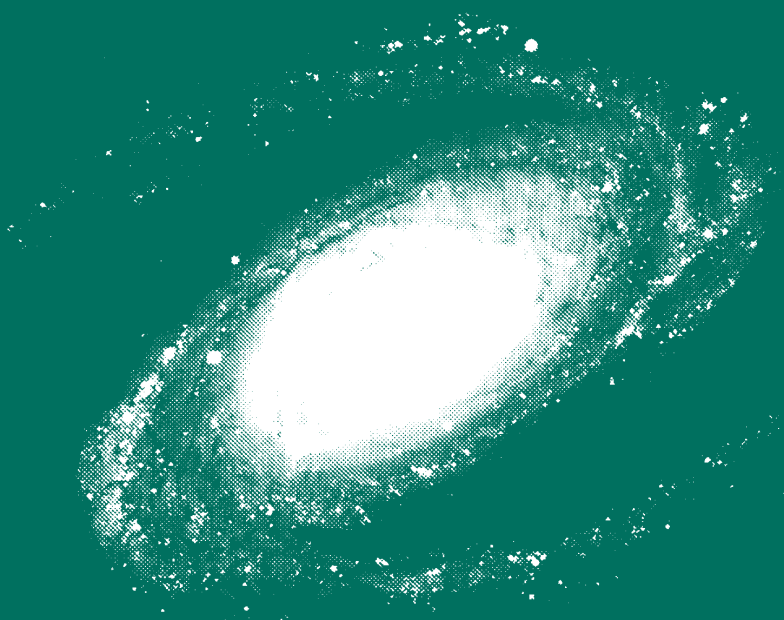


Danish Research Training in Facts and Figures 1999



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Danish Research Training in Facts and Figures 1999 presents data principally on enrolled PhD students during 1993-98. Moreover, some information on the number of the PhD degrees conferred 1987-98 is presented. Special attention is paid to the transition from Master to PhD student, to long-term stays abroad, to the number of doctorates conferred and the occupational status of the PhDs. Finally, the total number of enrolled PhD students is presented according to their distribution at universities and within the disciplines.

The Danish Research Academy is an institution under the Ministry of Research. The aim is to support and stimulate formalised research training. One of the key tasks of the Academy is to monitor information on all PhD students in Denmark.

In 1993, new requirements were set up for the PhD study programmes and the award of the PhD, based on the Ministerial Order of 11th December 1992 on the PhD degree. Hence the information primarily covers the period from 1993.

The terminology used is according to proposals from the Organisation for Economic Co-operation and Development (OECD).

Further information on research training in Denmark can be obtained from the Danish Research Academy.

The following have been published in English by The Danish Research Academy since November 1998:

Centres of Excellence in Research Training. Experiences from different European Countries, November 1998

Danish Research Training in Facts and Figures, December 1998

The Graduate School Initiatives of the Danish Research Academy, June 1999.

All our publications can be seen and downloaded at the following address:
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If you are interested in receiving the publications, or you wish to know more about the Academy, please contact us at the address on the opposite page.

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Fig. 1.1: The total number of PhD students enrolled 1993-1998

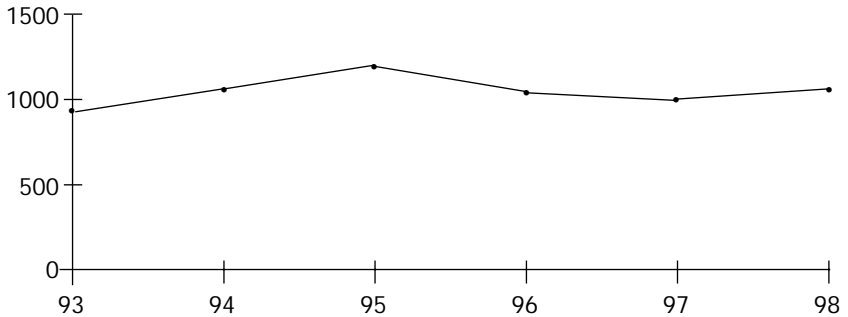


Table 1.1: The total number and distribution of PhD students enrolled 1993-1998, according to main discipline

