53	22
5	31	27
6	24	35
7	9	38
8	5	35
9	2	48
10	5	46

**Figure 3**

Graduates changed major more than the average student. Drop outs changed major fewer times on average, partially because a large proportion of them dropped out before beginning their second semester.

	Average Number of Majors Per Student	Number of Students by Type
Graduates	1.56	821
Transfers	1.30	1,278
Drop Outs	1.26	860
Still Attending	1.78	138
Total	1.38	3,097

Figure 4

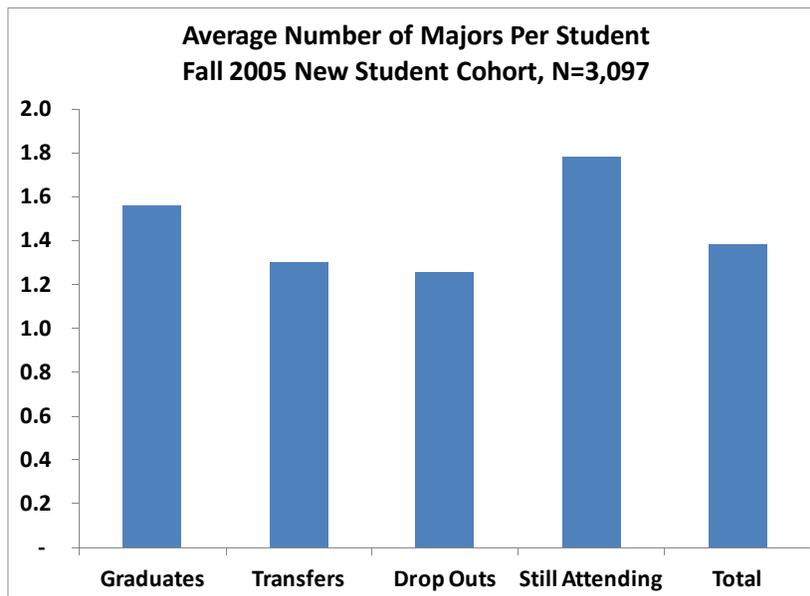


Figure 5

If we look only at students who last more than four semesters, however, we see very little difference in major-changing behavior. The average number of majors for these students was 1.6. It was also 1.6 for those who graduated and 1.6 for those who transferred. It was 1.5 for those who dropped out. Thus, the higher number of major changes per student seen among graduates in Figure 5 is attributable to the bias caused by the higher proportion of transfers and drop outs who lasted only one or two semesters at LaGuardia.

In Figure 6 we can see the number of students who changed out of a major (not option) and the number who changed into a major over the six-year period. Figure 6 is ordered starting with the highest percentage of out-going majors. Business administration leads the list with Liberal Arts: Math and Science not far behind. Business Administration has the smallest proportion of out-going students. Liberal Arts: Social Science and Humanities is near the average in exporting majors. (Majors with fewer than ten initial students from the Fall 2005 new student pool were excluded in Figures 6, 7 and 8.)

