

Department adherence

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Courses and departments

```
students = get_student_sub()
bg = get_student_background_data(ids = students$mellon_id)
terms = get_term_data(ids = students$mellon_id)
courses = get_course_data(ids = students$mellon_id)
```

Get school per term

```
table(terms$major_school_name_abbrev_1)
```

```
##
##           Arts           Bio Sci           Business           Educ           Engr
##           16038           108467           13888           9861           66665
##      Humanities           ICS           Nursing           Pharmacy           Phys Sci
##           26081           41985           3962           9879           2
##           PhySci           PubHlth Public Health           Soc Ecol           Soc Sci
##           29997           21035           11           41350           109444
## Summer Session Undergrad Educ
##           1           15943
```

Get school of courses

```
table(courses$school_name_abbrev)
```

```
##
##           Arts           Bio Sci           Business
##           27324           74414           21506
## Campus Recreation College of Health Science           Educ
##           34           1673           18067
##           Engr           Humanities           ICS
##           113004           129173           95577
##           LARC (TAP)           Medicine           Nursing
```

```
##          31878          9          1492
##      Pharm Sci      Phys Sci      Public Health
##          4724      125862      14178
##      Soc Ecol      Soc Sci      Special Programs
##          69591      193609      563
##      Unaffiliated      Undergrad Educ
##          11302      8518
```

Get department of courses

```
table(courses$dept_name_abbrev)
```

```
##
##  ACENG  AFAM ANATOMY  ANTHRO  ARABIC  ARMN  ART  ARTHIS  ARTS  ARTSHUM
##  26011  9664      7  91759      641      26  13898  19845  4589      4
##  ARTSTU  ASIANAM  BIOSCI      BME  CAMPREC  CBE  CBEMS  CHC/LAT  CHEM  CHINESE
##  6415  12938  307948  31700  3037      806  15475  19053  303847  3190
##  CLASSIC  CLT&THY  COGS  COMLIT  COMPSCI  CRITISM  CRM/LAW  CSE  DANCE  DRAMA
##  22273      1      87  3228  53233      1  42391  14716  29451  22921
##  EARTHSS  EAS  EASIAN  ECON  EDUABR  EDUC  EECS  ENGLISH  ENGR  ENGRCEE
##  50796      250  5167  207865  3963  48446  69074  13880  22906  46114
##  ENGRMAE  ENGRMSE  ENVIRON  EPIDEM  EUROST  EXCHANG  FAMMED  FLM&MDA  FRENCH  GDIM
##  78994      560  2716      67  2004  146      1  31288  6107      4
##  GEN&SEX  GERMAN  GLBLCLT  GLBLME  GREEK  HEBREW  HINDI  HISTORY  HUMAN  HUMARTS
##  7940  2022      376  208      361  316      10  45681  54226      9
##  I&CSCI  IN4MATX  INTLST  ITALIAN  JAPANESE  KOREAN  LATIN  LINGUIS  LITJRN  LPS
##  99070  35787  26780  1630  4842  3149  655  12839  3828  6976
##  LSCI  MATH  MEDHUM  MGMT  MGMTMBA  MGMTPHD  MSE  MUSIC  NURSCI  PATH
##  342  248723  485  67779      15      3  103  24132  8667      2
##  PERSIAN  PHILOS  PHRMSCI  PHYSICI  PHYSICS  POLSCI  PORTUG  PP&D  PSCI  PSYBEH
##  742  46850  20623  1265  172969  76801  18  12678  2352  88059
##  PSYCH  PUBHLTH  RADIO  RELSTD  ROTC  RUSSIAN  SOCECOL  SOCIOL  SOCSCI  SPANISH
##  68786  48913      1  5859  1565  1933  37882  79286  86119  11259
##  SPPS  STATS  TEST  UCDC  UNIAFF  UNISTU  UPPP  VIETMSE  VISSTD  WOMNST
##  153  43751      2  808  9837  33221  2369  1117      1  8426
##  WRITING
##  81021
```

```
table(courses[,c('dept_name_abbrev', 'school_name_abbrev')])
```

```
##          school_name_abbrev
## dept_name_abbrev  Arts Bio Sci Business Campus Recreation
##          ACENG      0      0      0      0
##          AFAM      1      8      4      0
##          ANATOMY      0      0      0      0
##          ANTHRO     114     557     55      0
##          ARABIC      0      4      0      0
##          ARMN      0      0      0      0
##          ART     4790      0      0      0
##          ARTHIS     168     100     16      0
```

