



KEMI-TORNIO POLYTECHNIC

ECTS STUDY GUIDE 2002-2003

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GREETINGS FROM THE RECTOR

I would like to congratulate you on the place you have achieved at Kemi-Tornio Polytechnic. You are no doubt aware of the work and the challenges ahead of you; however, you can rest assured that the efforts you and your fellow students will make here, individually and together, will be rewarding and fulfilling in terms of furthering your professional and other skills in the future. I would therefore like to heartily welcome you to our team!

Kemi-Tornio Polytechnic prides itself on the success with which it has striven for a competitive edge. Our operations began as a polytechnic in 1997, and we achieved our first expansion (into the cultural sector) the year after. The five units, as they are known within the institute, are in the sectors of technology, business and management, social work, health care and culture. The range of disciplines dealt with in the polytechnic means that young people come here to study with the aim of becoming engineers, BBAs, nurses, public health nurses, physiotherapists, social work professionals, visual and media artists. There are excellent opportunities to attend courses from other units in a flexible, versatile manner.

Special emphasis has been placed on the quality aspects behind education and the operations of the polytechnic. The student is viewed as a client and customer who must receive a high quality of service. In practice this means using multiform educational methods, as well as regular dialogue with and collection of feedback from the students. The Quality Handbook of Kemi-Tornio Polytechnic has been approved and put into active use with this in mind; and the quality of education and training is under a continuous process of assessment and improvement (an example of this being the internal assessment conducted by the units themselves in 1998). We also participate in the external assessments carried out by the Finnish Ministry of Education.

The activities of the Student Union (Ketoakku) are valuable and deserve the full support of the directors of Kemi-Tornio Polytechnic. With its own office and a full-time secretary general, the Union has found it possible to generate and improve these activities from both an ideological and a commercial point of view. There are very important reasons for having such a focus of student activity; too often we find that especially new students are only aware of what is going on in their own unit. The other units and indeed the polytechnic as a whole will become more familiar if you participate in the activities run collectively by the Student Union. This is an excellent way of expanding your circle of friends and of ensuring that your stay in the Kemi-Tornio area is even more enjoyable.

I hope that you will find applying yourself to your studies a stimulating and rewarding experience here in the polytechnic, and that you will avail yourself of the opportunities that we provide for building your future; you can rely on the support we will give you and the efforts we will make on your behalf. To this end, I hope that this ECTS Study Guide will provide you with valuable help for carrying out your studies. I wish you the best of success in the coming academic year and beyond.



Yours,
Hannu Törmä
Ph.D. (econ.)
Rector

1. GENERAL INFORMATION

What is ECTS?

ECTS, the European Credit Transfer System, was developed by the Commission of the European Communities. The aim of ECTS is to provide common procedures to guarantee academic recognition of studies abroad. It also provides a way of measuring and comparing learning achievements, and transferring them from one institution to another through the use of common ECTS credits and ECTS grading scale. ECTS also provides a better access to information on foreign curricula.

The ECTS system is based on three core elements: (1) the information package which provides general information on the host institution as well as detailed descriptions of the degree programmes and courses available; (2) the application form and learning agreement which describes the programme of study abroad and is drawn up by the individual student and institutions involved before the student goes abroad; (3) the transcript of records shows the learning achievements of the student prior to and after the period abroad. It also shows every course taken by the student and the number of ECTS credits completed as well as including the grades according to the local and ECTS grading scale. The ECTS system concerns mainly those educational institutions which have the Institutional Contract (IC) and, therefore, also mainly ERASMUS students. However, also other international exchange students are welcome to take advantage of this guide when planning and carrying out their studies.

ECTS credits and grades

ECTS credits are a numerical value allocated to course units to describe the student workload required to complete them. ECTS credits reflect the quantity of work each course requires in relation to the total quantity of workload required to complete a full year of academic study at the institution, for example lectures, practical work, seminars, independent study - in the library or at home - and examinations or other assessment activities. ECTS is thus based on a full student workload and not limited to contact hours only. In ECTS, 60 credits represent the workload for a full academic year of study; normally 30 credits are given for a semester.

Examination and assessment results are usually expressed in grades. There are many different grading systems in Europe. The ECTS grading scale has been developed in order to help institutions translate the grades awarded by exchange students. This provides additional information on the student's performance to that provided by the institution's grade but does not replace the local grade. Higher education institutions make their own decisions on how to apply the ECTS grading scale to their own system.

Erasmus students

Usually students studying abroad and taking advantage of the ECTS system will attend a single host institution in a single EU member state, study there for a limited period and then return to their home institution. It is also possible to stay at the host institution and earn a degree there or even proceed to the third institution to continue studies. In all three cases students will be required to comply with the legal and institutional requirements of the country and the institution where they take their degrees.

The ECTS system measures the student's workload. Students participating in this system will receive credits for all academic work successfully carried out at any of the ECTS partner institutions. They will be able to transfer these academic credits from one participating institution to another on the basis of prior agreement on the content of study programmes abroad between students and the institutions involved. Transfer of credits will take place when students complete the programme of study at the host institution and return to their home institution.

Because of the ECTS system a student will be able to continue the study programme without any loss of time or credit. Students selected by each institution to be accredited according to the ECTS system are entitled to a student mobility grant if they fulfil the general conditions of eligibility for the Erasmus grant.

The requirements are:

- Students must be citizens of an EU member state or citizens of an EFTA member state or citizens of the following countries: Cyprus, Poland, Romania, Slovakia, Slovenia, Hungary, Bulgaria, The Czech Republic, Lithuania, Latvia and Estonia.
- Students shall not be required to pay a tuition fee at the host institution. The student may, however, be required to continue to pay his /her normal tuition fees to the home institution during the stay abroad.
- The national grant/loan to which a student may be entitled for study at his/her institution may not be discontinued, interrupted or reduced while the student is studying in another Member State and is receiving ERASMUS grants. (Insurance premiums, student social contributions and material costs do not count as tuition fees at the host institution).
- The period of study at the host institution may not last less than three months nor more than a year.

ECTS in Kemi-Tornio Polytechnic

The general principles of the ECTS system are complied with in the Kemi-Tornio Polytechnic. The polytechnic cooperates with institutions of higher education in Europe, Russia, the United States, Canada and China. Several international exchange programmes (Socrates, Leonardo da Vinci and Nordplus) help students and staff to find places abroad, as well as assisting foreign students in coming to the Kemi-Tornio Polytechnic. Due to the polytechnic's commitment to both internationalism and student and staff exchange, it has become more important to guarantee academic recognition of studies abroad. There are both degree and non-degree programmes in English in Kemi-Tornio Polytechnic.

The degree programmes in English are:

- Degree Programme in Business Management (210 ECTS credits/140 Finnish credits)
- Degree Programme in Business Information Technology (210 ECTS credits/140 Finnish credits)
- Degree Programme in Information Technology (240 ECTS credits/160 Finnish credits)
- Degree Programme in Health Care (210 ECTS credits/140 Finnish credits)

The international non-degree programmes in English are: Technology as Business (30 ECTS credits/20 Finnish credits).