Major (code)	Total Out-going	Total In-coming	Fall 2005 Majors	Out-Going As % of Majors	In-Coming As % of Majors
<b>Business Management (73)</b>	97	71	177	55%	40%
<b>Secretary (late: Writing &amp; Lit) (36)</b>	8	7	15	53%	47%
<b>Liberal Arts: Math &amp; Science (39)</b>	147	118	280	53%	42%
<b>Computer Science (25)</b>	29	6	60	48%	10%
<b>Accounting (02)</b>	65	55	147	44%	37%
<b>Nursing (47)</b>	195	33	455	43%	7%
<b>Computer Technology (96)</b>	24	9	57	42%	16%
<b>Physical Therapist Assistant (35)</b>	41	20	99	41%	20%
<b>Computer Operations (81)</b>	17	2	42	40%	5%
<b>Education: Bilingual Ed (75)</b>	7	11	18	39%	61%
<b>Mortuary Science (04)</b>	17	7	45	38%	16%
<b>Civil Engineering Science (24)</b>	7	19	19	37%	100%
<b>Occupational Therapy Ass't (54)</b>	18	25	50	36%	50%
<b>Liberal Arts: Soc Sci &amp; Humes (37)</b>	233	249	648	36%	38%
<b>Liberal Arts (Ed Pgrm Soc Qns) (11)</b>	53	52	149	36%	35%
<b>New Media Technology (27)</b>	9	27	27	33%	100%
<b>Travel, Tourism, &amp; Hospitality (74)</b>	26	18	79	33%	23%
<b>Human Services: Child Dev (14)</b>	37	90	113	33%	80%
<b>Commercial Photography (17)</b>	9	6	28	32%	21%
<b>Fine Arts (51)</b>	19	19	62	31%	31%
<b>EMT/ Paramedic (83)</b>	18	20	59	31%	34%
<b>Dietetic Technician (07)</b>	5	6	17	29%	35%
<b>Veterinary Technology (40)</b>	35	4	131	27%	3%
<b>Paralegal Studies (57)</b>	18	17	76	24%	22%
<b>Business Administration (08)</b>	45	185	220	20%	84%

Figure 6

In Figure 7 we see the same table as in Figure 6, this time with the order determined by the incoming majors as a percentage of Fall 2005 majors. Civil Engineering and New Media Technology drew as many new majors as were in their initial groups. Business Administration drew a number equal to 84% of the size of its Fall 2005 new student class during the six years examined.

Major (code)	Total Out-going	Total In-coming	Fall 2005 Majors	Out-Going As % of Majors	In-Coming As % of Majors
Civil Engineering Science (24)	7	19	19	37%	100%
New Media Technology (27)	9	27	27	33%	100%
Business Administration (08)	45	185	220	20%	84%
Human Services: Child Dev (14)	37	90	113	33%	80%
Education: Bilingual Ed (75)	7	11	18	39%	61%
Occupational Therapy Ass't (54)	18	25	50	36%	50%
Secretary (late: Writing & Lit) (36)	8	7	15	53%	47%
Liberal Arts: Math & Science (39)	147	118	280	53%	42%
Business Management (73)	97	71	177	55%	40%
Liberal Arts: Soc Sci & Humes (37)	233	249	648	36%	38%
Accounting (02)	65	55	147	44%	37%
Dietetic Technician (07)	5	6	17	29%	35%
Liberal Arts (Ed Pgrm Soc Qns) (11)	53	52	149	36%	35%
EMT/ Paramedic (83)	18	20	59	31%	34%
Fine Arts (51)	19	19	62	31%	31%
Travel, Tourism, & Hospitality (74)	26	18	79	33%	23%
Paralegal Studies (57)	18	17	76	24%	22%
Commercial Photography (17)	9	6	28	32%	21%
Physical Therapist Assistant (35)	41	20	99	41%	20%
Computer Technology (96)	24	9	57	42%	16%
Mortuary Science (04)	17	7	45	38%	16%
Computer Science (25)	29	6	60	48%	10%
Nursing (47)	195	33	455	43%	7%
Computer Operations (81)	17	2	42	40%	5%
Veterinary Technology (40)	35	4	131	27%	3%

Figure 7

Figure 8 summarizes Figures 6 and 7, showing majors by highest to lowest net importers. The number of students changing into a major less the number changing out of a major divided by the number of initial majors in Fall 2005 gives the net import percentage. Negative net import majors are net exporters. As a new major, New Media Technology would be expected to be a net importer.