##	ARTS	1207	5	1	0
##	ARTSHUM	1	0	0	0
##	ARTSTU	2778	13	3	0
##	ASIANAM	17	123	10	0
##	BIOSCI	156	54890	44	0
##	BME	0	3	0	0
##	CAMPREC	23	87	0	34
##	CBE	0	0	0	0
##	CBEMS	0	0	0	0
##	CHC/LAT	12	114	8	0
##	CHEM	47	8959	15	0
##	CHINESE	0	7	0	0
##	CLASSIC	2	12	2	0
##	CLT&THY	0	0	0	0
##	COGS	0	0	0	0
##	COMLIT	0	5	1	0
##	COMPSCI	0	0	0	0
##	CRITISM	0	0	0	0
##	CRM/LAW	26	73	5	0
##	CSE	6	0	0	0
##	DANCE	5997	14	12	0
##	DRAMA	5079	21	2	0
##	EARTHSS	32	7	11	0
##	EAS	0	0	0	0
##	EASIAN	0	6	2	0
##	ECON	20	164	258	0
##	EDUABR	0	0	0	0
##	EDUC	4	8	0	0
##	EECS	0	15	0	0
##	ENGLISH	0	3	0	0
##	ENGR	0	0	0	0
##	ENGRCEE	0	6	0	0
##	ENGRMAE	0	0	0	0
##	ENGRMSE	0	0	0	0
##	ENVIRON	30	100	8	0
##	EPIDEM	0	0	0	0
##	EUROST	0	0	1	0
##	EXCHANG	0	0	0	0
##	FAMMED	0	0	0	0
##	FLM&MDA	7	30	0	0
##	FRENCH	8	3	1	0
##	GDIM	0	0	0	0
##	GEN&SEX	0	0	0	0
##	GERMAN	3	3	0	0
##	GLBLCLT	0	0	0	0
##	GLBLME	0	0	0	0
##	GREEK	0	0	0	0
##	HEBREW	3	3	0	0
##	HINDI	0	0	0	0
##	HISTORY	18	138	23	0
##	HUMAN	150	1743	104	0
##	HUMARTS	0	0	0	0
##	I&CSCI	8	7	0	0
##	IN4MATX	0	0	0	0

##	INTLST	7	89	14	0
##	ITALIAN	0	0	0	0
##	JAPANESE	3	11	2	0
##	KOREAN	0	10	0	0
##	LATIN	0	0	0	0
##	LINGUIS	36	12	2	0
##	LITJRN	0	0	0	0
##	LPS	20	6	0	0
##	LSCI	0	0	0	0
##	MATH	99	2077	232	0
##	MEDHUM	0	0	0	0
##	MGMT	5	13	20345	0
##	MGMTMBA	0	0	1	0
##	MGMTPHD	0	0	0	0
##	MSE	0	0	0	0
##	MUSIC	5349	81	11	0
##	NURSCI	0	0	0	0
##	PATH	0	0	0	0
##	PERSIAN	0	2	1	0
##	PHILOS	64	244	18	0
##	PHRMSCI	0	8	0	0
##	PHYSCI	1	2	0	0
##	PHYSICS	104	130	43	0
##	POLSCI	85	250	14	0
##	PORTUG	0	2	0	0
##	PP&D	8	32	8	0
##	PSCI	0	0	0	0
##	PSYBEH	158	696	14	0
##	PSYCH	108	802	41	0
##	PUBHLTH	6	14	1	0
##	RADIO	0	0	0	0
##	RELSTD	2	7	2	0
##	ROTC	0	0	0	0
##	RUSSIAN	1	8	1	0
##	SOCECOL	6	71	0	0
##	SOCIOL	122	322	27	0
##	SOCSCI	76	121	8	0
##	SPANISH	6	13	2	0
##	SPPS	0	0	0	0
##	STATS	0	42	2	0
##	TEST	0	0	0	0
##	UCDC	0	0	0	0
##	UNIAFF	6	24	4	0
##	UNISTU	110	522	5	0
##	UPPP	0	0	0	0
##	VIETMSE	3	5	0	0
##	VISSTD	0	0	0	0
##	WOMNST	10	53	4	0
##	WRITING	222	1514	118	0
##	school_name_abbrev				
##	dept_name_abbrev	College of Health Science			
##	ACENG		0	0	0
##	AFAM		2	0	6
##	ANATOMY		0	0	0
					8613
					2384
					0
					0

