



# 15

Education and science

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## People in education

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# Table of contents

Introduction	4
Compulsory education: General remarks	5
Compulsory education: Primary level 1–2 (kindergarten, first learning cycle)	7
Compulsory education: Primary level 3–8	8
Compulsory education: Lower secondary level	9
Upper secondary level: General remarks	10
Upper secondary level: Vocational education and training VET	11
Upper secondary level: Federal vocational matura	12
Upper secondary level: Matura	13
Upper secondary level: Upper secondary specialised schools	14
Upper secondary level: Transitional and complementary education	15
Tertiary level: General remarks	16
Tertiary level: Professional education and training PET	17
Tertiary level: Professional education and training colleges	18
Tertiary level: Preparation for federal or advanced federal PET diploma and training and education not governed by the VPETA	19
Tertiary level: Higher education institutions	20
Tertiary level: Universities and institutes of technology UIT	21
Tertiary level: Universities of applied sciences UAS	22
Tertiary level: Universities of teacher education UTE	23
Sources	25
Abbreviations	26

# Introduction

This publication provides an overview of people in education in Switzerland. The statistical results are presented according to the different levels of education which make up the Swiss educational system, i. e. compulsory schooling (primary<sup>1</sup> and lower secondary level), upper secondary level (vocational education and training VET and general education programmes) and tertiary level (professional education and training PET and higher education institutions). They are based on the most recent data, i. e. from the academic year 2015/16 for all education excluding the higher education institutions and from the academic year 2016/2017 for those institutions.

In 2015/16 there were more than 1.5 million pupils and students in Switzerland, representing almost a fifth of the country's population. Roughly, half of people in education are female and almost a quarter are of foreign nationality. 58% of people in education are in compulsory schooling, 23% at upper secondary level and 19% at tertiary level.

Two trends have marked the growth in the number of pupils and students since the beginning of the millennium. Whereas the number of pupils in compulsory education first stagnated, declined gradually and then has been growing since 2012/13 in line with demographic trends, numbers in the upper secondary level and especially those in the tertiary level grew throughout the same period. The increase observed in the tertiary level was particularly marked in the higher education institutions.

Overview of people participating in education

T 1

	2000/01	2005/06	2010/11	2015/16
<b>Total</b>	<b>1 441 668</b>	<b>1 496 138</b>	<b>1 529 814</b>	<b>1 588 792</b>
Compulsory education	957 154	957 346	900 238	928 268
Upper secondary level	315 672	324 467	354 347	365 171
Tertiary level	160 484	204 665	257 809	295 353
Level unspecified	8 358	9 660	17 420	–

Sources: FSO – SDL, SHIS-studex

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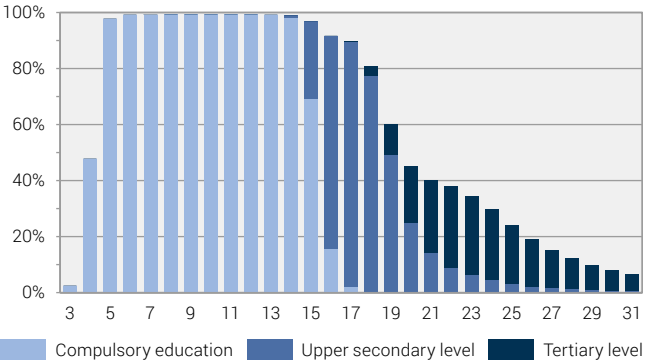
Graph G1 shows that in 2015/16, almost 50% of 4-year-olds and over 95% of 5-year-olds were enrolled in education. Most pupils had finished compulsory schooling at the age of 16. However, the majority of them remain in the educational system, most of them

<sup>1</sup> The primary level lasts eight years including the two years of kindergarten or first learning cycle.

following education and training at upper secondary level. Whereas the majority of students aged 16 to 18 are in this type of education, this percentage falls to 50% of 19 year-olds, at which age courses are started at the tertiary level. Almost 60% of young people aged 19 participate in education. This figure falls to approximately 45% among twenty year-olds and continues to decline steadily thereafter.

School attendance rate by age, 2015/16

G1



Sources: FSO – SDL, SHIS-studex, STATPOP

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### Compulsory education: General remarks

In recent years compulsory education has undergone two major reforms: The first concerned its structure with the implementation of the HarmoS<sup>2</sup> Agreement. According to this Agreement, compulsory education lasts eleven years. It covers the primary and lower secondary levels. The primary level lasts eight years including the two years of kindergarten or the first two years of the elementary cycle. The majority of cantons have adopted the directives of the HarmoS Agreement. As well in cantons, which have not signed this Agreement, a gradual harmonisation can be noticed.

<sup>2</sup> "Intercantonal Agreement on Harmonisation of Compulsory Education". It governs the duration and main objectives of each educational level as well as the transition from one level to the next.

The second reform concerned pupils with special needs. Although in the past these pupils were put in special classes or schools, nowadays they are integrated more and more into normal classes where they receive additional specialised teaching support, individually or in a group<sup>3</sup>.