	93	94	95	96	97	98
Humanities	127	161	203	172	138	185
Social Sci.	87	133	163	163	137	123
Natural Sci.	218	227	242	210	222	226
Health Sci.	223	286	240	271	245	242
Agri/Vet.	85	83	92	66	77	91
Tech. Sci	184	224	279	220	219	238
Total	924	1114	1219	1102	1038	1105

(Based on data from The Danish Research Academy's PhD register)

Fig 1.2: The percentage of women enrolled as PhD students 1993-98

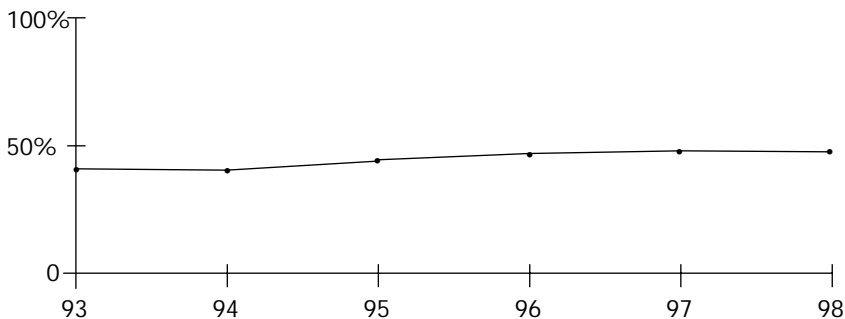


Table 1.2: The percentage of women enrolled as PhD students 1993-98, according to main discipline

	93	94	95	96	97	98
Humanities	48	48	47	50	59	52
Social Sci.	22	38	36	31	38	33
Natural Sci.	33	30	24	35	34	35
Health Sci.	47	45	55	49	49	51
Agri/Vet.	47	49	47	48	53	47
Tech. Sci.	21	16	24	24	18	24
Total	36	36	37	39	39	40

(Based on data from The Danish Research Academy's PhD register)

Fig.1.3: The average age at enrollment as PhD student 1989-1998

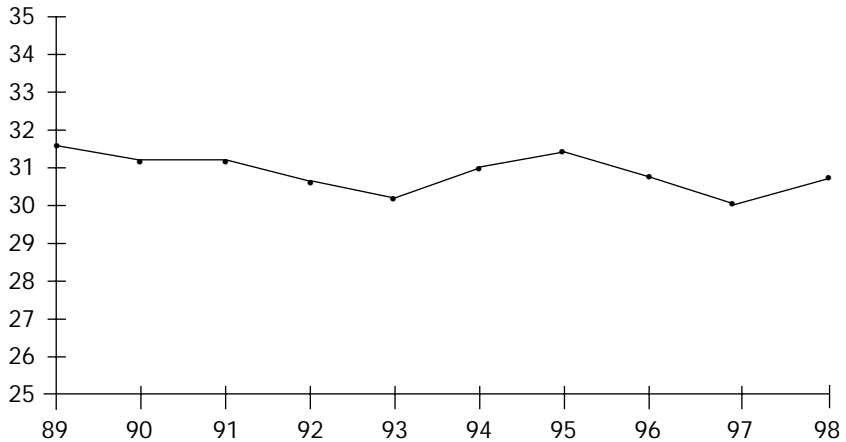


Table 1.3: The average age at enrollment as PhD student 1989-1998, according to main discipline

