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Higher education in Sweden is financed largely by tax revenue.

HIGHER EDUCATION AND RESEARCH:

GETTING SMARTER IN SWEDEN

Swedish higher education is characterised by students taking responsibility for their own studies, and the relaxed and informal relationship with teachers. In terms of research, Sweden aims to be one of the most R&D-intensive countries in the world.

With its emphasis on independent studies, Sweden is ranked among the world leaders in higher education. The teaching model applied at Swedish universities and university colleges is based on the motto "freedom with responsibility". This means that students have somewhat less teacher-led time than is usual elsewhere, mainly pursuing their studies on their own or in groups.

The level of education among Swedes has risen sharply over the last few years. The autumn term of 2012 saw a record of 126,000 first-time applicants to higher education in Sweden. A total of 403,000 people applied and 257,000 were admitted.

Tuition fees and financial aid

Higher education in Sweden is financed largely by tax revenue. Earlier, this applied to all students regardless of na-

tionality. However, in the autumn of 2011 tuition fees were introduced for students from outside the EU/EEA area, with the exception of Switzerland. The Government believes that Swedish higher education should compete in terms of quality and good conditions, not just by providing free education.

To enable students who cannot pay tuition fees to study in Sweden, the Government has allocated resources for two scholarship programmes.

The first programme awards grants through the Swedish Institute and totals SEK 100 million a year. This programme is aimed at highly qualified students from development countries and is designed to cover living costs and tuition fees.

The second programme, worth SEK 60 million, is aimed at highly qualified students from outside the EU/EEA area, barring Switzerland. Grants in this

programme are intended to cover tuition fees and are awarded through the Swedish Council for Higher Education to universities and university colleges that already extend grants to students.

Responsibilities and targets

In Sweden, the Riksdag (parliament) and Government have overall responsibility for higher education and research, which means that they make decisions about targets, guidelines and the allocation of resources. Education and research are the remit of the Ministry of Education and Research.

As of 1 January 2013, the Swedish Higher Education Authority (*Universitetskanslersämbetet*) and the Swedish Council for Higher Education (*Universitets- och högskolerådet*) are the central government agencies responsible for matters relating to higher education. ►

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ADMISSION RULES

Students have to meet specific qualifications to gain admission to a Swedish university or university college. For general admission, Swedish students must have a school-leaving certificate from upper secondary school (high school) or a municipal adult education programme in Sweden. Credit increments can be earned through advanced courses in upper secondary school, such as in mathematics or foreign languages.

Students from outside Sweden must have qualified for admission to university or college in their home countries, and demonstrate specific levels of understanding in Swedish, English and mathematics.



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Group work is an integral part of Swedish higher education.

THE SWEDISH SCHOLASTIC APTITUDE TEST

In Sweden, you can also apply for admission to a higher education institution by taking the Swedish Scholastic Aptitude Test (*Högskoleprovet*), which measures knowledge and skills of various kinds. Proficiency in the test shows how well equipped the applicant is to perform at university level.

Anyone can take the test, regardless of nationality or prior education, but all parts of the test are in Swedish. Applicants to higher education must always have completed their upper secondary education, but they can apply on the basis of their test results instead of their final school grades. www.hogskoleprov.nu

HIGHER VOCATIONAL EDUCATION

Higher vocational education represents an alternative to traditional academic studies in Sweden. It offers advanced vocational training, developed in close co-operation with the employment sector and reflecting its need for qualified post-secondary professional skills.

Most of the courses include learning-at-work periods, which means that students combine theoretical studies with a practical approach embedded in the workplace. Statistics show that eight out of ten find work within a year of completing their studies. www.myh.se

- ▶ However, universities and university colleges remain separate state entities and make their own decisions about the content of courses, admissions, grades and other related issues.

The Swedish Council for Higher Education is responsible for admission issues, information concerning university-level studies, assessments of foreign qualifications, and international co-operation, among other things. The Swedish Higher Education Authority mainly has a scrutinising function, and is responsible both for reviewing the quality of higher education and granting degree-awarding powers. It is also responsible for the supervision of universities and university colleges, and for maintaining official statistics.