According to table T2, almost 928 300 pupils participated in compulsory education in 2015/16. 18% of them were enrolled at primary level 1–2 (kindergarten, first learning cycle years 1–2), 51% at primary level 3–8, 27% at lower secondary level and 3% in special education programmes. Girls account for almost half of pupils at each level of compulsory education and pupils of foreign nationality for almost a quarter. Special education programmes, however, show figures quite different to these two averages (35% girls, 46% foreign pupils).

## Overview of pupils in compulsory education

T2

	2000/01	2005/06	2010/11	2015/16		
					Female (%)	Foreign (%)
<b>Compulsory education: total</b>	<b>957 154</b>	<b>957 346</b>	<b>900 238</b>	<b>928 268</b>	<b>48.5</b>	<b>26.7</b>
Primary level 1–2 <sup>1</sup>	156 364	156 129	147 932	170 566	48.7	27.3
Primary level 3–8	473 739	454 092	429 254	477 572	49.1	26.6
Lower secondary	278 457	298 436	285 922	249 020	49.0	24.0
Special education programme	48 594	48 689	37 130	31 110	35.1	46.0

<sup>1</sup> Kindergarten, first learning cycle

Source : FSO – SDL

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<sup>3</sup> Current statistics are not yet able to show numbers of pupils who receive specialised teaching support in normal classes. Only data on pupils following a special education programme, i.e. pupils in special classes or schools (classes for foreign language speaking pupils or introduction classes) are collected.

## Compulsory education: Primary level 1–2 (kindergarten, first learning cycle)

The first two years of mandatory school are labelled as primary level 1–2. They correspond to kindergarten or the first two years of the elementary cycle. Before the implementation of HarmoS it was labelled as pre-primary level.

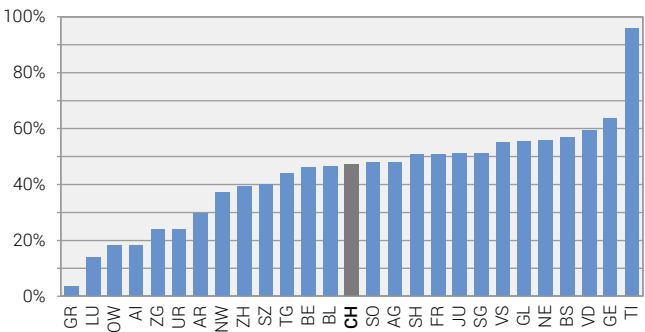
In some cantons attendance at pre-primary level is compulsory for only one year. In the canton of Ticino children from three years on can attend an optional year of kindergarten in addition to the two mandatory years. The variety of practices is shown in graph G2 which gives, by canton, the percentage of 4-year-olds having already started a pre-primary programme in relation to the total number of children of that age. These differences will however decrease following the implementation of HarmoS.

In 2015/16 more than 170 500 children attended pre-primary education, representing an increase of 2.1% compared with the previous year. 49% of children were female and 27% of foreign nationality.

According to the FSO 2016–2025 scenarios for compulsory education, numbers at primary level 1–2 are expected to increase over the coming years due to the growing number of births as well as the implementation of the HarmoS Agreement.

School attendance rate of 4 year-olds by canton, 2015/16

G2



Sources: FSO – SDL, STATPOP

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## Compulsory education: Primary level 3–8

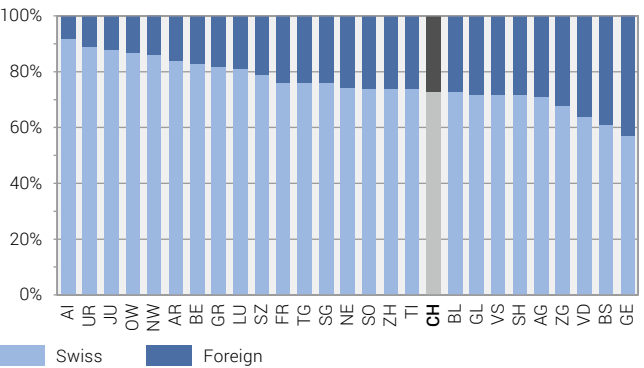
The primary level 3–8 encompasses the years 3 to 8 of compulsory school and takes therefore six years. Before the HarmoS Agreement it was the school years 1–5 or 6 of the primary level. In the canton Ticino the primary level 3–8 takes only five years<sup>4</sup>. The aim of the primary level is to teach children reading, writing and mathematics as well as to instil in them basic knowledge of other subjects.

In 2015/16, more than 477 500 pupils attended the primary level 3–8, i. e. an increase of 2.3% compared to the previous year. Girls account for 49% and children of foreign nationality for 27%. As shown in Graph G3, the share of foreign pupils varies widely by canton.

Compared to 2000/01, numbers at primary level 3–8 are stable (increase of 0.8%). According to the FSO 2016–2025 scenarios for compulsory education it is expected that the number of students will continually grow for the next ten years.

**Pupils in primary level 3–8 by nationality and canton, 2015/16**

**G3**



Source: FSO – SDL

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<sup>4</sup> In this canton, the lower secondary level start earlier and lasts four years instead of three.