	89	90	91	92	93	94	95	96	97	98
Humanities	37.4	36.1	36.8	35.5	35.8	36.2	35.7	35.7	33.9	35.8
Social Sci.	33.1	33.1	30.8	32.7	31.1	30.9	32.1	31.4	31.9	31.7
Natural Sci.	30.6	30.0	30.5	28.7	28.0	28.5	29.0	28.2	27.8	28.0
Health Sci.	31.8	32.5	32.6	31.7	32.6	32.5	32.8	32.1	31.7	32.2
Agri/Vet.	31.2	30.7	31.0	29.9	30.6	30.7	32.6	30.6	29.9	30.2
Tech. Sci.	27.5	27.6	27.7	28.0	26.7	28.0	28.0	27.6	27.8	28.1
Total	31.6	31.2	31.2	30.7	30.4	30.9	31.3	30.8	30.2	30.8

(Based on data from The Danish Research Academy's PhD register)

Table 2.1: The ratio between PhDs (1998) and Master degrees (1997/98) according to main discipline

	Number of Master degrees 1997/98	Number of PhDs enrolled 1998	Ratio PhD/Master in %
Humanities	2358 ¹	185	8
Social Sci.	3236	123	4
Natural Sci.	1034	226	22 ²
Health Sci.	677 ³	242 ⁴	36 ⁵
Agri/Vet.	302	91	30 ⁶
Tech. Sci.	912	238	26 ⁷
Total	8519	1105	13

(Based on data from The Danish Research Academy's PhD register and preliminary data from Statistics Denmark)

- 1) This includes 242 MScs (Arch), 409 MScs (Psych) and 12 MScs (Anthr).
- 2) In 1998, 125 MScs enrolled for a PhD programme in other disciplines. Consequently, 33% of all MScs are enrolled as PhDs.
- 3) This includes 129 MScs (Pharm), 99 MSDents, 419 MSc (Med) and 30 MScs (Nursing).
- 4) This includes 25 enrolled at the Royal Danish School of Pharmacy. 126 of the remaining 217 enrolled at the universities of Copenhagen, Aarhus and Odense had an MSc (Med).
- 5) For MScs (Med) exclusively, the number of Master degrees in per cent is 30.
- 6) For MScs (Agron/Vet) exclusively, the number of Master degrees in per cent is 20.
- 7) For MScs (Civil engineering) exclusively, the number of Master degrees in per cent is 23.

Table 3.1: Percentage and the total number of PhD students 1989-99, according to main discipline

	89	90	91	92	93	94	95	96	97	98	99
Humanities	18	18	19	18	18	18	17	17	18	17	18
Social Sci.	13	12	12	11	11	12	11	12	12	13	13
Natural Sci.	20	20	20	23	28	23	22	21	20	20	19
Health Sci.	10	11	13	17	18	20	21	22	23	23	23
Agri/Vet.	10	11	10	8	8	8	8	8	8	8	7
Tech. Sci.	29	28	26	23	17	19	21	20	19	19	20
	100	100	100	100	100	100	100	100	100	100	100
Total	1679	2114	2520	2998	3579	4028	4401	4594	4796	4712	4914

(Based on data from The Danish Research Academy's PhD register)

Table 3.2: The number of PhD students enrolled per 15th March 1999, according to main discipline

	Enrolled before January 1st 1993	Enrolled after January 1st 1993	Total
Humanities	85	778	863
Social Sci.	33	589	622
Natural Sci.	59	895	954
Health Sci.	22	1093	1115
Agri/Vet.	16	338	354
Tech. Sci.	39	967	1006
Total	254	4660	4914

(Based on data from The Danish Research Academy's PhD register)

Table 4.1: The number of Danish students taking their entire PhD training abroad and their source of finance as of 1st October 1999

	Danish Res. Academy (Grant/Salary)	Danish Res. Academy (Tuition only)	Research Councils (Grant/Salary)	Rectors' Conf. EUI scholarsh. (Grant/Salary)	Total
Humanities	39	20	12	5	76
Social Sci.	23	12	9	9	53
Natural Sci.	44	33	14	0	91
Health Sci.	5	2	0	0	7
Agri/Vet.	2	2	0	0	4
Tech. Sci.	13	3	0	0	16
Total	126	72	35	14	247

(Based on data from The Danish Research Councils, The Danish Rectors' Conference and The Danish Research Academy)