Aims of higher education

The aims of higher education are governed largely by the Swedish Higher Education Act and the Higher Education Ordinance. They specify that all education at universities and university colleges should be based on scientific principles. Education should provide the following:

- Knowledge and skills in the relevant areas.
 - An ability to make independent critical assessments.
 - An ability to identify, formulate and solve problems.
 - Preparedness for changes in the student's professional life.
- Universities and university colleges

have to ensure that students with disabilities have the same opportunities for study as other students.

Greater freedom

A reform introducing greater autonomy came into effect on 1 January 2011. It was designed to enable Sweden's universities and university colleges to perform better in a highly competitive international sector. Among other changes, the reform provided universities and university colleges with more powers to determine their own internal structures. Two principles must always be observed: decisions that require an expert opinion must be made by two people with scientific or artistic expertise, and students are entitled to representation when decisions relating to education or student issues are made.

Funding

Just over 80 per cent of funding for Sweden's universities and university colleges comes from the Government, of which 78.2 per cent is in the form of direct grants. A further 4.8 per cent comes from other public sources of funding. This means that in 2012, a total of 84.9 per cent of the institutions' income came from public financiers of one kind or another in Sweden. The remaining funding came from private sources and financial revenue. The total cost for universities and university colleges in 2012 was SEK 60.7 billion. ■

DID YOU KNOW?**WELL-EDUCATED POPULATION**

Twenty-two per cent of the Swedish population aged between 25 and 64 has the equivalent of a Bachelor's degree, representing three years of full-time study.

MOST ACADEMIC STUDENTS ARE WOMEN

In the mid-1940s, the proportion of women in undergraduate programmes was 20 per cent. Over the past few decades, the situation has changed dramatically – today, some 60 per cent of students in Sweden are women.

UNIVERSITIES AND UNIVERSITY COLLEGES

There are 14 public universities and 20 public university colleges in Sweden. There are also a number of independent institutions of higher education. The Government allows three of them, Chalmers University of Technology in Gothenburg, the Stockholm School of Economics and Jönköping University, to offer instruction at all levels as well as a variety of vocational qualifications.

As of 1 January 2010, all independent institutions of higher education are allowed to apply for accreditation to award general degrees at the research level. Applications are considered by the Swedish Higher Education Authority.

POPULAR COURSES

The Law Programme at Stockholm University was the most sought-after course of studies in Sweden in 2012. The second most popular was the Medical Programme at Karolinska Institutet, followed by the BSc Programme in Business and Economics at the Stockholm School of Economics.



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PHOTO: JOHAN JEPSSON

The Bologna Declaration makes it easier for European students to study abroad.

SHARED GOALS ACROSS EUROPE

The Swedish system of higher education has changed significantly in recent years as a result of what is known as the Bologna Process. The aim is to create an integrated European Higher Education Area (EHEA).

The Bologna Declaration derives its name from a meeting held in Bologna in 1999. A declaration signed there by 29 countries makes it easier for students and university graduates seeking jobs to move across national borders within Europe. By now, nearly 50 countries have signed the agreement. Its three goals are to:

- promote mobility.
- promote employability; and
- promote Europe's competitiveness as an education continent.

In Sweden's case, the Bologna Process has led the Riksdag to ratify the Lisbon Convention, which entails reciprocal recognition of degrees in other countries. Another result is that everyone who earns a university degree receives a diploma supplement, which makes it

easier to use the degree abroad for further studies or employment.

New structure

Starting in 2007, in order to bring its higher education system in line with the EHEA, Sweden introduced a new structure compatible with the European Credit Transfer System (ECTS). The latter is designed to help recognition of a student's studies between different institutions and countries.