# Compulsory education: Lower secondary level

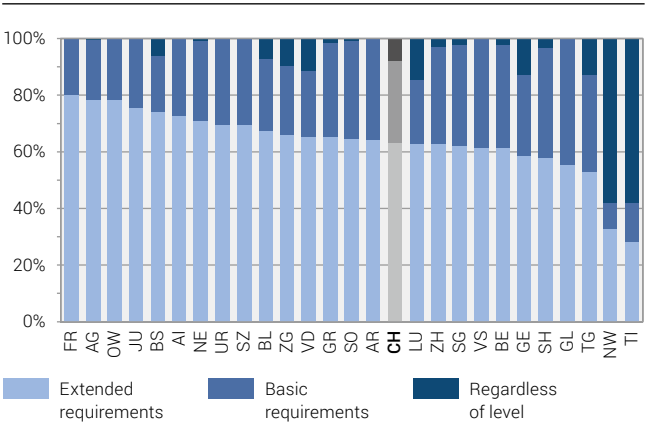
Education at lower secondary level lasts three years<sup>5</sup>. During this period, pupils receive a basic general education and prepare themselves for the next level of education, or in a few rare cases, for joining the labour force directly.

The lower secondary level comprises three education models which differ with regard to the demands placed upon pupils: a model for basic requirements, one for extended requirements and one where no distinction is made with regard to level or with no information on the type of pupil selection. Different models exist depending on the canton and even coexist within the same canton.

In 2015/16, almost 249 000 pupils attended the lower secondary level, i. e. 2.3% fewer compared with the previous year. 49% of them were girls and 24% were of foreign nationality. 63% of lower secondary level pupils were enrolled in a programme of extended requirements.

The number of pupils at lower secondary level has declined by more than 16% since 2005/06. According to the FSO 2016–2025 scenarios for compulsory education, numbers are expected to decline further slightly in the coming years before renewed growth.

**Pupils in lower secondary level by requirement level and canton of residence, 2015/16** G4



Source: FSO – SDL © FSO 2017

<sup>5</sup> With the exception of the canton of Ticino where the lower secondary level (scuola media) lasts four years.

## Upper secondary level: General remarks

Upper secondary level follows compulsory education. Students are mainly divided between vocational education and training VET and general education programmes. Transitional and complementary courses as well as the federal vocational matura complete this offer. Courses generally last two to four years and culminate in a federal VET diploma, a federal VET certificate, a matura certificate or another type of certificate. With the exception of the federal VET certificate, the qualifications obtained at the end of the upper secondary level enable access to the tertiary level.

In 2015/16 almost 365 000 pupils attended an upper secondary level course. 62.5% were in vocational education and training and 26.5% in general education leading to an academic matura, a specialised school certificate or a specialised matura. The remaining 11% were following a post-federal VET diploma vocational matura course, a transition or complementary course.

### Overview of upper secondary level students

T3

	2000/01	2005/06	2010/11	2015/16		
					Female (%)	Foreign (%)
<b>Upper secondary level: total</b>	<b>315 672</b>	<b>324 467</b>	<b>354 347</b>	<b>365 171</b>	<b>47.7</b>	<b>20.8</b>
Transitional education lower – upper sec.	13 399	15 859	17 019	17 554	48.5	48.6
Vocational education and training VET <sup>1</sup>	207 969	213 174	228 825	228 431	41.9	19.5
Federal vocational baccalaureate <sup>2</sup>	3 215	5 288	7 670	9 486	48.7	9.6
General education	82 985	82 119	87 702	96 849	59.5	20.3
Complementary education in upper secondary	8 104	8 027	13 131	12 851	61.3	17.5

<sup>1</sup> Including preparation for federal vocational baccalaureate integrated in vocational education and training (FVB1)

<sup>2</sup> Federal vocational baccalaureate after vocational education and training (FVB2)

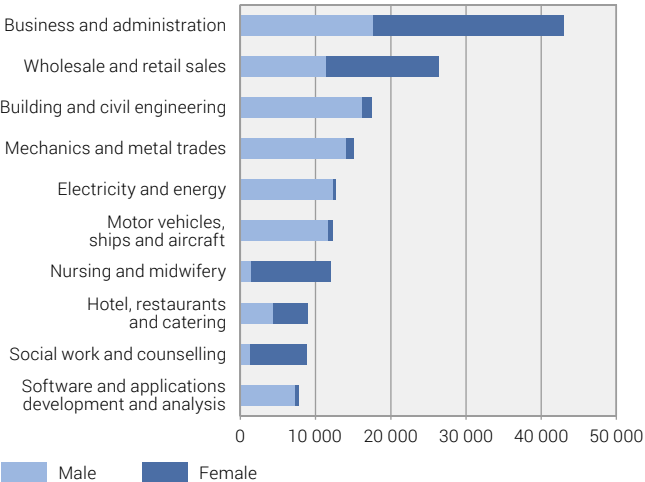
According to the FSO 2016–2025 scenarios for upper secondary level, numbers for this level, whose growth has slowed down markedly, should not change much in the coming years. Afterwards a renewed growth is expected.