Table 5.1: Mobility of PhD students in percentage of all PhD students enrolled. Only stays abroad of more than 3 months duration as part of PhD training are presented. Based on persons who received their PhD degree 1989-1998 and according to main discipline

	1989+90	1991	1992	1993	1994	1995	1996	1997+98
Humanities	15%	27%	19%	38%	40%	27%	34%	51%
Social Sci.	34%	18%	47%	41%	54%	59%	57%	73%
Natural Sci.	38%	21%	32%	44%	37%	33%	55% ¹	66%
Health Sci.	6%	10%	24%	13%	14%	19%	16%	18%
Agri/Vet.	18%	22%	23%	29%	37%	33%	48%	35%
Tech. Sci.	19%	31%	20%	24%	19%	25%	39% ¹	61%
Total	25%	24%	27%	31%	29%	33%	39%	49% ²

(Based on data from The Danish Research Academy's questionnaire surveys)

- 1) The figures for 1996 are corrected for natural sciences and technical sciences owing to minor adjustments to the mode of summation.
- 2) This includes only PhDs, who were enrolled after 1st January 1993, and who received their degree in 1997 and 1998. Consequently, it does not include a minor number of persons enrolled before 1st January 1993.

Fig.6.1: The number of PhD degrees conferred 1987-98

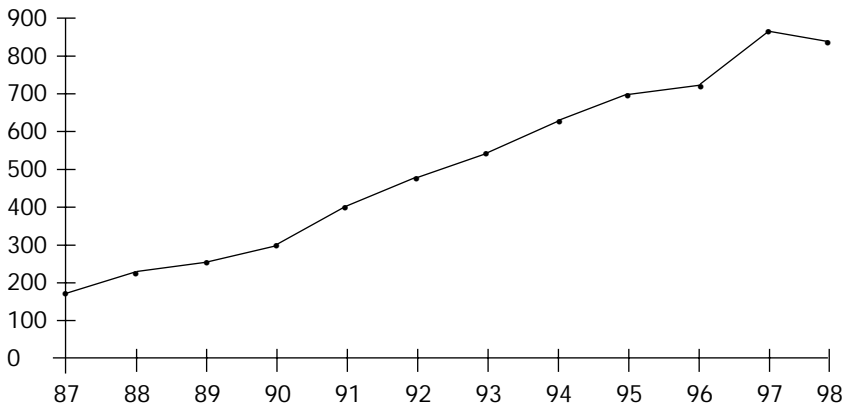


Table 6.1: The number of PhD degrees conferred 1987-97, according to main discipline

	87	88	89	90	91	92	93	94	95	96	97	98
Humanities	21	27	30	41	53	74	60	53	56	91	96	104
Social Sci.	18	28	24	39	36	53	54	54	72	70	68	88
Natural Sci.	44	65	83	93	127	136	156	161	196	177	224	204
Health Sci.	12	24	16	24	31	52	104	123	119	179	198	223
Agri/Vet.	23	19	25	27	45	37	51	55	62	42	79	53
Tech. Sci.	49	74	77	77	126	131	168	189	195	159	204	167
Total	167	237	255	301	418	483	593	635	700	718	869	839

(Based on data from The Danish Research Academy's PhD register)

Fig. 6.2: Number of PhD degrees conferred in 1998 at Danish universities and other institutions of higher education