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2. FINLAND

Finland in brief

History

Finland and the Finnish national consciousness have been moulded by the country's location between East and West. In the 13th century Finland became a part of the kingdom of Sweden and remained so for several centuries. Finns fought in the Swedish army in many wars, often against Russia. In 1809, after Sweden had lost the war with Russia, Finland was ceded to Russia and became an autonomous Grand Duchy within Tsarist Russia, its Grand Duke being the Tsar himself. During the 19th century Finnish national feeling grew stronger. In 1906 Finland succeeded in establishing a new constitution based on equal and universal suffrage; Finnish women were the first in Europe to be given the vote. After the October Revolution in Russia (1917), Finland declared itself independent on 6th December 1917.

During World War II Finland managed to retain its independence in the so called "Winter War" and "Continuation War" against Russia. Since the war Finland has pursued a policy of neutrality and military non-alliance. Finland is a parliamentary republic with a multiparty political system. Finland's key economic sector is manufacturing - principally the wood, metals, engineering, telecommunications and electronics industries. Also human welfare is highly important issue in the Finland of today. Finland has been a member of the European Union since the beginning of 1995 and will assume the presidency of the European Union Council in July 1999.

Geography

Finland is situated in northern Europe between the 60th and 70th parallels of latitude. The total land area is approx. 338 000 square kilometres. The quarter of its total area lies north of the Arctic Circle. Finland's neighbouring countries are Sweden to the west, Norway to the north, Russia to the east and Estonia to the south, across the Gulf of Bothnia. Much of the country is lowland but high rounded fells form the landscape in the most northern part of the country, Lapland. Other outstanding features of Finland's scenery are its myriad lakes and islands.

People

The population of Finland is a little over 5 million. About 500 000 people live in the capital, Helsinki. The overall population density is 16 persons per square kilometre, yet the density in southern Finland, in the capital area, is almost 136 persons per square kilometre. The official languages are Finnish and Swedish. Most of the people speak Finnish; Swedish is spoken as a mother tongue by about 6% of the people. Approximately 90% of the people are Lutherans while just under 1% belong to the Finnish Orthodox Church.

Climate

The climate is marked by cold winters and warm summers but temperatures in winter are moderated by the influence of the Baltic Sea and west winds from the Atlantic warmed by the Gulf Stream. The mean annual temperature is about 5.5°C in southwestern Finland, decreasing towards the northeast. In winter, the mean temperature remains below 0°C. Winter usually begins in mid-October in Lapland and during November in the rest of Finland. In summer, the mean daily temperature is consistently above 10°C. Summer usually begins in late May in southern Finland and lasts until mid-September. Summer in Lapland starts in June and ends a month earlier than on the south coast. In spite of the Kemi-Tornio region's northern location the climate in the region is still mild due to the effects of the Gulf Stream. The average temperature of the year is about +2°C, in July from +15 to +18°C and in February from -10 to -15°C. Snow covers the area from the early of November until the end of April.

To be able to get more precise picture on prevailing weather conditions in Finland, see the two diagrams below which show the average temperatures (since 1996) in Helsinki, Finland and Minnesota, USA.

HELSINKI, FINLAND

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-6.1	-6.5	-3.5	2.0	8.5	14.0	16.8	15.5	10.7	5.5	0.4	-3.5	4.5

FARIBAULT, RICE COUNTY, MINNESOTA, USA

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-12.0	-8.8	-1.2	7.3	14.1	19.5	22.1	20.5	15.4	9.2	0.2	-8.6	6.5

Kemi-Tornio region

Kemi is one of the oldest permanently-inhabited areas in Finland. The city itself, which grew up around the wood-processing industry, was founded on 5th March, 1869. The population of the city is about 24 000 and the land area of the city is 90,7 square kilometres. Kemi concentrates mainly on wood industry and is the most important industrial city in Lapland for almost half of Lapland's industry is located in Kemi. Besides the wood-processing industry the city of Kemi has begun to encourage new industries. The number of high-tech industries (such as Nokia), dealing for example with information and environment technology, has increased, and Kemi's geographical position offers many possibilities for developing tourism. For example, the world's biggest snow castle is located in Kemi as well as the icebreaker Sampo. Kemi is Lapland's sea town, sometimes called Lapland's gateway to the south, with two active deep water harbours which operate throughout the year. In the 1980s Kemi also developed into a service and education centre of the province. For further information please see www.kemi.fi

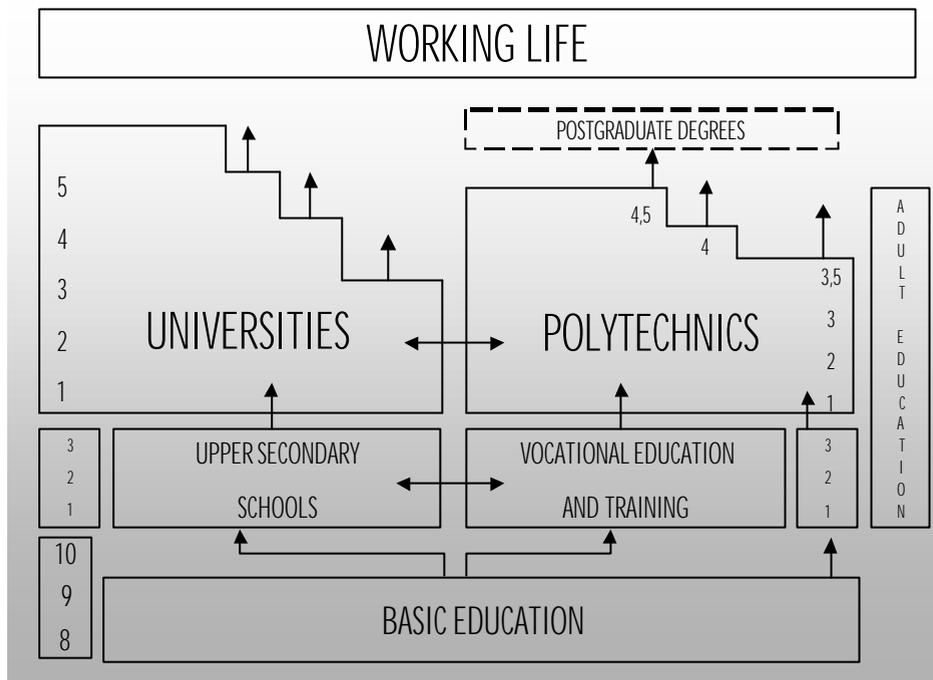
The two neighbouring towns of Tornio in Finland and Haparanda in Sweden have a long history in common. In 1809 the border between Sweden and Russia was drawn up along the Tornio-Muonio River and the 17th-century trading town of Tornio was divided into two. Tornio is situated at the end of the Gulf of Bothnia in northern Finland. Tornio received its town charter in 1621 and since then it has served not only the entire Tornio river valley but also, to a large extent, Lapland. Tornio has been one of the most famous market centres of Northern Scandinavia since the Middle Ages. The population of the city is about 23 000 and the surface area of the city is 1227 square kilometres. The main means of livelihood in the area are industry and services. The AvestaPolarit steel factory, situated in Tornio, is nationally and internationally important and the steel produced there is of world-class standard. Tornio's oldest industrial enterprise is the Hartwall Brewery which produces Lapin Kulta beer. Also some textile industry is situated in Tornio. For further information please see www.tornio.fi

Regional co-operation

The towns of Kemi and Tornio (distance approximately 25 kilometres), as well as Haparanda across the border in Sweden, have a combined population of approximately 75.000. Today the region has an important role as a link between East and West, as well as the North and the South of Europe. In addition to the geographical location these towns share, the region has several common cooperation actions. The interaction between the towns is constant especially in terms of economic life. For example the Kemi-Tornio Area Development Agency promotes the interests of the area and coordinates the development of industries and services by voluntary cooperation between the municipalities.