## Upper secondary level: Vocational education and training VET

Vocational education and training is regulated at the federal level and is based mainly on a dual system (90% of students in 2015/16, the remainder following a course in full-time education). The dual model offers training shared between the company providing training (practical) and vocational school (theory). Students following vocational education and training obtain a federal VET diploma after 3 or 4 years or a federal VET certificate after two years. The latter is aimed at people who have difficulties following the federal VET diploma course. Holders of a federal VET certificate, however, are entitled to start in the second year of a federal VET diploma course for the same profession.

### Students in vocational education and training VET by most popular training sectors and gender 2015/16

G 5



Comment: the training sectors not mentioned in the graph represent 28% of the students.

In 2015/16, 228 400 students were in vocational education and training, a stable number compared with the previous year (decrease of less than 0.8%). 42% of the students were female and 19.5% were of foreign nationality. Almost all students in vocational education and training were following a programme leading to a federal VET diploma (94%). The remainder chose a federal VET certificate (6%). The other vocational courses are very marginal.

The three most popular training sectors chosen by students in 2015/16 were: Business and administration (19%), Wholesale and retail sale (12%), Building and civil engineering (8%). Some sectors are clearly dominated by one gender.

## Upper secondary level: Federal vocational matura

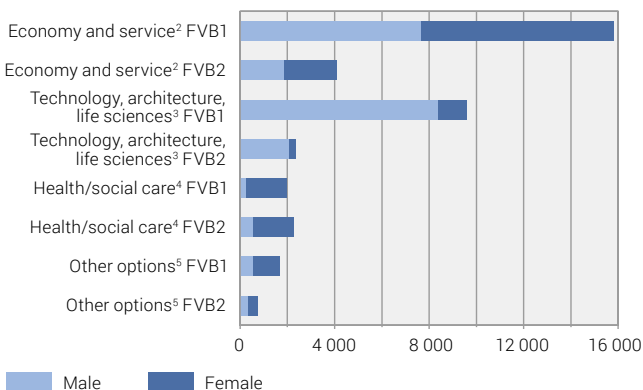
Introduced in the early 1990s, the federal vocational matura gives access to the universities of applied sciences. In May 2015, the new regulation for vocational maturas (BMV 2009) took effect. In consequence of this there are since 2015/16 revised orientations of vocational maturas. These replace step by step the formerly issued orientations. The presentation of the results is here in accordance to the new nomenclature.

The matura course can be taken either at the same time as vocational education and training (FVB1 model), or afterwards (FVB2 model). Roughly three-quarters of federal vocational matura students choose the FVB1 model and the remaining quarter the FVB2. However, this ratio is not seen with regard to qualifications awarded (53% FVB1, 47% FVB2 for 2015). This is due to the fact that students opting for FVB1 follow a course lasting a minimum of three years, whereas those choosing FVB2 study usually for only one year.

In 2015/16, 38 543 students followed a federal vocational matura programme, a stable number compared with the previous year (decrease of 1.5%). 44% of them were female and 13% were of foreign nationality.

"Economy and service" and "Technology, architecture, life sciences" options are the most popular and are chosen by 52% and 31% of students respectively. Female dominate in "Economy and service", "Visual arts and applied arts", "Health/social care" options whereas males dominate "Technology, architecture, life sciences" and "Natural, landscape and food" options.

## Students in federal vocational baccalaureate (FVB1 and FVB2) by option<sup>1</sup> and gender, 2015/16 G 6



<sup>1</sup> Options according to BMV (Federal vocational Baccalaureate Ordinance) 2009

<sup>2</sup> Including Commercial option according to BMV 1998

<sup>3</sup> Including Technical option according to BMV 1998

<sup>4</sup> Including Health/social care option according to BMV 1998

<sup>5</sup> Other options: Visual arts and applied arts, Nature, landscape and food according to BMV 2009 and Arts, Trades, Natural sciences according to BMV 1998

Source: FSO – SDL

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## Upper secondary level: Matura

The matura is awarded after three to four years of study, depending on the canton, in a matura school. It is officially recognised by the Confederation (Ordinance on Recognition of Matura, MAV) and by the cantons (Regulation on Recognition of Matura, MAR) and prepares students for the university and the university of teacher education.

In 2015/16, 70 512 students attended a matura school, representing a decrease of less than 1% compared with the previous year. 57% of them were female and 14% were of foreign nationality.

The MAR stipulates that in addition to seven fundamental disciplines, students choose a specific option and a complementary option. As shown in table T4, the three most popular specific options in 2015/16 were: Economics and Law (21%), Modern Language (20%) and Biology and Chemistry (18%). The Physics and Applied Mathematics option showed the greatest share of males whereas the Visual Arts option was chosen mainly by females.