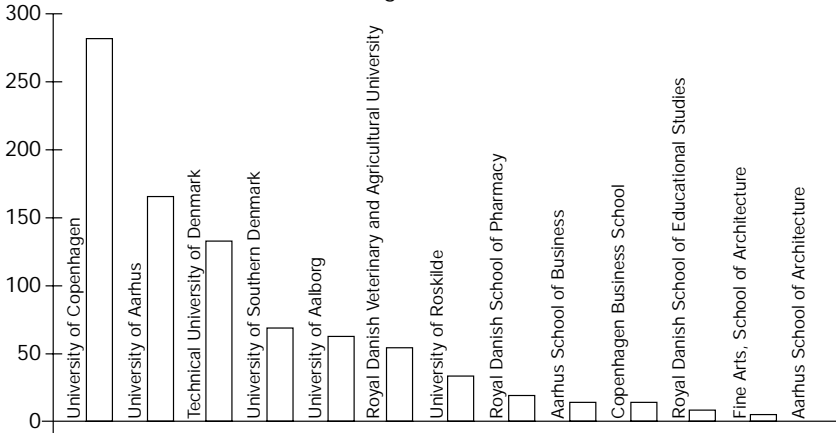


Table 6.2: Total number and percentage of PhD degrees conferred in 1998 at Danish universities and other institutions of higher education

	Number	%
University of Copenhagen	288	34
University of Aarhus	168	20
Technical University of Denmark	131	16
University of Southern Denmark	63	7
University of Aalborg	59	7
Royal Danish Veterinary and Agricultural University	53	6
University of Roskilde	32	4
Royal Danish School of Pharmacy	14	2
Aarhus School of Business	13	2
Copenhagen Business School	12	1
Royal Danish School of Educational Studies	5	1
Fine Arts, School of Architecture	1	0
Aarhus School of Architecture	0	0
Total	839	100

(Based on data from The Danish Research Academy's PhD register)

Fig. 6.3: The total number of PhD degrees conferred 1987-98, according to gender

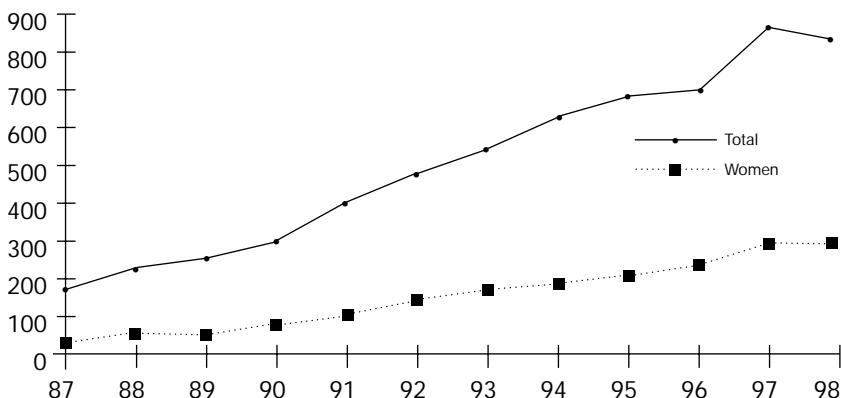


Table 6.3: The total number of PhD degrees conferred 1987-98, according to gender

	87	88	89	90	91	92	93	94	95	96	97	98
Mænd	140	193	216	233	307	359	422	450	492	490	576	547
Kvinder	27	44	49	68	111	124	171	185	208	228	293	292
I alt	167	237	265	301	418	483	593	635	700	718	869	839
Kv. andel	16%	19%	19%	23%	27%	26%	29%	29%	30%	32%	34%	35%

(Based on data from The Danish Research Academy's PhD register)

Table 6.4: The number of PhD degrees conferred in 1998, according to gender and main discipline

	Women	Men	Total
Humanities	39	65	104
Social Sci.	28	60	88
Natural Sci.	62	142	204
Health Sci.	105	118	223
Agri/Vet.	27	26	53
Tech. Sci.	31	136	167
Total	292	547	839

(Based on data from The Danish Research Academy's PhD register)