3. INFORMATION ON THE FINNISH EDUCATIONAL SYSTEM

The Finnish educational system in a nutshell



Credits and Grades

Finnish undergraduate education is organised according to a national credit system. The quantity of student's workload is measured in credits. One credit corresponds to approximately 40 hours of work. One academic year's full-time study is equivalent to 40 credits. Converting Finnish credits to ECTS credits simply means multiplying the Finnish credit value by a factor of 1.5 to obtain the equivalent ECTS credit value; for example for a full academic year of study the student obtains 40 Finnish credits which is equivalent to 60 ECTS credits. Examination and assessment results are usually expressed in grades. The national grading scale for polytechnic studies is 1-5. The grade 5 means that the student's performance was excellent and correspondingly the grade 1 means satisfactory/sufficient. Sometimes results can be expressed verbally: passed/failed.

GRADING SCALE		
ECTS scale		Local scale
A	Excellent	5
B	Very Good	4
C	Good	3
D	Satisfactory	2
E	Sufficient	1
FX	Fail	Fail
F	Fail	Fail

Excellent - outstanding performance with only minor errors.
Very good - above the average standard but with some errors.
Good - generally sound work with a number of notable errors.
Satisfactory - fair but with significant shortcomings.
Sufficient - performance meets the minimum criteria.
Fail - some more work is required before the credit can be awarded.
Fail - considerable further work is required.

Polytechnics in the educational system

The Polytechnic Act was passed by Parliament at the beginning of 1995. In Finland polytechnics form a non-university sector which operates alongside the university sector. The principles underlying polytechnic education derive from the need for a highly-trained expert work force in the labour market. This is why polytechnics offer a more practical alternative to university education. Courses differ from those at university in that they reflect the practical needs of working life and therefore polytechnics have numerous links with local business and communities. It can be said that in polytechnic education there are theory and practice in balance. Internationalization is one of the polytechnic's main development priorities, and international experience can be gained either by taking study courses or through on-the-job training abroad.

The extent of polytechnic degree programmes is usually 140 or 160 credits and the duration of studies is from 3.5 to 4 years. Degree programmes consist of basic studies, professional studies, elective studies, practical training, and a bachelor's thesis. The degree programmes also include communication and language studies. Polytechnics also provide non-degree programmes on different kind of topics.

The minimum admission requirements for polytechnics is one of the following:

- upper secondary education
- matriculation examination
- the International Baccalaureate exam
- the Reifeprüfung exam
- at least three years basic vocational education

In addition, polytechnics arrange their own aptitude tests in many disciplines.

4. KEMI-TORNIO POLYTECHNIC

General description of the Polytechnic

Kemi-Tornio Polytechnic was established in August 1992 and received its permanent status in August 1997. The Polytechnic is situated in Finnish Lapland, near the Swedish border. The polytechnic is made up of six units which specialise in different areas of education. These units are located in the neighbouring towns of Kemi and Tornio. The strength of Kemi and Tornio lies in their location in Northern Finland; the polytechnic is a gateway between the Barents region in Northern Russia and the rest of Europe.

At the moment there are about 2300 students in the Kemi-Tornio Polytechnic and the staff consists of approximately 200 persons. A Finnish polytechnic degree is equivalent to degrees obtained in corresponding institutes of higher education in other European countries. In the Kemi-Tornio Polytechnic as in all the Finnish polytechnics, studies are organised into degree programmes, and the education places weight on contacts with business, industry and services, especially at the organisational level. The polytechnic degrees are designed to meet the changing requirements and development needs of the world of work, having a pronounced professional emphasis, and qualifying graduates for various expert duties. The guiding principles of the polytechnic's curriculum are internationalism, multidisciplinary, professional skills and students placement in working life.

Polytechnic studies require students to demonstrate independent initiative and take responsibility for their own study results. It is possible for students to choose courses from different education units and programmes within the polytechnic, for instance individual courses can be chosen also from non-degree programs as well as from degree programs. In addition, through domestic and international cooperation with other education institutes a wide range of study opportunities are achieved and students are able to carry out their personal study plans based on their own needs. In polytechnic studies several teaching and learning methods are used, for example lectures, practical work, teamwork, seminars, workshops and independent study. Additionally, also some courses are provided with the help of web-based learning environments and the development work of different kinds of eLearning solutions are ongoing. Also projects dealing with different kind of topics are carried out in cooperation with working life.

Rector's Office

The Rector's Office provides the students and staff with support services in the Polytechnic. The Service centre is situated in Kemi. The permanent staff of the office consists of about 15 members including the rector, secretaries, International Officer, IT-Manager, Career Co-ordinator, Study Affairs Officer.

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Careers and Recruitment Services

The Careers and recruitment service operates both in Kemi and in the Learning Centre, Tornio. The Careers and recruitment service works as a link between the polytechnic's students and working life. One of its main aims is to promote cooperation and networking between the polytechnic and the world of employment. For students, it provides education and concrete help with the job-seeking process, and for enterprises it is a good way to recruit a skilled workforce.

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Adult Education and Business Services

Adult education and business services provide, above all, multi-faceted education which meets the needs of local people and business life. The education provided offers an opportunity to achieve an academic degree (e.g. a post-graduate degree) or study diverse specialist subjects. Adult education is renewing continuously, predicting the forthcoming changes and needs of business life as well as reacting rapidly to them. Adult education also aims to strengthen regional competitiveness and networking as well as to promote internationalisation and support the generation of new entrepreneurship. On the whole, the purpose of adult education is to develop new education and projects as well as implement education in top fields of expertise at a national and international level.

Research and Development

The main goal of research and development done in Kemi-Tornio Polytechnic is to make real-life-projects a part of studies and in this way bring studies and working life closer to each other. The size of projects varies greatly. The smallest ones are carried out in the form of exercises and learning projects (minor market research, surveys, engineering design etc.). The most challenging ones are, for example, product development projects, applied technical research, development of information network services on national and international level, and evaluation projects. Both researchers, teachers and students work in the projects. For students the work typically forms a part of their studies.

The strengths of our R&D are multidisciplinary, large international cooperation network, strong regional cooperation and experience. For the primary task, teaching and learning, it is important that R&D supports development of teaching both pedagogically and in know-how, deepening of cooperation with industries and working life, and internationalisation, and in other ways has a positive effect on the quality. To ensure quality and volume we do operate at a European level, but at the same time the work is focused on the needs of the region and in line with the strategy and development programmes of the region. The goal is to make the existing strengths stronger, help the growing branches to grow faster, develop the service structure and support development of welfare services.

Goal for 2005

The polytechnic is a very important R&D partner for working life and industries, municipalities and regional authorities in the region. Every graduate has participated in practical, real-life projects as a part of studies. The polytechnic is an active partner in regional strategy and programme work strongly committing to decisions made. The main goal in R&D work is to develop firms and working life and formation of new jobs. Meri-Lappi Business Incubator helps start up companies.