Major (code)	In-coming less Out-going as % of Fall 05 (Net Imports)
New Media Technology (27)	67%
Business Administration (08)	64%
Civil Engineering Science (24)	63%
Human Services: Child Dev (14)	47%
Education: Bilingual Ed (75)	22%
Occupational Therapy Ass't (54)	14%
Dietetic Technician (07)	6%
EMT/ Paramedic (83)	3%
Liberal Arts: Soc Sci & Humes (37)	2%
Fine Arts (51)	0%
Liberal Arts (Ed Pgrm Soc Qns) (11)	-1%
Paralegal Studies (57)	-1%
Secretary (late: Writing & Lit) (36)	-7%
Accounting (02)	-7%
Travel, Tourism, & Hospitality (74)	-10%
Liberal Arts: Math & Science (39)	-10%
Commercial Photography (17)	-11%
Business Management (73)	-15%
Physical Therapist Assistant (35)	-21%
Mortuary Science (04)	-22%
Veterinary Technology (40)	-24%
Computer Technology (96)	-26%
Nursing (47)	-36%
Computer Operations (81)	-36%
Computer Science (25)	-38%

**Figure 8**

Figure 9 in the pages below shows the traffic in major “importing and exporting.” Certificate programs and non-degree are also shown, when students from associate’s degree programs transferred into them, although Fall 2005 new students in these majors were not included in the analysis. Figures 6 and 7 were derived from Figure 9. (Figure 9 is in major code order.) Here you can see that Business Administration received (as shown in its column) many students from Accounting, Liberal Arts: Social Science & Humanities, and Business Management.

Fall 2005 Cohort 6 Years of Major Change In-Coming (columns)----> Out-Going (rows) (Major Code)	Accounting	Mortuary Science	Dietetic Technician	Business Administration	Commercial Photography	Word Processing Specialist	Liberal Arts (Ed Pgrm Soc Qns)	Human Services: Child Dev	Commercial Photography	Programming and Systems	Civil Engineering Science	Computer Science	Food Service Management	New Media Technology	Physical Therapist Assistant	Secretarial Science
Accounting (02)	0	0	0	33	0	0	2	0	1	1	0	0	1	2	0	1
Mortuary Science (04)	1	0	0	1	0	0	3	0	0	0	0	0	0	1	0	0
Dietetic Technician (07)	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0
Business Administration (08)	8	0	0	0	0	0	1	3	0	0	0	1	0	1	2	0
Commercial Photography (09)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Word Processing Specialist (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liberal Arts (Ed Pgrm Soc Qns) (11)	1	0	0	2	0	0	0	8	2	0	0	0	0	0	0	1
Human Services: Child Dev (14)	1	1	0	1	0	0	8	0	0	0	0	0	0	2	0	0
Commercial Photography (17)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Programming and Systems (20)	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0
Civil Engineering Science (24)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Computer Science (25)	2	0	0	3	0	0	0	0	0	2	5	0	0	1	1	0
Food Service Management (26)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
New Media Technology (27)	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0
Physical Therapist Assistant (35)	0	0	0	4	0	0	1	4	0	0	0	0	0	1	0	0
Secretary (late: Writing & Lit) (36)	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Liberal Arts: Soc Sci & Humes (37)	14	1	2	35	1	1	13	31	1	1	5	1	1	4	1	1
Philosophy (38)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liberal Arts: Math & Science (39)	3	4	1	12	0	0	5	10	0	0	5	0	0	1	6	0
Veterinary Technology (40)	0	0	0	3	0	0	0	2	0	0	0	0	1	0	0	0
Practical Nursing (43)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Microcomputer Sys & Apps (45)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Nursing (47)	5	1	3	9	0	0	8	20	0	1	2	0	2	1	5	1
Fine Arts (51)	0	0	0	4	0	0	0	1	0	0	0	0	0	1	0	0
Music Recording Technology (52)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapy Ass't (54)	0	0	0	0	0	0	2	5	0	0	0	0	0	1	2	0
Paralegal Studies (57)	2	0	0	1	0	0	3	1	0	0	0	0	0	1	0	1
Business Management (73)	6	0	0	56	0	0	3	1	1	1	0	1	0	1	2	0
Travel, Tourism, & Hospitality (74)	9	0	0	7	0	0	0	1	0	0	0	0	0	0	0	1
Education: Bilingual Ed (75)	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0
Computer Operations (81)	1	0	0	2	0	0	0	0	0	3	0	1	0	0	0	0
EMT/ Paramedic (83)	1	0	0	1	0	0	1	2	0	0	0	0	0	3	0	0
Computer Technology (96)	1	0	0	3	0	0	0	0	0	0	1	1	0	3	0	0
Non-degree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total In-coming</b>	<b>55</b>	<b>7</b>	<b>6</b>	<b>185</b>	<b>1</b>	<b>1</b>	<b>52</b>	<b>90</b>	<b>6</b>	<b>11</b>	<b>19</b>	<b>6</b>	<b>6</b>	<b>27</b>	<b>20</b>	<b>7</b>