##	ANTHRO	85	0	219	195	83
##	ARABIC	0	0	0	114	0
##	ARMN	0	0	0	12	0
##	ART	0	0	0	0	0
##	ARTHIS	24	0	60	7854	20
##	ARTS	0	0	2	0	3
##	ARTSHUM	0	0	0	0	0
##	ARTSTU	1	0	5	9	6
##	ASIANAM	22	0	45	5415	27
##	BIOSCI	259	0	66	279	45
##	BME	0	0	8292	0	1
##	CAMPREC	8	0	23	44	8
##	CBE	0	0	0	0	0
##	CBEMS	0	0	5492	0	0
##	CHC/LAT	13	0	63	44	14
##	CHEM	498	0	2854	61	45
##	CHINESE	0	0	4	684	4
##	CLASSIC	4	0	6	4300	2
##	CLT&THY	0	0	0	0	0
##	COGS	0	0	0	0	0
##	COMLIT	0	0	1	1314	0
##	COMPSCI	0	0	0	0	24560
##	CRITISM	0	0	0	0	0
##	CRM/LAW	7	0	25	69	14
##	CSE	0	0	4156	4	1058
##	DANCE	0	0	6	28	3
##	DRAMA	0	0	3	10	4
##	EARTHSS	2	0	17	44	13
##	EAS	0	0	0	0	0
##	EASIAN	0	0	6	2345	1
##	ECON	14	0	146	47	97
##	EDUABR	0	0	0	0	0
##	EDUC	1	18067	0	14	0
##	EECS	0	0	30379	0	3
##	ENGLISH	0	0	0	5928	0
##	ENGR	0	0	6624	1	0
##	ENGRCEE	0	0	13347	0	5
##	ENGRMAE	0	0	31290	2	2
##	ENGRMSE	0	0	0	0	0
##	ENVIRON	12	0	48	39	19
##	EPIDEM	1	0	0	0	0
##	EUROST	0	0	0	538	0
##	EXCHANG	0	0	0	0	0
##	FAMMED	0	0	0	0	0
##	FLM&MDA	3	0	12	9852	9
##	FRENCH	0	0	6	2254	2
##	GDIM	0	0	0	0	0
##	GEN&SEX	0	0	0	2570	0
##	GERMAN	0	0	6	1026	0
##	GLBLCLT	0	0	0	225	0
##	GLBLME	0	0	0	187	0
##	GREEK	0	0	0	93	0
##	HEBREW	0	0	4	106	0
##	HINDI	0	0	0	10	0