Municipality and branch-based development programmes are taking place in Northern Finland and Scandinavia.

Students participate in R&D work in their learning projects and final reports. The research groups consist of teachers, students and researchers, who also teach in the field of their expertise. The groups co-operate with universities and research institutes. For personnel R&D is an excellent opportunity to develop their expertise.

Points of emphasis

The main fields of R&D are at the moment:

- Content for information networks, e-commerce, logistics
- Special questions for communication and media in a sparsely populated area
- Development of work processes, practices and work methods
- Digital techniques, electronics production technology, machine vision and combinations of these in electronics production
- Care of the elderly, telemedicine, first aid, children's nurseries

The International Department and cooperation

The role of the International Department is to create and develop the polytechnic's internationalisation strategy. The main function of the department is to work with EU projects. The department consults, creates projects and carries them out. It is responsible for linking international operations to the polytechnic's studies and research.

A starting point of the projects is integration with the polytechnic's own research. Project leaders and staff are recruited from the polytechnic's own personnel so that experience from projects can be put to use in teaching. This way of working with projects serves a teacher's own qualification and studies.

There are also opportunities for students to do graduation work and practical training within the polytechnic. To this end the department, through its International Officer, takes care of Leonardo da Vinci and Socrates Programme cooperation and develops cooperation between the polytechnic and the business and working life in the region. The list of Erasmus partner schools is attached at the end of the guide.

An essential part of project work is international co-operation put through with local industry. The objective of this form of activity is development of the region's companies and public sector, provision of new employment and making connections to international corporations and to other co-operation partners, by making use of the potential of the Information Society.

The operations of the international department are targeted at certain areas. Such areas are for example Northern Scandinavia and European countries, but on a larger scale than previously. Resources for co-operation with China as well as Russia and especially the Barents region are also being granted.

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Library and Information services

The Kemi-Tornio Polytechnic consists of six different units: the Unit of Management and Commerce, the Unit of Business and Data Processing, the Unit of Technical Education, the Unit of Health Care and Nursing, the Unit of Social Care and the Unit of Visual and Media Arts. Five of the units have its own library.

User rights

The collections and services of the polytechnic libraries are all at the customer's disposal. Material from the collection is also lent to others than students and staff of the polytechnic, but with certain restrictions. The library and information service offers its services also to small and medium sized enterprises. The computers of the polytechnic library are to be used only by the students of Kemi-Tornio Polytechnic and Kemi-Tornio Vocational College. The user of the library commits himself to observe the rules and instructions that are given by the library staff. The user guidelines can be obtained at the service points of the library.

Facilities

The library offers its customers the use of PC workstations (90) connected to the computer network of the polytechnic. All workstations contain word processing, calculation and graphics programs. The machines are also connected to the Internet. The library has approximately 200 reading places.

Collection and material

The loan materials of the Kemi-Tornio Polytechnic library are registered in the Kullero database, which is shared with the city libraries of Kemi and Tornio and with the library of the education authority of Länsi-Lappi. There are more than half a million titles in the Kullero database. There are about 90 000 volumes in the library collections of the different polytechnic units. About 600 printed domestic and foreign magazines are available in the libraries. The collection contains literature in several fields like economics, logistics, economy, information technology, accounting, foreign trade, social welfare, health care, social and education science, electrical power engineering, mechanical engineering, automation technology, etc.

The electronic magazines and journals can be accessed from all the workstations connected to the polytechnic network. The library has access to various Finnish and foreign databases. The National Electronic Library (FinELib) offers a wide variety of information retrieval and document delivery services. Since the beginning of 1999 more than 5000 electronic journals such as ABI/INFORM journals, Academic Press Journals, EBSCO scholarly journals, Ovid Nursing Collection journals, Springer LINK and IEL Online journals, and databases have been available and, of them, over 3 600 are full-text journals. The collection also comprises some AV material.

Material list

The material of the libraries has been catalogued electronically. The library system used is called Pallas. The material database Kullero was created in co-operation with the city libraries of Kemi and Tornio and the municipal federation for vocational education in Länsi-Lappi. Kullero can be used from all workstations on the polytechnic network. The material has been catalogued according to the general library decimal classification system

Of all dissertations written at Kemi-Tornio Polytechnic, from 1995 onwards, bibliographic information (author(s), year, etc.) is available. If the content of the work is not confidential, the summary will also be visible. From 1999 onwards, dissertations can be seen in their entirety (in pdf format), provided the content is not confidential and provided permission has been obtained from the author(s) of the work to copy the material.

Information retrieval requests and information service

The library and information service carries out information searches, instructs in the use of the lists and information sources and the use of the library in general. It also arranges introduction visits to the libraries. The library and information service provides the user with different databases and provides instructions for their use. The information specialists of the library can also carry out information searches for customers. The use of the databases and the assistance of the library staff are free of charge as a rule. Information retrieval from on-line databases in foreign countries is subject to a fee, however. An introduction into the use of the library and its services will be arranged for all the students at the beginning of their studies. The information retrieval training is part of the curriculum.

Borrowing and renewal of loans

The library and information service lends out material from its collection as home loans. However, the reference collection is meant to be used in the libraries. A limited part of the reference materials can be lent for short-term (single night or weekend) loans. The loan of materials from the collection of the own library is free of charge. The customer can also use the borrower card from the city libraries of Kemi and Tornio in the polytechnic libraries too. The general loan period is two weeks, but the period may vary depending on the educational unit the library is in. Material from the collection that has been lent out can be reserved. The reservation fee is 0,50 EUR. The customers can reserve materials and can renew their loans even by phone or via the Internet (Kullero).

Interlibrary lending

The library provides its customers with interlibrary loans and copies of such documents that are not available locally. The public libraries in the area also provide inter-library loans. The library follows the directions set by library that lends books or articles. Inter-library lending is mainly liable to charges.

Library Director
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www.tokem.fi/library



IT-Services

The task of the It-services is to develop hardware and network environments and related support services in the field of research and education. More information www.tokem.fi.

Workstations and servers

The Kemi-Tornio Polytechnic has both technical and pedagogical support for the use of information and communication technology in teaching. We have about 900 high quality workstations and servers with windows NT/2000 operation systems. We are supporting eLearning systems like mediaservers, videoconference and virtual networks.

Network

The new ethernet-based network technology is used between the units of the polytechnic, 10-1000 Mbits. Our polytechnic is a part of the FUNET network (Internet of universities and polytechnics). The base network is 2.5 Gbits Ethernet and our connection is 155 Mbits ATM. The polytechnic belongs to the Kemi-Tornio-Haaparanta regional network which operates both in Finland and Sweden. We are using security systems like firewalls, virtual networks and routers/switches.

Software

Our network operation systems are mainly Windows2000 but we have also some Lotus notes and Linux OS.

IT-manager
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5. THE INTERNATIONAL PROGRAMMES

Unit of Management and Commerce/Unit of Business and Data Processing

Unit of Management and Commerce in Kemi and Unit of Business and Data Processing in Tornio give expertise in data processing, the Internet, business administration, marketing, accounting and finance, logistics and tourism. The aim is to produce highly-skilled graduates for the Nordic Region and the international work market. New technology, multiplicity and distance learning are widely used.