Fig. 6.5: The average age upon procurement of the PhD degree 1989-98

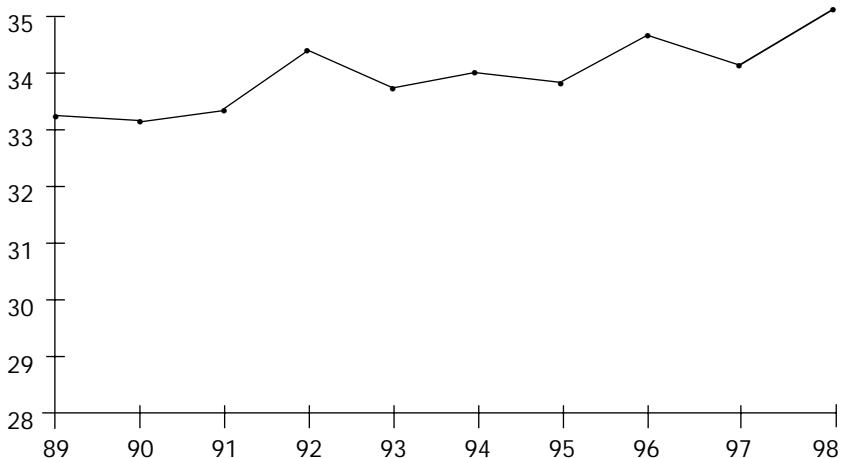


Table 6.5: The average age upon procurement of the PhD degree 1989-98 according to main discipline

	89	90	91	92	93	94	95	96	97	98
Humanities	39.7	40.4	40.4	39.1	39.3	39.9	40.5	40.5	39.2	41.1
Social Sci.	35.2	35.2	35.7	35.0	35.5	35.9	36.6	36.8	37.0	36.6
Natural Sci.	33.1	32.9	32.8	34.0	32.6	33.3	32.4	32.8	32.2	32.0
Health Sci.	32.4	32.5	34.1	33.8	35.3	36.2	36.4	36.1	36.5	37.2
Agri/Vet.	33.1	33.3	33.7	35.5	33.6	34.4	33.6	34.6	35.6	35.6
Tekn.-vid.	31.1	30.6	30.9	31.5	31.8	31.2	31.1	31.9	31.5	32.3
Average*	33.3	33.3	33.6	34.4	33.7	34.0	33.9	34.9	34.4	35.3

(Based on data from The Danish Research Academy's PhD register)

* Note: weighted average

Table 7.1: PhDs on the labour market in 1999, pertaining to persons, who received their PhD in 1997 and 1998, per cent

	University	Other Public Sector	Private Sector	Abroad	No occu- pation	Total
Humanities	65	33	9	1	2	100
Social Sci.	62	14	16	7	1	100
Natural Sci.	29	20	29	19	3	100
Health Sci.	12	71	14	2	1	100
Agri/Vet.	33	31	27	5	4	100
Tech. Sci.	28	9	53	9	1	100
Total	30	32	27	9	2	100

(Based on data from The Danish Research Academy's questionnaire surveys)

Table 8.1: The number of Industrial PhD degrees and Academy joint financed PhD degrees in relation to the total number of PhD degrees granted in 1998, according to main discipline

	PhD degrees in 1998	Number of industrial PhDs*	Number of joint financed PhDs**
Humanities	104	0	2
Social Sci.	88	1	1
Natural Sci.	204	6	23
Health Sci.	223	3	33
Agri/Vet.	53	1	8
Tech. Sci.	167	24	9
Total	839	35	76

(Based on data from The Danish Research Academy's PhD register)

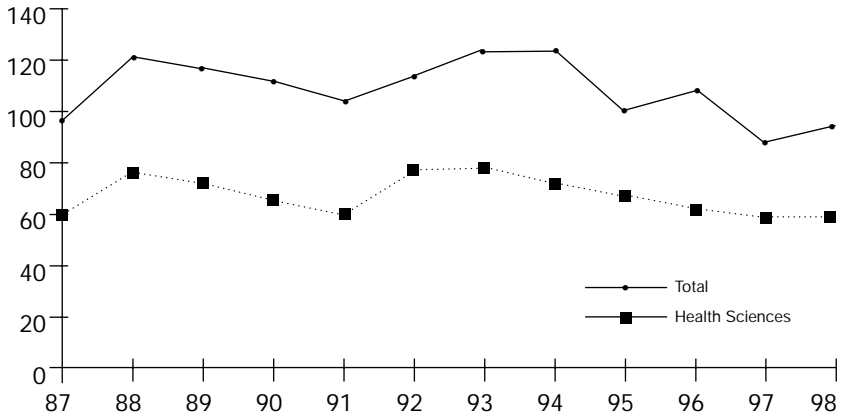
* Industrial PhD

The training has been carried out in a formalised co-operation between a University, a commercial enterprise, where the candidate has been employed, and the Danish Academy of Technical Sciences' Committee on the Industrial PhD Fellowship Programme.