##	HISTORY	40	0	72	27714	29
##	HUMAN	31	0	141	10080	160
##	HUMARTS	0	0	0	5	0
##	I&CSCI	1	0	47	13	37484
##	IN4MATX	0	0	0	0	14518
##	INTLST	13	0	33	47	24
##	ITALIAN	0	0	0	568	0
##	JAPANESE	0	0	4	1441	8
##	KOREAN	0	0	0	933	0
##	LATIN	0	0	0	283	0
##	LINGUIS	2	0	5	95	2
##	LITJRN	0	0	0	1274	0
##	LPS	5	0	8	28	0
##	LSCI	0	0	0	0	0
##	MATH	110	0	3487	81	624
##	MEDHUM	0	0	0	265	0
##	MGMT	6	0	9	5	14
##	MGMTMBA	0	0	0	0	0
##	MGMTPHD	0	0	0	0	0
##	MSE	0	0	0	0	0
##	MUSIC	4	0	27	50	11
##	NURSCI	0	0	0	0	0
##	PATH	0	0	0	0	0
##	PERSIAN	0	0	0	238	0
##	PHILOS	52	0	140	10169	112
##	PHRMSCI	0	0	0	0	0
##	PHYSCI	0	0	2	0	0
##	PHYSICS	0	0	4243	102	249
##	POLSCI	29	0	140	217	53
##	PORTUG	0	0	0	0	0
##	PP&D	0	0	28	19	2
##	PSCI	0	0	0	0	0
##	PSYBEH	85	0	166	161	75
##	PSYCH	74	0	166	159	75
##	PUBHLTH	21	0	3	6	0
##	RADIO	0	0	0	0	0
##	RELSTD	0	0	0	2045	0
##	ROTC	0	0	0	0	0
##	RUSSIAN	0	0	1	545	1
##	SOCECOL	8	0	9	14	1
##	SOCIOI	50	0	87	131	45
##	SOCSCI	11	0	59	106	14
##	SPANISH	3	0	3	4169	2
##	SPPS	0	0	0	0	0
##	STATS	9	0	2	4	15510
##	TEST	0	0	0	0	0
##	UCDC	0	0	0	0	0
##	UNIAFF	1	0	14	13	2
##	UNISTU	33	0	161	147	301
##	UPPP	0	0	0	0	0
##	VIETMSE	0	0	0	271	0
##	VISSTD	0	0	0	1	0
##	WOMNST	14	0	21	3086	0
##	WRITING	115	0	713	7974	207

##	school_name_abbrev								
##	dept_name_abbrev	LARC (TAP)	Medicine	Nursing	Pharm	Sci	Phys	Sci	Public Health
##	ACENG	0	0	0		0		0	0
##	AFAM	0	0	0		0		2	0
##	ANATOMY	0	0	0		0		0	0
##	ANTHRO	0	0	0		0		138	0
##	ARABIC	0	0	0		0		0	0
##	ARMN	0	0	0		0		0	0
##	ART	0	0	0		0		0	0
##	ARTHIS	0	0	0		0		39	0
##	ARTS	0	0	0		0		2	0
##	ARTSHUM	0	0	0		0		1	0
##	ARTSTU	0	0	0		0		6	0
##	ASIANAM	0	0	0		0		43	0
##	BIOSCI	6687	0	0		0		65	0
##	BME	0	0	0		0		1	0
##	CAMPREC	0	0	0		0		21	0
##	CBE	0	0	0		0		0	0
##	CBEMS	0	0	0		0		0	0
##	CHC/LAT	0	0	0		0		38	0
##	CHEM	11150	0	0		0		52567	0
##	CHINESE	0	0	0		0		3	0
##	CLASSIC	0	0	0		0		6	0
##	CLT&THY	0	0	0		0		0	0
##	COGS	0	0	0		0		0	0
##	COMLIT	0	0	0		0		0	0
##	COMPSCI	0	0	0		0		0	0
##	CRITISM	0	0	0		0		0	0
##	CRM/LAW	273	0	0		0		21	0
##	CSE	6	0	0		0		10	0
##	DANCE	0	0	0		0		14	0
##	DRAMA	0	0	0		0		6	0
##	EARTHSS	0	0	0		0		12690	0
##	EAS	0	0	0		0		0	0
##	EASIAN	0	0	0		0		4	0
##	ECON	866	0	0		0		137	0
##	EDUABR	0	0	0		0		0	0
##	EDUC	0	0	0		0		9	0
##	EECS	0	0	0		0		11	0
##	ENGLISH	0	0	0		0		2	0
##	ENGR	121	0	0		0		1	0
##	ENGRCEE	59	0	0		0		8	0
##	ENGRMAE	1	0	0		0		4	0
##	ENGRMSE	0	0	0		0		0	0
##	ENVIRON	24	0	0		0		30	0
##	EPIDEM	0	9	0		0		0	0
##	EUROST	0	0	0		0		0	0
##	EXCHANG	0	0	0		0		0	0
##	FAMMED	0	0	0		0		0	0
##	FLM&MDA	0	0	0		0		3	0
##	FRENCH	0	0	0		0		7	0
##	GDIM	0	0	0		0		0	0
##	GEN&SEX	0	0	0		0		0	0
##	GERMAN	0	0	0		0		4	0