A Bachelor of Business Administration combines theory, practice and individual experience, and qualifies graduates for planning, expert and managerial posts, as well as many professional tasks requiring a high standard of expertise. The business education is based on demands arising from business and industry. These abound; the business world is under constant pressure from changes, especially in the northern parts of Nordic Countries. Active and close contacts with business and industry guarantee that education lives in the real world. Doing R&D projects which originate from business and industry, students get first-hand knowledge of their professional field and working life realities. Enterprises in turn can commission research projects and studies at a low cost.

At total some 730 students study in day and evening programmes. The educational field of business and administration has a staff of 80. The business studies are characterised by their practical orientation and freedom of choice. BBA degree programmes take 3.5 years (210 ECTS credits/140 Finnish credits). The units offer five degree programmes with several specialisations available.

1. Degree Programme in Business Information Technology (BIT, in English)

2. Degree Programme in Business Management (BM, in English)

3. Degree Programme in Business Economics

Business Activities and Marketing, Financial Management, International Business, Travel and Tourism Development.

The specialisations are all in Finnish.

4. Degree Programme in Business Information Systems Computing

Commercial Information Technologies, Systems Analyst and Systems Developer, Software Expert and Instructor.

The specialisations are all in Finnish.

5. Degree Programme in Business Logistics

The programme is in Finnish.

The Department of Adult Education in the field of business and administration education arranges circa 18 000 hours annually. Modern technology is utilised in flexible and distance education. The courses offered are: Polytechnic degree studies, Open Polytechnic courses, specialized studies, vocational training, post-graduate studies, employment education, personnel training, New-Business Centre. Both units provide library and information services in their own libraries. Students have a good opportunity to use computers, also outside the scheduled hours, to work with their assignments etc.

Postal addresses:

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Dean

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Degree Programme in Business Management

Bachelor of Business Administration

Kemi-Tornio Polytechnic offers a degree programme in Business Management. Its main aim is to provide students with skills required in international business. The Degree Programme in Business Management leads to a Bachelor's degree in Business Administration (BBA). The degree will take three and a half years to complete and consists of 210 ECTS credits, 140 Finnish credits. The academic year is divided into autumn and spring semesters, each consisting of study and exam periods. The language of instruction is English and the teaching will integrate lectures, seminars and workshops. Students are also offered an extensive programme of elective studies, as well as a five-month training period.

The studies are designed to focus on developing creativity and improving presentation skills - the skills which we regard as the most important requirements in working life today. Kemi-Tornio Polytechnic recognizes the importance of networking with industry and business as well as the other polytechnic units, and attempts to incorporate these aspects into the education programme as much as possible. Furthermore, the college provides an environment in which students can familiarise themselves with today's information technology. An additional strength lies in the geographical proximity of the Russian and Swedish borders, and cooperation with our foreign partner institutions in those countries will play an important role in the implementation of the programme accordingly.

On completion of the programme, students

- have acquired practical and theoretical skills to work in local and global business environments
- are able to work independently as well as part of a team
- have developed their communication and cross-cultural skills
- have developed competence in information technology and in more than one foreign language

The first year, consisting of basic studies, will provide students with a fundamental knowledge of the following subjects: Business Administration, Marketing, Logistics, Accounting, Information Technology, Business Mathematics, Law, Economics, Communication in Business and Presentation Skills. The second year will give students an opportunity to deepen their knowledge of the subjects listed above. In addition, the students will obtain practical skills for a training period to be performed in an international business environment. During the third year the students will be offered an extensive combination of theoretical lectures and professional studies in order to develop the personal abilities required in performing a bachelor's thesis.

International student exchange
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The Unit coordinator for ECTS credits
Mr. Esa Jauhola
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E-mail: esa.jauhola@tokem.fi



Outline of Studies

181040 Tutoring 1,5 ECTS credits (1 credit)

Objective: to coach students to be able to comprehend study materials related to their curriculum, to encourage them to be able to cope with the study load and discuss matters during reception hours

181041 Marketing 4,5 ECTS credits (3 credits)

Objective: to give students a basic understanding of modern marketing and its role in companies operating in a rapidly changing business environment

Content: the concept of marketing, evolution of marketing concept, marketing in a modern firm, the internal and external marketing environment, the dimensions of consumer and organisational buying behaviour, the segmentation process, target marketing and positioning

Teaching: lectures 50 hours, assignments 70 hours

Literature: Jobber David: Principles and Practice of Marketing. Latest edition!

Assessment: examination 60 % and assignments 40 %

181042 Information Retrieval and E-learning 3 ECTS credits (2 credits)

Objective: the students learn to use library and information services available, the student manages the information process and he/she has ability to find, evaluate and use information critically

Content: basics of information retrieval, information resources, libraries in Finland and library services, searching for information from databases, searching for information on the Internet, evaluation and selection of information, E-learning

Teaching: 36 hours of supervised work, assignments 44 hours

Assessment: continuous assessment and assignments

181043 The Basics of Business 3 ECTS credits (2 credits)

Objective: to give students an idea that entrepreneurship is one of the basic factors of production and the foundation of social well-being, to get students motivated to set up a business of their own

Content: the concept of entrepreneur and entrepreneurship, the factors of production, the characteristics of an entrepreneur, the motives for setting up a business, business environment and social responsibility, organisational inputs and outputs, stakeholders of a company, types of business and types of merchandise, the forms of business ownership, phases of establishing a business

Teaching: lectures 24 hours, assignment 56 hours

Assessment: lecture and reading material test 70 %, self-supervised work 30 %

Indicative Reading: The Essence of Small Business, Colin Barrow, ISBN 0-13-285362-0, Business Studies, Bruce R Jewel, SNB 0 582 277922

181044 Fundamentals of Logistics 3 ECTS credits (2 credits)

Objective: to provide students with general knowledge and an overall view of the relevant topics in the field of business logistics

Content: scope of business logistics, achieving an integrated supply chain, customer service dimension in logistics, service-driven logistics systems, managing material flows, inventory control, ABC analysis and other techniques, measuring logistics costs and performance, benchmarking logistics process, purchasing process, purchase portfolio purchasing partnerships, transport cost characteristics, transport mode selection; road, rail, sea, combined, air, pipelines, logistics services, future trends in logistics

Teaching: lectures 48 hours, assignments 72 hours

Assessment: lecture and reading material test 40 %, assignments 60 %, assignments can be carried out individually or in a team

Indicative reading: Christopher M. 1998. Logistics and Supply Chain Management. Strategies for Reducing Cost and Improving Service. Second edition. Prentice Hall. Lontoo. 294 p

181045 Financial Accounting and Taxation 6 ECTS credits (4 credits)

Objective: to offer a financial perspective on business structures, to enable students to present accounting information in such a way that the financial performance and position of an entity can be appraised and controlled, to enable students to use information technology in accounting, to provide the student with an understanding of the Finnish taxation system and to give a view of taxation principles in another EU country

Content: information system: financial accounting as an information system, the identification of the users of financial information and their information requirements, double-entry bookkeeping: concepts and principles of double-entry bookkeeping, the trial balance and the preparation of the major financial accounting statements, financial statements: the major financial statements and their structure, interpretation of financial statements: the use of ratios, presentation of financial accounting data, using information technology in accounting, taxation: income tax and value-added tax