**Academy joint financed PhD

The training has been carried out in a formalised co-operation between a University, a Government Research Institute/Ministry/University hospital, and the Danish Research Academy, where the candidate has been employed.

Fig. 9.1: The total number of doctorates* (obtained following the PhD level) conferred in Denmark 1987-1998, including the number of health science degrees



Doctorate = the degree, title or rank of a Doctor of Economy, Medicine, Polytechnics, Sciences, etc.

Table 9.1: The number of doctorates conferred in Denmark 1987-98, according to main discipline

	87	88	89	90	91	92	93	94	95	96	97	98
Humanities	20	18	16	13	21	20	29	19	14	19	6	11
Social Sci.	7	7	9	3	6	3	4	8	0	6	5	5
Natural Sci.	6	13	15	10	16	13	9	16	6	11	10	9
Health Sci.	60	79	71	69	58	77	78	75	69	63	61	61
Agri/Vet.	3	3	2	12	2	0	2	5	0	4	4	4
Tech. Sci.	2	1	0	2	2	3	3	2	7	3	1	5
Total	98	121	113	109	105	116	125	125	96	106	87	95

(Based on data from institutions of higher education in Denmark)

Table 10.1: PhD students (only those enrolled after 1st January 1993) distributed by institutions, main disciplines and study programmes as of 15th March 1999

	Study programme	Main discipline	Institution
UNIVERSITY OF COPENHAGEN			1270
Humanities		221	
language technology	3		
arnamagnæan	0		
institute of asian studies	5		
english	12		
eskimology	2		
archeology and ethnology	18		
film and media studies	9		
education, philosophy and rhetoric	22		
folklore	0		
germanic philology	5		
greek and latin	4		
history	13		
informatics	2		
art history and theatre research	13		
comparative literature	11		
near Eastern studies	11		
musicology	5		
nordic philology	28		
pyschology	34		
history of religion	6		
romance languages	13		
east European studies	5		
women's studies	0		
Social Sciences	106		
anthropology	21		
sociology	18		
political science	21		
economics	46		

	Study programme	Main discipline	Institution
Law		35	
law	35		
Natural Sciences			399
astromony, physics and geophys.	83		
botany	30		
computer science	12		
physiology, biochem. and exercise	15		
geography	27		
geology	35		
sport and culture	6		
chemistry	36		
mathematics	9		
molecular biology	77		
protein chemistry	12		
zoology	57		
Health Sciences		487	
health sciences	487		
Theology		22	
theology	22		
UNIVERSITY OF AARHUS			898
Humanities		113	
antiquities research	5		
archaeological research	9		
philosophy research	8		
ethnography and social anthropol.	2		
foreign languages and linguistics	14		
history and cultural history	27		
literature research	21		
information and media research	9		
aesthetics	15		
gender studies	1		
none available	2		

	Study programme	Main discipline	Institution
Social Sciences		116	
law	27		
managerial economics	7		
economics	28		
psychology	29		
political science	25		
Natural Sciences*		292	
applied physics	3		
astromony	2		
biology	43		
computer science	45		
physics	35		
geology	30		
chemistry	34		
mathematics	16		
molecular biology	71		
statistics and mathematical econ.	8		
history and phil. of sci. & tech.	5		
Health Sciences		349	
health sciences	349		
Theology		28	
theology	28		
UNIVERSITY OF SOUTHERN DENMARK			375
Humanities		77	
philosophy	3		
history and western civilisation	27		
literature, media and cult. studies	23		
language and communication	19		
communication for special purposes	4		
none available	1		

