



## An Overview of Undergraduate Courses in Statistics in Latin America

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### Abstract

The statistics profession is relatively new and although the demand for Statisticians is high, there are countries in which the undergraduate courses in statistics do not exist and the professional who operates in the area does not have this specific name. This study aims to show the status of education in undergraduate-level statistics in Latin America showing an overview of the courses in statistics in the main countries of Latin America.

**Keywords:** Latin America; Statistics; undergraduate course.

### 1. Introduction

This study aims to show the status of education in undergraduate-level statistics in Latin America showing an overview of the courses in statistics in the main countries of Latin America.

The data presented in this text refer to different periods, depending on the country to which the data are related. This text contains data of Argentine, Brazil, Chile and Uruguay, but the status of other countries will be included for presentation during the 60th World Statistics Congress.

### 2. Argentina

In Argentina, there are 4 universities that offered or currently offer undergraduate courses in statistics. The courses have a duration ranging from 8 to 10 semesters and were offered in 4 cities: Buenos Aires, Rosario, Catamarca and Mendoza, but today they occur at the first two cities.

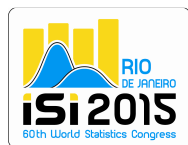
Table 1 shows the number of enrolled students, the number of new registrations and the number of alumni from 2003 to 2012, in careers of statistics in Argentina.

*Table 1: Number of enrolled students, new registrations and alumni in careers of statistics, Argentina*

Year	Enrolled students	New registrations	Alumni
2003	434	110	22
2004	439	127	33
2005	422	104	28*
2006	437*	110*	23
2007	452	117	20
2008	469	116	18
2009	478	121	29
2010	440	99	38
2011	402	65	13
2012	395	70	22

Source: [portales.educacion.gov.ar](http://portales.educacion.gov.ar)

(\*) approximate



The number of enrolled students has increased gradually until 2009. The largest number of new registrations and alumni happened in this year.

According to gender, in 2003, the total number of enrolled students was 322 men (74.2%) and 112 women (25.8%), the number of new registrations was 82 men (74.5%) and 28 women (25.5%); the number of alumni in 2002 was 13 men (76.5%) and 4 women (23.5%).

### 3. Brazil

In Brazil, there are 38 universities that offered or currently offer undergraduate courses in statistics, named Bachelor's Degree in Statistics. The first courses started in 1953 at the *Escola Nacional de Ciências Estatísticas* and at the *Escola Superior de Estatística da Bahia*. The number of courses increased gradually: 7, 16, 20, 20, 32 in the decades of 1960, 1970, 1980, 1990 and 2000, totalizing 34 nowadays.

The courses have the duration ranging from 8 to 10 semesters and are distributed in 29 cities: Belém, Belo Horizonte, Brasília, Campina Grande, Campinas, Cuiabá, Curitiba, Fortaleza, Goiânia, Ji-Paraná, João Pessoa, Juiz de Fora, Manaus, Maringá, Natal, Niterói, Ouro Preto, Presidente Prudente, Porto Alegre, Recife, Rio de Janeiro, Salvador, Santa Maria, São Carlos, São Cristóvão, São Paulo, Teresina, Uberlândia and Vitória.

Tables 2 to 4 show the number of enrolled students, the number of new registrations and the number of alumni from 2004 to 2013, in careers of statistics in Brazil.

According to tables, the proportion of males is higher than the proportion of females for enrolled students, but it decreases when considering alumni; the only exception occurs in 2007, in which the distribution of the number of students and alumni are the same.

*Table 2: Number of enrolled students in careers of statistics, Brazil*

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2004	2,672	57.7	1,956	42.3	4,628
2005	2,717	58,4	1,936	41.6	4,653
2006	2,719	57.8	1,985	42.2	4,704
2007	2,615	57.3	1,950	42.7	4,565
2008	2,404	56.0	1,890	44.0	4,294
2009	2,521	56.7	1,926	43.3	4,447
2010	2,723	56.9	2,061	43.1	4,784
2011	2,823	56.8	2,144	43.2	4,967
2012	2,757	56.7	2,107	43.3	4,864
2013	2,719	56.7	2,077	43.3	4,796

*Source: MEC/INEP: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira*



Table 3: Number of alumni in careers of statistics, Brazil

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2004	225	55.3	182	44.7	407
2005	213	46.7	243	53.3	456
2006	253	53.4	221	46.6	474
2007	269	57.4	200	42.6	469
2008	232	52.7	208	47.3	440
2009	206	51.0	198	49.0	404
2010	230	48.8	241	51.2	471
2011	236	51.4	223	48.6	459
2012	206	48.5	219	51.5	425
2013	218	48.7	230	51.3	448

Source: MEC/INEP: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira

Table 4 shows that, after 2005, there is a gradual increase in the number of enrolled students in statistics careers in Brazil.