## Students in baccalaureate schools by specific option and gender, 2015/16

T4

	Total	Male	Female
<b>Baccalaureate: total</b>	<b>70 512</b>	<b>30 348</b>	<b>40 164</b>
Economics and Law	15 154	8 743	6 411
Modern Language	14 260	3 481	10 779
Biology and Chemistry	12 634	5 802	6 832
Physics and Applied Mathematics	7 136	5 372	1 764
Visual Arts	5 146	1 177	3 969
Philosophy, Education science, Psychology	4 025	1 025	3 000
Music	2 809	878	1 931
Classic Languages	2 739	1 044	1 695
Without federal recognition	1 233	500	733
Mathematics and sciences	185	93	92
Option not specified	5 191	2 233	2 958

Source: FSO – SDL

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## Upper secondary level: Upper secondary specialised schools

The upper secondary specialised schools, whose accrediting body is the Swiss Conference of Cantonal Ministers of Education (EDK), provide a general education and at the same time introduce students to a professional sector. At the end of three years, students obtain a specialised school certificate to which they can add a specialised matura by completing a fourth year of studies.

In 2015/16, 17 694 students attended an upper secondary specialised school, a stable number compared with the previous year (increase of 1%). 74% of them were female and 21% were of foreign nationality.

As shown in table T 5, the three most popular programmes were in the Health care (20%), Education (16%) and Social work/Education (14%) occupational fields. With one exception (Sport), females are in the majority in all courses.

# Students in upper secondary specialised schools by occupational field, type of diploma and gender, 2015/16

T5

	Total	of whom		Male	Female
		preparation to the specialised school certificate	preparation to the specialised baccalaureate		
<b>Upper secondary specialised schools: total</b>	<b>17 694</b>	<b>14 872</b>	<b>2 822</b>	<b>4 608</b>	<b>13 086</b>
Core curriculum	3 743	3 743	0	1 127	2 616
Health care	3 470	2 572	898	995	2 475
Education	2 861	1 913	948	570	2 291
Social work/ Education	2 477	2 472	5	668	1 809
Social work	1 594	941	653	342	1 252
Health care/ Education	806	806	0	115	691
Social work/ Health care	795	795	0	118	677
Art and design	792	628	164	238	554
Communication and information	728	645	83	273	455
Health care/ Natural sciences	273	236	37	90	183
Music and theatre	121	96	25	45	76
Sport	30	25	5	25	5
Applied psychology	2	0	2	1	1
Natural sciences	2	0	2	1	1

Source: FSO – SDL

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## Upper secondary level: Transitional and complementary education

### Transitional education between lower and upper secondary level

Students who have not found a training or education course after compulsory education or who need to make up for a lack of knowledge in certain areas can follow a transitional course which usually lasts one year. In 2015/16, 17 554 students followed such a course, representing an increase of less than 4% compared with the previous year.

## Complementary education between upper secondary and tertiary level

The purpose of complementary courses is usually to complement qualifications already acquired and to thus gain access to a specific tertiary level course of education. Bridge-type courses, which grant holders of a federal vocational matura admission to universities are an example of this type of course. During the school year 2015/16, 12 851 students followed a complementary course, i. e. a decline of 5% compared with the previous year.

## Tertiary level: General remarks

The tertiary level is divided into two parts: professional education and training PET and higher education institutions.

Over the past two decades, the tertiary level has undergone two major transformations: first the transfer of a part of professional education and training courses to higher education institutions with the creation of the universities of applied sciences (UAS) in the 1990s; this movement was followed by the transfer to tertiary level of a certain number of training courses which had previously been carried out at upper secondary level<sup>6</sup>. Second, the institutions of higher education underwent far-reaching changes in the organisation of studies following the application of guidelines from the Bologna declaration<sup>7</sup> in the early 2000s. The great increase in numbers since 2000/01 (+84%) is largely due to these two factors.

In 2015/16, 295 353 students were enrolled at tertiary level. The vast majority (81%) were following a course in a higher education institution. The remaining 19% were in professional education and training. The share of females is higher in higher education institutions than in professional education and training. The same applies to the share of foreign national students.

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<sup>6</sup> This is the case, in particular, with the training of pre-primary and primary teachers.

<sup>7</sup> The aim of this declaration is to create a European space of higher education and to harmonise education systems and diplomas.



	2000/01	2005/06	2010/11	2015/16		
					Female (%)	Foreign (%)
<b>Total</b>	<b>160 484</b>	<b>204 665</b>	<b>257 809</b>	<b>295 353</b>	<b>49.6</b>	<b>22.3</b>
Professional education and training PET	38 674	38 151	51 280	56 597	43.5	11.9
Higher education institutions	121 810	166 514	206 529	238 756	51.1	24.8

Sources: FSO – SDL, SHIS-studex

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## Tertiary level: Professional education and training PET

Professional education and training allows people with completed vocational education and training to acquire more in-depth knowledge of their subject area or to extend it to new ones. The programmes on offer place a strong emphasis on the practical and prepare students to take on technical and managerial functions, at least to middle-management level.

Professional education and training includes professional education and training colleges and preparation for the federal or the advanced federal PET diploma examinations governed by the VPETA<sup>8</sup> as well as training courses not regulated by this act.