Teaching: lectures 70 hours, assignments 90 hours

Assessment: one written paper 60 %, assignments 40 %

Literature: Woods: Business Accounting 1 and 2, Pitman Publishing, 1999

Atrill, McLaney: Accounting and Finance for Non-Specialists, Prentice Hall, 2001, Berry, Jarvis: Accounting in a Business Context, Thomson Learning, Bendrey, Hussey, West: Accounting and Finance in Business, Lymer, Hancock: Taxation - Policy and Practice, Thomson Learning, 2001, Alexander, Nobes: International Introduction to Financial Accounting, Prentice Hall, 2001

181046 Information Technology 6 ECTS credits (4 credits)

Objective: to give students a basic understanding of computing concepts, to introduce students to common business information technology

Content: basics of computer hardware: the students will familiarize themselves with the use of computer hardware, operating systems: to introduce students to the most common operating systems, desktop tools: during the sessions students will learn the basics of word processing and spreadsheets, network services - Internet: to introduce the student to the use of e-mail and world wide web, the students will make their own home pages, to provide students with good knowledge in using spreadsheets in financial and economical tasks

Teaching: lectures 90 hours, assignments 70 hours

Assessment: continuous assessment 30 %, test in computing skills 70 %

Support material: hardware and software manuals, additional material will be submitted during the sessions

181047 Law 3 ECTS credits (2 credits)

Objective: to give students a basic understanding of legal orders, legal systems and legal terms, to provide students with an introduction to the law of contracts

Content: introduction to legal thinking: the significance of legal order, different kinds of legal systems, sources of law, legal terms, contracts

Teaching: lectures 48 hours, assignments 72 hours

Assessment: lecture and reading material examination 60 %, assignments 40 %

Indicative reading: will be submitted during the sessions

181048 Microeconomics 3 ECTS credits (2 credits)

Objective: to provide the student with an understanding of principles, tools and techniques of economic analysis and to investigate the contribution of economic theory towards an understanding of business decision-making and performance in order to identify the economic aspects of the behaviour of consumers/households and entrepreneurs

Content: the market and price mechanism: elementary analysis of supply and demand, elasticity and substitution; market and resource allocation: the subject matter of economics: scarcity, choice, allocation, efficiency, comparative economic systems; the theory of consumer choice; business organisation and behaviour; developing the theory of supply; market structure and competition; the theory of international trade, production and costs; the analysis of factor markets: human capital, capital investments and new technology, land and entrepreneurial ability; coping with risk in economic life

Teaching: lectures, assignments and statistics 40 hours; case and workshops 40 hours

Assessment: one written paper, 3 hours 50 %, case and workshops 50 %

Indicative reading: Boyes, William J. & Melvin, Michael: Economics, 4 ed 1999 (part), Parking, Michael: Economics, 5 ed 2000 (part), Begg, David et al.: Economics, 5 ed, London 1997 (part)

181049 Communication in Business 4,5 ECTS credits (3 credits)

Objective: to provide students with in-depth knowledge and skills in business communication practices to operate efficiently in various business contexts

Content: Business Enterprises: writing, discussing and presenting company profiles including the use of graphs and charts to explain trends, Writing in Business: In the course of examining companies students will have the opportunity to learn and practice writing skills for communicating in business situations, such as business letters, fax and e-mail messages, the students will have exercises in discussing subjects related to companies and writing follow-ups

Assessment: coursework, in and out of class (in class - active participation during the sessions; out of class - satisfactory completion of home assignments) 50 %; and examination 50 % (aural, oral and written)

Teaching: lectures 64 hours, assignments 56 hours

Indicative Reading: Spring-Wallace, English for Corporate Communications. Prentice Hall Regents 1993

Support Material: Powell, Business Matters. Language Teaching Publications 1996, Neale & Haslam: Economics in a business context (the latest edition), Sloman & Stiffle: Economics for Business, The Finnish Statistical Year book; OECD Economic Outlook

181050 Presentation Skills 3 ECTS credits (2 credits)

Objective: to enable the students to express themselves in front of a group, to emphasize the interaction between the presenter and the audience, to make students aware of the nature of a presentation and how to handle material for a presentation

Content: presentations based on business-oriented material of students' own choice, classwork includes exercises to improve students' presentation skills and response skills as a member of the audience

Assessment: presentation 50 %; continuous assessment and performance as an audience member 50 %

Teaching: lectures 32 hours, assignments 8 hours

Indicative Reading: submitted during the sessions

181052 Increasing Intercultural Awareness 3 ECTS credits (2 credits)

Objective: to sensitize the student to intercultural differences and similarities in the international business environment and to encourage them to be able to adapt themselves accordingly, and to help them to understand and appreciate issues involved in intercultural interaction

Content: articles to be read for each session with written assignments to be discussed during the sessions, cultural awareness through case studies along with group project work to be reported orally and in writing, take-home exam

Teaching: sessions; preparation work, writing review papers, group project work, take-home exam

Lectures: 39 hours, assignments 41 hours

Assessment: thorough preparation for discussions; active participation in class; submitting assignments in time. 80 % attendance required

Learning material: selected articles from the following authors: Hofstede Geerd, Hall Edvard, Lustig, M.V. and Koster, J., selected articles from the following titles: Jackson, Terence (ed.), Cross-Cultural Management. Butterworth - Heinemann 1995, Thiederman Sondra, Bridging Cultural Barriers for Corporate Success. Lexington Books 1991, for case studies the following book is used:

English, Laura M. - Lynn, Sarah, Business Across Cultures - Effective Communication Strategies. Longman 1995, other articles submitted by the instructor, students will be responsible for researching their own material for the group project work and the home exam

181053 Negotiations, meetings and related reporting 4,5 ECTS credits (3 credits)

Objective: to give students the opportunity to learn and practice negotiation skills along with the language used in formal and informal meetings, the students will have the opportunities to practise communicating in all these situations

Content: reading, writing, and discussions about articles concerning negotiation strategies and meeting techniques, as well as intercultural differences/similarities in international circumstances, the students will have the opportunities to practise these strategies and techniques in class and be able to report on them both orally and in writing, in particular, they will be asked to carry out sales negotiations during meetings, which will be videotaped and then reviewed by the students and the teacher, the students will also read extracts from actual contracts and agreements, and they will be asked to comment on the language in them

Assessment: classroom work 50 %, assignments 50 %

Teaching: lectures 64 hours, assignments 56 hours

Indicative Reading: will be submitted during the classes

181055 Professional Reading, Writing and Discussion Skills 4,5 ECTS credits (3 credits)

Objective: to provide students with more specific oral and written communication skills

Content: reading, writing and discussions: the student will have a chance to read challenging business articles, and report on the contents in writing, the articles will also be used as the basis for business-oriented discussions, the focus is on learning to read large amounts of material rapidly and with understanding, Research Papers: the students will be introduced to writing research papers and documentation styles

Assessment: coursework, in and out of class (in class - active participation during the sessions; out of class - satisfactory completion of home assignments) 25 %; reports 25 %; scientific writing assignment 50 %

Teaching: lectures 64 hours and assignments 56 hours

Reading material: to be submitted during the lessons

181200 Business Administration 3 ECTS credits (2 credits)

Objective: to provide the students with the idea that employees - "human capital" - are the most valuable assets of any company, to give an image of how important work motivation and commitment to the organisational goals are for the success of business, also, to give comprehension of the way to organise the work of different people and to form well-designed and appropriate structure for an enterprise