##	GLBLCLT	0	0	0	0	0	0
##	GLBLME	0	0	0	0	0	0
##	GREEK	0	0	0	0	0	0
##	HEBREW	0	0	0	0	4	0
##	HINDI	0	0	0	0	0	0
##	HISTORY	0	0	0	0	75	0
##	HUMAN	261	0	0	0	202	0
##	HUMARTS	0	0	0	0	0	0
##	I&CSCI	1306	0	0	0	15	0
##	IN4MATX	24	0	0	0	0	0
##	INTLST	0	0	0	0	35	0
##	ITALIAN	0	0	0	0	4	0
##	JAPANESE	0	0	0	0	3	0
##	KOREAN	0	0	0	0	3	0
##	LATIN	0	0	0	0	1	0
##	LINGUIS	0	0	0	0	4	0
##	LITJRN	0	0	0	0	0	0
##	LPS	0	0	0	0	10	0
##	LSCI	0	0	0	0	0	0
##	MATH	5907	0	0	0	28300	0
##	MEDHUM	0	0	0	0	0	0
##	MGMT	22	0	0	0	11	0
##	MGMTMBA	0	0	0	0	0	0
##	MGMTPHD	0	0	0	0	0	0
##	MSE	0	0	0	0	0	0
##	MUSIC	0	0	0	0	31	0
##	NURSCI	0	0	1492	0	0	0
##	PATH	0	0	0	0	0	0
##	PERSIAN	0	0	0	0	0	0
##	PHILOS	0	0	0	0	142	0
##	PHRMSCI	0	0	0	4724	4	0
##	PHYSCI	0	0	0	0	135	0
##	PHYSICS	3542	0	0	0	29874	0
##	POLSCI	81	0	0	0	100	0
##	PORTUG	0	0	0	0	0	0
##	PP&D	0	0	0	0	17	0
##	PSCI	0	0	0	0	0	0
##	PSYBEH	65	0	0	0	142	0
##	PSYCH	41	0	0	0	163	0
##	PUBHLTH	0	0	0	0	5	14178
##	RADIO	0	0	0	0	0	0
##	RELSTD	0	0	0	0	0	0
##	ROTC	0	0	0	0	0	0
##	RUSSIAN	0	0	0	0	3	0
##	SOCECOL	21	0	0	0	15	0
##	SOCIOL	0	0	0	0	76	0
##	SOCSCI	1087	0	0	0	35	0
##	SPANISH	0	0	0	0	0	0
##	SPPS	0	0	0	0	0	0
##	STATS	332	0	0	0	4	0
##	TEST	0	0	0	0	0	0
##	UCDC	0	0	0	0	0	0
##	UNIAFF	0	0	0	0	10	0
##	UNISTU	2	0	0	0	167	0

##	UPPP	0	0	0	0	0	0
##	VIETMSE	0	0	0	0	0	0
##	VISSTD	0	0	0	0	0	0
##	WOMNST	0	0	0	0	27	0
##	WRITING	0	0	0	0	352	0
##	school_name_abbrev						
##	dept_name_abbrev	Soc	Ecol	Soc	Sci	Special Programs	Unaffiliated Undergrad Educ
##	ACENG	0	0	0	0	0	0
##	AFAM	12	23	0	0	16	0
##	ANATOMY	0	0	0	0	0	0
##	ANTHRO	127	19585	0	0	512	0
##	ARABIC	0	1	0	0	0	0
##	ARMN	0	0	0	0	0	0
##	ART	0	0	0	0	0	0
##	ARTHIS	28	120	0	0	60	0
##	ARTS	0	8	0	0	3	0
##	ARTSHUM	0	0	0	0	0	0
##	ARTSTU	11	27	0	0	17	0
##	ASIANAM	34	81	0	0	77	0
##	BIOSCI	303	889	0	0	1321	0
##	BME	0	0	0	0	2	0
##	CAMPREC	13	45	0	0	34	0
##	CBE	0	0	0	0	0	0
##	CBEMS	0	0	0	0	0	0
##	CHC/LAT	58	5460	0	0	98	0
##	CHEM	97	210	0	0	891	0
##	CHINESE	5	21	0	0	5	0
##	CLASSIC	5	21	0	0	10	0
##	CLT&THY	0	0	0	0	0	0
##	COGS	0	20	0	0	0	0
##	COMLIT	2	2	0	0	0	0
##	COMPSCI	0	0	0	0	0	0
##	CRITISM	0	0	0	0	0	0
##	CRM/LAW	17346	76	0	0	113	0
##	CSE	0	4	0	0	10	0
##	DANCE	6	24	0	0	18	0
##	DRAMA	3	19	0	0	16	0
##	EARTHSS	27	110	0	0	58	0
##	EAS	0	0	0	0	0	0
##	EASIAN	3	5	0	0	2	0
##	ECON	36	80480	0	0	549	0
##	EDUABR	0	0	545	0	0	0
##	EDUC	8	28	0	0	35	0
##	EECS	0	0	0	0	11	0
##	ENGLISH	0	5	0	0	1	0
##	ENGR	0	0	0	0	1	0
##	ENGRCEE	0	2	0	0	10	0
##	ENGRMAE	0	0	0	0	8	0
##	ENGRMSE	0	0	0	0	0	0
##	ENVIRON	1313	93	0	0	89	0
##	EPIDEM	0	0	0	0	0	0
##	EUROST	0	0	0	0	0	0
##	EXCHANG	0	0	18	0	0	0
##	FAMMED	0	0	0	0	0	0