All higher education programmes in Sweden are now divided into Bachelor, Master and research levels. As one progresses through these cycles, each year of full-time study corresponds to the ECTS standard of 60 credits, facilitating transfer and equal recognition throughout Europe. ■

FINANCIAL ASSISTANCE FOR STUDENTS

All Swedish students who study at a university or university college are entitled to financial assistance, which consists of a grant component and a loan. Repayment of the loan is income-linked, with the loan to be repaid by the student's 60th birthday. Foreigners who have a permanent residence permit in Sweden may be entitled to Swedish financial assistance for studies both in Sweden and abroad. www.csn.se

LEARN MORE

GRAPHENE FLAGSHIP

The European Commission has chosen graphene as one of Europe's first 10-year, Future Emerging Technology (FET) flagships. Research into graphene, a super-strong form of carbon that forms layers a single atom thick, will receive initial funding of SEK 4.5 billion from the European Commission, with total financing up to SEK 9 billion over ten years. The research will be co-ordinated by Chalmers University of Technology in Gothenburg.

www.graphene-flagship.eu

LUND IN THE LEAD

Two of Europe's largest science projects are underway at Lund University in southern Sweden. Due for completion in 2020, the European Spallation Source will use the world's most powerful neutron source to provide insights into everyday materials, while the MAX IV synchrotron will put Sweden at the forefront of materials and nanotechnology research in 2015.

www.europeanspallationsource.se

USEFUL LINKS

www.studyinsweden.se A comprehensive guide to higher education in Sweden

www.sweden.gov.se/education

The Ministry of Education and Research

www.tillvaxtanalys.se The Swedish Agency for Growth Policy Analysis

www.uhr.se The Swedish Council for Higher Education

www.universityadmissions.se The application site for international students

www.uk-ambetet.se The Swedish Higher Education Authority

SEK 1 (Swedish krona) =
USD 0.15 or EUR 0.11



MAJOR INVESTMENTS IN R&D

Sweden aims to be a leading research country and one of the most R&D-intensive countries in the world, with research that is both broad and specialised.

In 2012, publicly funded research amounted to just over SEK 37 billion, or 1.04 per cent of GDP. Around 75 per cent of all of Sweden's research is financed by companies.

An active research policy approach has enabled Sweden to acquire a leading position in several areas. One is environmental technology, particularly the treatment of emissions and toxic substances in production and manufacturing processes. Sweden also has a high level of expertise in nanotechnology research, where several major Swedish companies – including ABB, Sandvik and Höganas – have become market leaders.

Government bodies

For research at universities and university colleges, the government is the largest source of funding. Four government bodies primarily fund research:

- The Swedish Research Council. Allocated SEK 4.56 billion in 2012 for research in the natural sciences, technology, medicine, humanities and social sciences, among other fields. www.vr.se
- Formas, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning. Allocated SEK 1.02 billion in 2012 for research in environment matters, agricultural sciences and spatial planning. www.formas.se
- FAS, the Swedish Council for Working Life and Social Research. Allocated SEK 414 million in 2012 for research in labour market issues, work organisation, work and health, public health, welfare, social services and social relations. www.fas.se

- VINNOVA, the Swedish Agency for Innovation Systems. Allocated SEK 2 billion in 2012 primarily for research in technology, transportation, communication and working life.

www.vinnova.se

Foundations

Foundations are an important complement to direct government funding. In 2012, SEK 1.3 billion was given to research in Sweden through six state-funded foundations:

- SSF, the Swedish Foundation for Strategic Research www.stratresearch.se
- Mistra, the Foundation for Strategic Environmental Research www.mistra.org
- The Knowledge Foundation www.kks.se
- The Foundation for Baltic and East European Studies www.ostersjostiftelsen.se
- The Vårdal Foundation www.vardal.se
- STINT, the Swedish Foundation for International Cooperation in Research and Higher Education www.stint.se

Riksbankens Jubileumsfond, an independent foundation financed by the Swedish Central Bank, is another major source of funding, allocating more than SEK 400 million to research in 2013.

www.rj.se

Private organisations also make significant contributions to research funding. The Knut and Alice Wallenberg Foundation, for example, has provided SEK 5 billion to research over the past five years. www.wallenberg.com/kaw ■

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