	Study programme	Main discipline	Institution
Social Studies		47	
marketing	1		
business administration	15		
european studies	6	1	
local government studies	6		
acc., aud., business + tax law	2		
health economics	5		
management	5		
individual studies	7		
Science and engineering*		115	
biochemistry	12		
biology	16		
production technology	11		
physics	11		
chemistry	26		
mathematics and computer sci.	12		
molecular biology	27		
Health Sciences		136	
health sciences	136		
UNIVERSITY OF ROSKILDE			201
Humanities		74	
adult, continuing and voc. educ.	36		
european cultural studies	9		
language, culture and comm.	12		
individual studies	16		
none available	1		
Social Sciences		76	
urban and reg. devel. in Europe	10		
comparative welfare systems	17		
techn. policy + socioecon. develop.	12		
political and cultural inst. in devel.	19		
individual studies	16		
none available	2		

	Study programme	Main discipline	Institution
Natural Sciences		51	
environmental science	19		
didactics of maths and physics	5		
soft materials science	3		
individual studies	24		
UNIVERSITY OF AALBORG			376
Humanities		62	
Centre for the interdisciplinary study of learning	9		
cultural and literary studies	12		
human computer science	7		
language studies	6		
comparative literary and cultural theory	8		
communication, media and culture	6		
music and music technology	5		
music therapy	6		
SPIRIT	5		
individual studies	7		
Social Sciences		34	
labour market studies	4		
international studies	7		
economics	6		
women studies, gender relations	0		
welfare state studies	3		
individual studies	11		
Technical and Natural Sciences		271	
biotechnology and environm. eng.	28		
biomedical science and engineering	35		
civil engineering	30		
computer science and engineering	24		
electronics and electrical eng.	61		

	Study programme	Main discipline	Institution
mathematics and physics	21		
mechanical engineering	36		
planning and development	35		
technology and science	0		
none available	1		
TECHNICAL UNIVERSITY OF DENMARK			734
civil eng., environm. and planning	99		
electrical engineering	152		
physics	34		
chemistry	227		
mechanical engineering	121		
mathematics	69		
society, planning and technology	32		
THE ROYAL DANISH VETERINARY AND AGRICULTURAL UNI.			338
Food science and human nutrition		76	
natural sciences	29		
food science and human nutrition	47		
Agri. econ., forest and landscape		151	
agri. econ., forest and landscape	32		
plant and soil sciences	119		
Veterinary and Animal Science		111	
veterinary and animal science	111		
COPENHAGEN BUSINESS SCHOOL			167
Business administration and economics		135	
marketing	13		
business law	4		
finance	5		
information and management acc.	13		
industrial economics and strategy	7		

	Study programme	Main discipline	Institution
intercultural comm. and managem.	14		
public org. and managem.	3		
organisation and industrial sociol.	22		
accounting and audit.	6		
international business	8		
management, politics and phil.	15		
logistics and transport	10		
national economics	6		
acc., aud., business and tax law	2		
individual studies	1		
none available	6		
Modern languages		32	
computational linguistics	5		
terminology, lexicology	18		
intercultural comm. and managem.	9		
AARHUS BUSINESS SCHOOL			52
Business administration and economics		40	
business law	4		
business adm. and economics	36		
Modern languages		12	
foreign language research	12		
ROYAL DANISH SCHOOL OF PHARMACY			121
pharmaceutical programme	121		
THE ROYAL DANISH SCHOOL OF EDUCATIONAL STUDIES			96
educational studies	96		
FINE ARTS SCHOOL OF ARCHITECTURE			20
architecture	20		

	Study programme	Main discipline	Institution
AARHUS SCHOOL OF ARCHITECTURE			12
architecture	12		
Total			4660

(Based on data from Danish institutions of higher education)

- * When comparing the PhD student population within Natural Sciences, please note that the majority of the PhD training programmes in natural sciences at the universities of Aarhus and Odense, are 4 year programmes.