Content: concept of formal organisation, vertical and horizontal structure of an organisation, mechanistic and organic structures, coordinating formal and informal organisations, sociogram, motivation theories, motivational techniques (employee, job and organisation-oriented techniques)

Teaching: lessons 21 hours, assignment 59 hours

Assessment: lecture and reading material test 70 %, self-supervised work 30 %

Indicative Reading: Courtland Bovee, John V. Thill et al., Management, ISBN 0-07-112944-8, Geneth R. Jones, Organizational Theory, 1995 ISBN 0-201-53224-7 Gregory B. Northcraft, Margaret A. Neale, Organizational Behaviour (A Management Challenge) 2nd ed. ISBN 0-03-074611-6

181021 Management Accounting 4,5 ECTS credits (3 credits)

Aims: to provide an introduction to the theory and practice of managerial accounting primarily in the manufacturing environment with the view to providing information to management for control and decision-making, to develop an understanding of organizational aspects in managerial accounting, to develop analytical skills related to the problem-solving roles of managerial accounting, to provide students with skills in the budgeting process and the process of budgetary control, to give the students an in-depth understanding of the role that a well-designed accounting system may have in the process of cost management, the main focus is on activity-based cost management, several cases will be introduced and discussed in class

Content: management of costs, overhead cost management, basics of activity-based costing, volume-cost-profit analysis, budgetary control

Teaching: lectures 48 hours, assignments 72 hours

Assessment: one written paper 40 %, assignment 60 %

Literature: Drury: Management Accounting for Business Decisions, Thomson Learning, 2001, Berry, Jarvis: Accounting in a Business Context, Thomson Learning, 1998, Atrill, McLaney: Accounting and Finance for Non-Specialists, Prentice Hall, 2001 Cooper, Kaplan: The Design of Cost Management Systems

181202 Marketing Mix Decisions 3 ECTS credits (2 credits)

Objective: to give students an overview of integrated marketing mix decisions

Content: the concept of marketing mix: components of the marketing mix and marketing environment

Product decisions: concept, branding, product life cycle

Price decisions: objectives, influencing factors, pricing policies and methods

Place decisions: marketing channels, wholesaling, retailing and physical distribution

Promotion: promotional mix (advertising, personal selling, public relations and sales promotion)

Teaching: lectures 32 hours, assignment 48 hours

Assessment: examination 60 % and assignments 40 %

Literature: Jobber David: Principles and Practice of Marketing. Latest edition!

181203 Market Research 3 ECTS credits (2 credits)

Aims: to provide an introduction to the theory and practise of market research, to get the students acquainted with the options facing a person who wants to gather marketing research information i.e. different forms of research methods, principles, procedures and tools

Content: the role and methods of market research, the stages in the marketing research process, planning and carrying out marketing research: survey design, analysis and interpretation of data, writing a report and preparing a presentation

Teaching: lectures 32 hours, assignments 48 hours

Assessment: classwork 40 % and research project 60 %

Literature: Kumar V., Aaker D. A., Day G.S: Essentials of Marketing Research, 1999

181024 Financial Statement Analysis 3 ECTS credits (2 credits)

Aim: to learn the interpretation of financial statements and how accounting data is used for analytical purposes

Content: financial accounting analysis, profitability, funds management, liquidity and solvency, inter-firm comparison, gearing ratios, investment ratios, performance measurement, analyzing the statement of cash flows

Assessment: coursework 50 %, examination 50 %

Teaching: lectures 32 hours, assignments 48 hours

Literature: Schoenebeck: Interpreting and Analyzing Financial Statements, Prentice Hall, 2001

McMenamin: Financial Management – An Introduction, Routledge, 1999

181210 Human Resource Management 3 ECTS credits (2 credits)

Objective: to provide students with knowledge that management, especially leadership ability, is the force that holds everything in a business enterprise in motion to achieve desired material and immaterial results

Content: managerial roles, skills and abilities, managerial hierarchy, managerial functions, manager vs. leader, styles of leadership, situational leadership, personnel management concept, staff planning, methods of job analysis, selection and orientation, training

Assessment: lectures and reading material examination 70 %, assignment 30 %

Teaching: lectures 26 hours, assignments 54 hours

Indicative Reading: Human Resource Management, Graham H.T., Bennet R., 9th ed. ISBN 0 273 63401 1, Business Leadership, Viv Shackleton, 1995, ISBN 0-415-12678-9

181211 Supply Chain Management Strategies 3 ECTS credits (2 credits)

Aim: to give students an in-depth knowledge of the Integrated Supply Chain Process

Content: approaches to strategic management Strategic management of supplier relationships, inventory management, transportation management, logistics reengineering, alternative logistics strategies, warehouse management and warehousing strategies, logistical organizational development, beyond structure: virtuality and transparency, global logistics, strategic Logistics Plan, future logistics challenges

Teaching: lectures and case discussions 48 hours, assignments 32 hours

Assessment: case reports and presentations, class participation, assignments 60 %, written exam 40 %

Indicative reading: Gattorna J.L. & Walters D. W. 1996. Managing the Supply Chain: A Strategic Perspective. MacMillan Press.

Lontoo. 360 p, Saunders M. 1994. Strategic purchasing and supply chain management. Pitman Publishing. London 299 p,

Lambert D. & Stock J. 1993. Strategic Logistic Management. Irwin, Illinois. 862 p

181212 Macroeconomics 3 ECTS credits (2 credits)

Objective: to describe the economy as a whole: economic equilibrium from the perspective of macroeconomics, the purpose is to initiate the circular flow of economic activities of the economy and its units and connection to other economies in order to evaluate the influence of macroeconomics variables on the firm's performance and economic forecasts

Content: introduction to macroeconomics and national income accounting: the determination and measures of national income accounting; aggregate demand and supply, government economic policies: Keynesian theory and fiscal policy; monetarist theory and policies: money, banking and the monetary system; exchange rates; determination of economic growth and productivity; business cycle; inflation; unemployment; price level and the speed of adjustments; taxes and public spending; industrial policy and competition policy; balance of payments; welfare economics; problems of developing countries

Teaching: lectures, assignments & statistics 40 hours; case-work and presentation

Assessment: one written paper, 3 hours 50 %, case and workshops 50 %

Indicative reading: Brandley, R. – Schiller: Essentials of Economics; ISBN: 0-07-116884-2, Begg, David et al.; Economics, 5 ed, London 1997 (part), Boyes, William J. & Melvin, Michael: Economics, 4 ed 1999 (part), Parkin, Michael: Economics, 5 ed 2000 (part), Neale & Haslam: Economics in a business context (the latest edition), Samuelson-Nordhaus: Economics. Mc Graw Hill, Sloman & Stiffie: Economics for Business, The Finnish Statistical Year book; OECD Economic Outlook

181213 Financial Management and International Finance 3 ECTS credits (2 credits)

Objective: to enable students to utilise financial data to assist management in performing the management functions and to survey the practical aspects of financing of international operations

Content: sources of finance and financial institutions, cost of capital and capital structure, capital budgeting, risk and capital asset pricing model, financial ratios, management of working capital, stock market investments, the structures of financing from an EU point of view