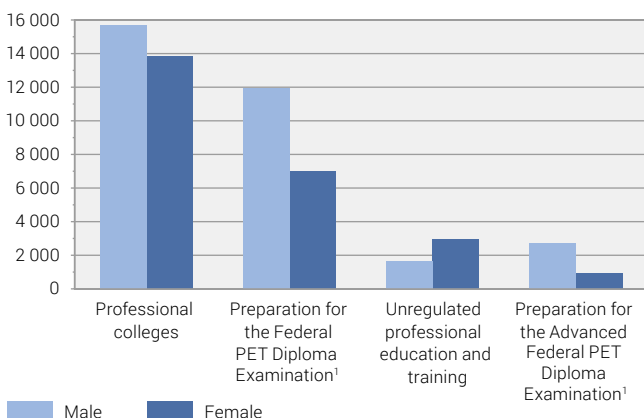
In the academic year of 2015/16, 56 597 students were in professional education and training (–7% compared with the previous year). The majority (52%) are at professional colleges, 40% are preparing for a federal or an advanced federal PET diploma examination<sup>9</sup> and 8% are following a training course not governed by the VPETA. Males constitute the majority except for the last type of courses (64% female).

<sup>8</sup> Federal Act on Vocational and Professional Education and Training (VPETA) of 2002.

<sup>9</sup> Students preparing for federal or advanced federal PET diploma examinations are not completely surveyed because the preparations to federal exams are not formally regulated. They often take place in modular trainings, which are only surveyed if the single module corresponds to at least half a school-year (full time equivalent).

## Students in professional education and training PET by type of training and gender, 2015/16

G7



<sup>1</sup> Students are not completely surveyed because the preparations to federal exams are not formally regulated. They often take place in modular trainings, which are only surveyed if the single module corresponds to at least half a school year (full time equivalent).

Source: FSO – SDL

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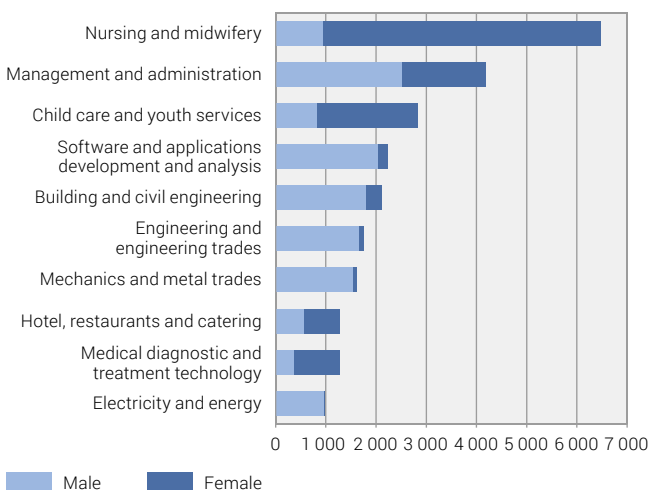
## Tertiary level: Professional education and training colleges

Professional education and training colleges offer training within an institution. Courses last at least three years if followed while in employment or at least two years if they are taken full-time. The creation of courses for the various subjects and their recognition by the State Secretariat for Education, Research and Innovation (SERI) is based on the core curriculum governing education and training. They are binding for all providers of education and training.

During the academic year 2015/16, 29 499 students attended professional colleges, of whom 47% were female and 12% of foreign nationality. As shown in graph G8, the most popular course was Nursing and midwifery (22% of students). This was followed by Management and administration (14%) and Child care and youth services (10%). All other training sectors accounted for less than 8% of students each. With regard to student distribution by gender, there are large differences between the training sectors.

## Students in professional colleges by training sectors and gender 2015/16

G8



Comment: the training sectors not mentioned in the graph represent 16% of the students.

Source: FSO – SDL

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## Tertiary level: Preparation for federal or advanced federal PET diploma and training and education not governed by the VPETA

The federal and the advanced federal PET diploma are recognised at federal level and protected<sup>10</sup>, contrary to education and training not governed by the VPETA.

During the academic year 2015/16, 22 487 students followed a preparatory course for a federal or an advanced federal PET diploma examination<sup>11</sup>. Almost three-quarters of them took courses in one of the sectors presented in the graph G9. With regard to student distribution by gender, there are large differences between the training sectors.

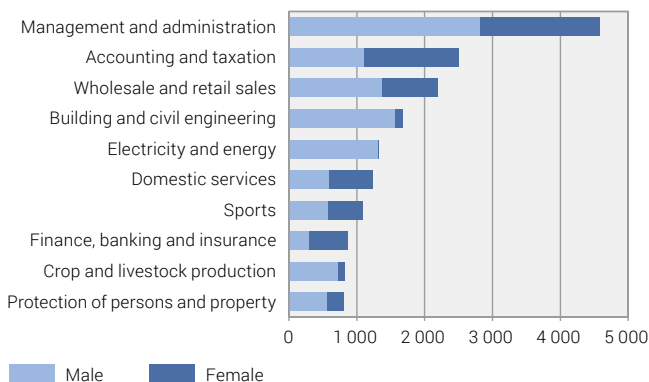
In the academic year 2015/16, 4611 students followed training courses not governed by the VPETA. 19% of them were enrolled in the Management and Administration training sector and 17% in Nursing and Midwifery. All other training sectors accounted for less than 10% of students each.