##	FLM&MDA	25	59	0	15	0
##	FRENCH	6	21	0	13	0
##	GDIM	0	0	0	0	0
##	GEN&SEX	0	0	0	0	0
##	GERMAN	3	3	0	0	0
##	GLBLCLT	0	0	0	0	0
##	GLBLME	0	0	0	0	0
##	GREEK	3	0	0	0	0
##	HEBREW	0	4	0	2	0
##	HINDI	0	0	0	0	0
##	HISTORY	78	220	0	68	0
##	HUMAN	260	1457	0	889	0
##	HUMARTS	0	2	0	0	0
##	I&CSCI	4	53	0	61	0
##	IN4MATX	0	4	0	0	0
##	INTLST	46	7546	0	84	0
##	ITALIAN	0	1	0	2	0
##	JAPANESE	2	13	0	11	0
##	KOREAN	2	14	0	3	0
##	LATIN	0	1	0	0	0
##	LINGUIS	19	2287	0	12	0
##	LITJRN	1	0	0	0	0
##	LPS	8	1725	0	6	0
##	LSCI	0	0	0	0	0
##	MATH	124	1369	0	764	0
##	MEDHUM	0	0	0	0	0
##	MGMT	4	77	0	49	0
##	MGMTMBA	0	0	0	0	0
##	MGMTPHD	0	0	0	0	0
##	MSE	0	0	0	0	0
##	MUSIC	20	44	0	59	0
##	NURSCI	0	0	0	0	0
##	PATH	0	0	0	0	0
##	PERSIAN	0	5	0	0	0
##	PHILOS	134	385	0	134	0
##	PHRMSCI	0	2	0	1	0
##	PHYSCI	0	0	0	0	0
##	PHYSICS	60	203	0	411	0
##	POLSCI	96	23152	0	318	0
##	PORTUG	0	0	0	0	0
##	PP&D	6453	28	0	46	0
##	PSCI	0	0	0	0	0
##	PSYBEH	32845	237	0	746	0
##	PSYCH	83	13486	0	346	0
##	PUBHLTH	16	34	0	20	0
##	RADIO	0	0	0	0	0
##	RELSTD	5	11	0	3	0
##	ROTC	0	0	0	0	219
##	RUSSIAN	3	12	0	0	0
##	SOCECOL	8183	52	0	25	0
##	SOCIOI	178	17800	0	404	0
##	SOCSCI	149	14520	0	61	0
##	SPANISH	8	33	0	6	0
##	SPPS	0	33	0	0	0

##	STATS	4	12	0	7	0
##	TEST	0	0	0	0	0
##	UCDC	0	0	0	0	248
##	UNIAFF	14	48	0	36	2674
##	UNISTU	191	440	0	1998	5377
##	UPPP	845	0	0	0	0
##	VIETMSE	2	2	0	2	0
##	VISSTD	0	0	0	0	0
##	WOMNST	45	84	0	32	0
##	WRITING	235	771	0	701	0