Table 4: Number of new registrations in careers of statistics, Brazil

Year	Students
2004	1,383
2005	1,172
2006	1,194
2007	1,216
2008	1,222
2009	1,548
2010	1,605
2011	1,677
2012	1,642
2013	1,739

Source: MEC/INEP: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira

Table 5: Number of courses and enrolled students in careers of statistics, 2013, for region, Brazil

Region	Number of Courses	Number of students	Percentage
Northern	3	490	10.2
Northeast	9	1,099	22.9
Central-West	3	493	10.3
Southeast	15	2,130	44.4
Southern	4	584	12.2
Total	34	4,796	100.0

Source: MEC/INEP: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira

#### 4. Chile

In Chile, there are 13 universities that offered or currently offer undergraduate courses in statistics. The oldest program began in 1980 at the Pontificia Universidad Católica de Valparaíso, but before that



there was a specialization in statistics in the career of Pedagogy in Mathematics, the first one starting in 1969.

The courses have a duration ranging from 8 to 10 semesters and are distributed in 6 cities: Anfogasta, Concepción, Providencia, Santiago, Valparaíso and Viña del Mar.

Tables 6 to 8 show the number of enrolled students, the number of new registrations and the number of alumni from 2005 to 2014, in careers of statistics in Chile.

The numbers of male and female students are approximately equal after 2012. The percentage of males considering new registrations is higher than the percentage of males on the total number of students, and may suggest that dropout rate is greater for men. The number of alumni has remained approximately constant until 2011, with a slightly larger number in 2006 and a high increase in 2013 and 2014.

The number of new registrations increases until 2010, decreasing after this year and reaching the lowest level in 2014. This may have reflected as a lower number of alumni in the coming years.

*Table 6: Number of enrolled students in careers of statistics, Chile*

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2005	351	46.4	406	53.6	757
2006	386	48.9	404	51.1	790
2007	416	48.5	441	51.5	857
2008	444	50.3	438	49.7	882
2009	448	49.9	450	50.1	898
2010	495	51.2	472	48.8	967
2011	516	51.2	491	48.8	1,007
2012	483	50.1	481	49.9	964
2013	461	50.0	461	50.0	922
2014	421	49.9	422	50.1	843

Source: Conselho Nacional de Educação do Chile - [www.cned.cl](http://www.cned.cl)

*Table 7: Number of new registrations in careers of statistics, Chile*

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2005	125	54.8	103	45.2	228
2006	152	57.4	113	42.6	265
2007	149	53.4	130	46.6	279
2008	142	53.4	124	46.6	266
2009	145	48.8	152	51.2	297
2010	182	57.8	133	42.2	315
2011	145	49.5	148	50.5	293
2012	100	52.1	92	47.9	192
2013	104	51.0	100	49.0	204
2014	81	50.6	79	49.4	160

Source: Conselho Nacional de Educação do Chile - [www.cned.cl](http://www.cned.cl)



Table 8: Number of alumni in careers of statistics, Chile

Year	Students
2005	45
2006	59
2007	47
2008	52
2009	50
2010	42
2011	46
2012	54
2013	78
2014	90

Source: Consejo Nacional de Educación do Chile - [www.cned.cl](http://www.cned.cl)

### 5. Uruguay

In Uruguay, the career of statistics is offered by the Universidad de la República, Montevideo, with duration of 8 semesters. The course began in 1998.

Tables 9 to 10 show the number of enrolled students and the number of alumni from 2005 to 2013, in careers of statistics in Uruguay.

Table 9: Number of enrolled students in careers of statistics, Uruguay

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2005	-	-	-	-	-
2006	59	47.6	65	52.4	124
2007	80	39.2	124	60.8	204
2008	54	50.9	52	49.1	106
2009	58	54.2	49	45.8	107
2010	31	46.3	36	53.7	67
2011	54	46.2	63	53.8	117
2012	27	52.9	24	47.1	51
2013	28	43.1	37	56.9	65

Source: [www.planeamiento.udelar.edu.uy](http://www.planeamiento.udelar.edu.uy)

Table 10: Number of alumni in careers of statistics, Uruguay

Year	Male		Female		Total
	Students	Percentage	Students	Percentage	
2005	0	0.0	1	100.0	1
2006	0	0.0	1	100.0	1
2007	3	75.0	1	25.0	4
2008	3	23.1	10	76.9	13
2009	1	11.1	8	88.9	9
2010	1	33.3	2	66.7	3
2011	2	28.6	5	71.4	7
2012	8	61.5	5	38.5	13
2013	-	-	-	-	-

Source: [www.planeamiento.udelar.edu.uy](http://www.planeamiento.udelar.edu.uy)



The number of students decreases over the time and, in general, the proportion of females is higher than the proportion of males.

### **5. Conclusions**

The percentages of males and females are approximately the same. A common feature of these courses is that the number of alumni is quite smaller than the number of enrolled students in the courses, i.e., the dropout rate is high. Some universities even manage to attract students to get the maximum acceptance.

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