<sup>10</sup> It should be noted that only the final exam is regulated by the VPETA. Although preparatory courses exist, candidates are free to prepare for the examinations as they see fit. Current statistics only cover people enrolled in preparatory courses.

<sup>11</sup> Please see note 9

## Students preparing for federal or advanced federal PET diploma examinations<sup>1</sup> by most popular training sectors and gender 2015/16

G9



<sup>1</sup> Students are not completely surveyed because the preparations to federal exams are not formally regulated. They often take place in modular trainings, which are only surveyed if the single module corresponds to at least half a school year (full time equivalent).

Comment: the training sectors not mentioned in the graph represent 24% of the students.

Source: FSO – SDL

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## Tertiary level: Higher education institutions

Swiss higher education institutions are classified into three types: Universities and institutes of technology (UIT), universities of applied sciences (UAS) and universities of teacher education (UTE).

In 2016/17 more than 244 000 students were enrolled at a Swiss university, representing an increase of 100% compared with 2000/01 and of 2% compared with the previous year. This large increase in student numbers is mainly due to the development of the education on offer at the UAS and UTE at the beginning of the 2000s. The increase in numbers at the UAS between 2000/01 and 2016/17 was particularly significant (+199%).

More than 60% of students are enrolled at an UIT, 31% at an UAS and roughly 8% at an UTE. There are slightly more women (51%) than men and foreign students make up a quarter of the enrolled students. The distribution of students by gender and nationality, however, varies greatly depending on the type of university and the level of studies.

The Bologna reform, started in Swiss universities at the beginning of the 2000s, which brought about the gradual replacement of the traditional "licence/diploma" study courses by a two-cycle system (Bachelor/Master) is now complete. This situation is reflected in the

distribution of students by level of studies. In 2016/17, the greatest number of students (almost 60%) were undertaking a Bachelor course. This was followed by Master students (22%). Post-graduate education concerned 16% of students (10% at PhD level and 6% in further education and advanced studies).

## Overview of university students

T7

	2000/01	2005/06	2010/11	2016/17		
					Female (%)	Foreign (%)
<b>Total</b>	<b>121 810</b>	<b>166 514</b>	<b>206 529</b>	<b>244 104</b>	<b>51.1</b>	<b>25.1</b>
UIT	96 673	112 374	131 494	148 534	50.4	30.3
UAS	25 137	43 721	60 930	75 098	46.4	18.8
UTE	–	10 419	14 105	20 472	73.1	9.8

Source: FSO – SHIS-studex

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## Tertiary level: Universities and institutes of technology UIT

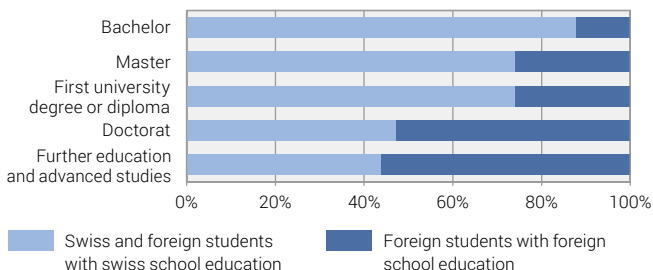
In 2016/17 148 500 students were following a university course, representing an increase of 1.8% compared with the previous year. UIT student numbers become greater every year. In 2016/17, the increase was 54% compared with the numbers in 2000/01.

Social sciences (16% of total UIT students) and economic sciences (15%) are the subject areas with the greatest number of students. With almost 18% of UIT students, the University of Zurich is the biggest in Switzerland in terms of numbers. The proportion of men and women is almost the same, although proportions differ widely depending on the subject area and the level of studies concerned.

Some 30% of UIT students are of foreign nationality, 25% having lived abroad before starting their university education. Foreign students whose school education was undertaken abroad are even in the majority at PhD level and in further education and advanced studies.

## University and institutes of technology students by nationality, education place and level of studies, 2016/17

G10



Source: FSO – SHIS-studex

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### Tertiary level: Universities of applied sciences UAS

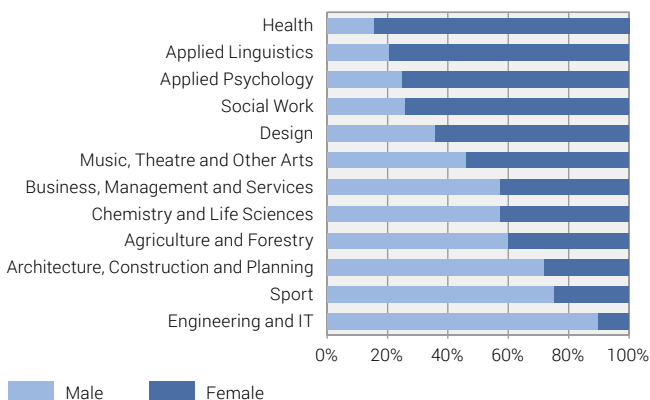
Since their creation at the end of the 1990s, the UAS have evolved constantly. New study courses (also at Master level) and new institutes have gradually been added to the UAS system. This has allowed large and constant growth in numbers. Starting with 25 000 UAS students in 2000/01, numbers grew to more than 75 000 students enrolled in 2016/17. The percentage of women (26% in 2000/01) has increased enormously over the years, reaching 46% in 2016/17 thanks mainly to the development of the UAS training and education in Health (85% of students were female in 2016/17). The number of women varies greatly depending on the subject area and the level of studies, as does that of foreigners, which reached 17% in 2016/17. The number of foreign students is greater at Master level (42%).