Fall 2005 Cohort 6 Years of Major Change In-Coming (columns)----> Out-Going (rows)	Liberal Arts: Soc Sci & Humes	Liberal Arts: Soc Sci & Humes	Liberal Arts: Math & Science	Vet- erinary Tech- nology	Practical Nursing	Micro- computer Sys & Apps	Nursing	Fine Arts	Music Re- cording Tech- nology	Occu- pational Therapy Assistant	Paralegal Studies	Business Manage- ment	Travel, Tourism, & Hosp- itality	Ed- ucation: Bilingual Ed	Computer Oper- ations	EMT/ Para- medic	Computer Tech- nology	Non- Degree	Total Out- going
Accounting (02)	8	0	2	0	0	0	1	0	1	0	1	6	2	0	0	0	1	2	65
Mortuary Science (04)	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17
Dietetic Technician (07)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5
Business Administration (08)	9	0	1	0	0	2	0	0	1	0	1	10	4	0	0	1	0	0	45
Commercial Photography (09)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Word Processing Specialist (10)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Liberal Arts (Ed Pgrm Soc Qns) (11)	28	0	4	0	0	0	0	1	0	0	0	1	2	3	0	0	0	0	53
Human Services: Child Dev (14)	18	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	37
Commercial Photography (17)	5	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	9
Programming and Systems (20)	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	7
Civil Engineering Science (24)	2	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	7
Computer Science (25)	3	0	1	0	0	0	0	1	0	1	1	3	0	0	1	3	0	1	29
Food Service Management (26)	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5
New Media Technology (27)	2	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	9
Physical Therapist Assistant (35)	8	0	11	0	0	0	2	1	0	5	0	3	0	0	0	0	1	0	41
Secretary (late: Writing & Lit) (36)	1	0	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	8
Liberal Arts: Soc Sci & Humes (37)	0	3	35	2	11	0	6	9	1	6	5	21	5	4	0	4	2	6	233
Philosophy (38)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liberal Arts: Math & Science (39)	40	0	0	2	23	0	17	1	0	4	2	6	1	1	0	2	1	0	147
Veterinary Technology (40)	16	0	10	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	35
Practical Nursing (43)	4	0	3	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	11
Microcomputer Sys & Apps (45)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
Nursing (47)	39	0	30	0	53	0	0	0	0	5	3	4	0	0	0	0	2	1	195
Fine Arts (51)	9	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	19
Music Recording Technology (52)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapy Ass't (54)	5	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	18
Paralegal Studies (57)	2	0	2	0	0	0	0	0	0	0	0	2	0	1	0	1	1	0	18
Business Management (73)	14	1	1	0	0	0	1	1	0	0	0	0	1	0	0	4	1	1	97
Travel, Tourism, & Hospitality (74)	7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	26
Education: Bilingual Ed (75)	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Computer Operations (81)	3	0	0	0	0	0	0	0	0	0	1	3	1	1	0	0	0	1	17
EMT/ Paramedic (83)	6	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	18
Computer Technology (96)	7	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	24
Non-degree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total In-coming	249	4	118	4	88	2	33	19	4	25	17	71	18	11	2	20	9	14	1,207

Figure 9