The University of Applied Sciences and Arts of Western Switzerland (28%) and the Zurich University of Applied Sciences (24%) account for more than half of UAS students. Most popular are courses in economics and services (36%), in technology and IT (18%) and social work (11%).

The HES have finished their transition towards new levels of studies consistent with Bologna. The most important element was the introduction of the Master's degree, as it added an additional level to studies which had not existed before. Since 2010/11 no one has started an UAS at "diploma" level.

## University of applied sciences students by field of studies and gender, 2016/17

G 11



Source: FSO – SHIS-studex

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## Tertiary level: Universities of teacher education UTE

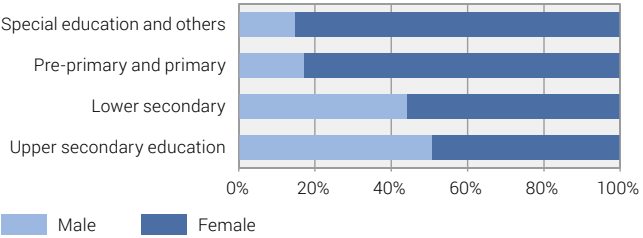
The UTE are specialised universities: the level of studies depends on the course taken, i. e. on the school level which students wish to teach later. Teachers must have a Bachelor's degree to teach at pre-primary and primary level, a Master's for lower secondary level and a Master's degree from a university followed by an UIT or UTE teaching diploma for upper secondary level. For other UTE courses, studies at Master level are required, except for speech therapy and psychomotor education for which a Bachelor's degree is sufficient. Nationwide, the UTE are not the only institutes responsible for teacher training. In some cantons, this task is shared between the UTE and the UIT. The canton of Geneva is an exception as teacher training is only provided in the UIT.

Since their creation, the UTE have constantly increased their student numbers. In 2016/17 just more than 20 000 students were enrolled in teacher training, representing an increase of 1.8% compared with the previous year. 73% of students are women and less than 10% of foreign origin. As shown in graph G 12, female numbers vary depending on the course of study.

More than half of UTE students were following a course for pre-primary and primary teaching. The number of Bachelor admissions for this course in 2016/17 was more than 3000, i. e. 27% more than in 2010/11.

University of teacher education students  
by type of studies and gender, 2016/17

G12



Source: FSO – SHIS-studex

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## Sources

### **Statistics on pupils and students (SDL)**

The statistics on pupils and students (SDL) are compiled from 26 cantonal statistics. All individuals who have followed a programme aimed at a specific training objective for at least half a year, either full or part-time, are recorded. The survey covers every level from primary level 1–2 (Kindergarten/first learning cycle, years 1–2) to tertiary (excluding universities). Private and public educational institutions are included in the survey. The FSO standardises at national level data from 26 cantons.

### **Swiss university information system (SHIS)**

The Swiss university information system's student and graduate database (SHIS) was created in the early 1970s to meet a growing need for coordination and planning by the Confederation and the cantons in the university sector. It provides information on the situation with regard to study courses, how they are run and on various socio-demographic factors concerning students. All students enrolled have an individual identification number. This makes it possible to process the personal data collected anonymously and to conduct flow analyses (e.g. changing from one university to another, changing course, pass rate, length of studies). The database is used for scientific analyses of how studies are run in Swiss universities, in particular for the university indicators and the scenarios for student numbers established by the FO. Since the academic year 2012/13, the NAVS13 has been conducted in addition for each person enabling longitudinal analyses to be made for all levels of education and training.

### **Population and Household statistics (STATPOP)**

The Population and Household statistics (STATPOP) is one of the surveys conducted since 2010 as part of the new annual population census system. It represents the current state and structure of the residential population and households on 31 December of a given year as well as the movements recorded during the calendar year.

## Abbreviations

EDK	Swiss Conference of Cantonal Ministers of Education
EPF	Federal institutes of technology
FSO	Federal Statistical Office
FVB	Federal Vocational Baccalaureate
MAR	Regulation on Recognition of Baccalaureate
MAV	Ordinance on Recognition of Baccalaureate
SDL	Pupils and students (excluding universities)
SERI	State Secretariat for Education, Research and Innovation
SHIS	Swiss University Information System
UAS	Universities of applied sciences
UIT	Universities (including federal institutes of technology)
UTE	Universities of teacher education
VPETA	Federal Act on Vocational and Professional Education and Training

The FSO regularly writes publications and topical papers on this subject. We ask you to consult our website:

**[www.education-stat.admin.ch](http://www.education-stat.admin.ch)**



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