Assessment: two assignments á 25 %, examination 50 %

Teaching: lectures 56 hours, assignments 64 hours

Literature: Rosenberg, Harris: Finance for non-financial managers, 2001, McMenamin: Financial Management – An Introduction, Routledge, 1999

Reading material: R.B.Brockington, Financial Management, DP Publications, London, Financing, basic concepts. painatuskeskus.Helsinki, The Financial Times Guide to Using the Financial Pages. Pitman publishing, Laurence S. Ritter, William S. Silber: Principles of money, banking and financial Markets

181214 Law of Obligations 3 ECTS credits (2 credits)

Objective: to give an introduction to the law of obligations

Content: methods of Providing Credit: debtor-creditor agreement, hire purchase, credit-sale, credit cards, unjust enrichment, compensation for damages, Credit Contracts: negotiation, formation, clauses, liabilities, securities: personal securities, real securities, collecting debts, bankruptcy: petition in bankruptcy, receivership and liquidation, bankruptcy proceedings, arrangement of debts and debt restructuring: grounds for arrangement of debts, proceedings, different ways of arranging debts

Teaching: lectures 40 hours, assignments 40 hours

Assessment: lectures and reading material examination 60 %, assignments 40 %

Indicative reading: will be submitted at the beginning of the lectures

181220 Internationalization of companies 3 ECTS credits (2 credits)

Objective: to give students an overview of the internationalization process including a description of various factors that have an impact on the choice of international business operations

Content: reasons for going international, roadblocks to going international, international business operations, sources of information, foreign trade organisations

Assesment: examination 60 % and assignments 40 %

Literature: Koslow: Business Abroad. Gulf Publishing Company, 1996, Chinkota, Ronkainen: International Marketing. Harcourt College Publishers. 2000

181221 Scandinavian Business Context 3 ECTS credits (2 credits)

Objective: to provide students with an understanding of the peculiar economic and regional factors in the Scandinavian region which influence and constrain managerial decisions in Finnish firms, at the end of this course students should be able to analyse different business areas, students will obtain a basic knowledge of topics in comparative politology, students should appreciate the influence of the European Union and the European Monetary Union on macroeconomic factors which affect businesses, special attention will be drawn to the Finnish business system

Content: tools of business context analysis –economics, comparative politology and statistics; Finland in figures; the Finnish economy; political climate analysis; welfare state issues; business system analysis – sociology of business organisations; Scandinavia in the European Union

Teaching: lectures 28 hours and assignments 52 hours

Assessment: written exam 50 %, assignments 50 %

Literature: to be submitted during the lessons

181222 International Marketing 3 ECTS credits (2 credits)

Objective: to provide the students with the understanding of the scope of international marketing and the need for thorough evaluation of the international environment prior to the selection of markets, the students are able to construct a marketing plan including product, price, distribution and promotion decisions

Content: choosing the target market: international environment, selecting process, export plan: content, international marketing mix: product, price (including the terms and ways of payment), place (including the terms of delivery)

Teaching: lectures 32 hours, assignments 48 hours

Assesment: one written paper 40 % and assignments 60 %

Literature: Jobber David: Principles and Practice of Marketing, Chinkota, Ronkainen: International Marketing. Harcourt College Publishers. 2000

181223 Strategic Management Accounting 3 ECTS credits (2 credits)

Objective: to provide information on the recent trends and tools of management accounting and to familiarise students with strategic management accounting

Content: modern strategic management and its implications to management accounting: the Balanced Scorecard (BSC), target costing, quality costs, Economy Value Added (EVA)

Teaching: lectures 32 hours and assignments 48 hours

Assessment: examination 50 %, assignments 50 %

Literature: R.S.Kaplan, T.Johnson: Relevance Lost! The Rise and Fall of Management Accounting, T. Johnson: Relevance Regained: from top-down control to bottom-up empowerment, Kaplan,, Atkinson: Advanced Management Accounting, Prentice Hall, 1998, articles and other readings to be specified in class

181224 Foreign Trade 1,5 ECTS credits (1 credit)

Objective: to develop in the student a basic understanding and skills concerning the practical issues in the foreign trade operations of a company

Content: stages of export and import procedure, trade contract, international delivery terms: incoterms as a part of a trade contract, documents: invoices, certificates of origin, customs procedure: using a customs declaration in different situations

Teaching: lectures 20 hours, assignments 20 hours

Assesment: exercises and assignment 100 %

Literature: will be announced at the beginning of the course

181230 International and European Community Law 3 ECTS credits (2 credits)

Objective: to consider the evolution and development of the European Community and the main branches of European Community law

Content: Leading Principles of International Law, The Historical Background to the European Community, The Court of Justice and The Court of First Instance: organization, legal proceedings, preliminary rulings, The Sources of Community Law, General Principles of Law: proportionality, equality, legal certainty, procedural rights, subsidiarity,

the supremacy of community law, the principles of direct applicability and direct effect, Acts of the Institutions: regulations, directives, decisions, Free Movement within the Single Market: customs duties and discriminatory internal taxation, quantitative restrictions and measures having equivalent effect, the free movement of workers, the right of establishment and the freedom to provide services, capital movements, competition law and policy

Teaching: lectures 40 hours, assignments 40 hours

Assessment: lectures and reading material examination 60 %, assignments 40 %

Mandatory reading: "European Union Law"-textbook, 1999, Collaborators/authors: Pohjois-Savo Polytechnic Business and Administration, Varkaus and Instituto Tecnico Commerciale Statale "Enrico Tosi", Italy

181231 Private International Law 3 ECTS credits (2 credits)

Objective: to give understanding of international contract law, of compensation for damages and of dissolving legal disputes

Content: International Contract Law: commercial agreements, contract of agency, distribution agreement, transport agreements, conventions concerning contracts (Vienna convention), Compensation for Damages, Dissolving legal disputes: legal proceedings and courts, arbitration, Enforcement: conventions

Teaching: lectures 40 hours, assignments 40 hours

Assessment: lectures and reading material examination 60 %, assignments 40 %

Indicative reading: will be submitted at the beginning of the lectures

181232 International Economics 3 ECTS credits (2 credits)

Objective: the purpose is to examine the activities of the international economy and the factors influencing its development in order to give the student an understanding of living in a global economy and to plan international trade, investment and finance activities from the perspective of the firm, to discuss key economic issues that influence international business and to analyse changes in the world economy and their impact

Content: the economic environment: international trade and commercial policy; markets for investments and the world financial environment: capital and money; economic integration and cooperative agreements; EU and EMU roles in international economics

Teaching: lectures 24 hours, project work (independent) and oral presentation

Assessment: lectures and reading material examination 50 %, oral presentation and written report 50 %

Indicative reading: Daniels, John D. & Radebaugh, Lee H.: International business environment and operations, 9 ed, 2000; Carbaugh: International Economics; A collection of articles and topics; OECD- Economic Outlook

181233 International Accounting 3 ECTS credits (2 credits)

Objective: to introduce students to the problems of international accounting and reporting, to improve the knowledge of accounting requirements and practices at the national level between countries, an understanding of factors influential in the policy-making process in other countries may help to understand better the potential for/or limitations to harmonization and to the use of standards, for example, in multinational companies

Content: international diversity in financial accounting and reporting practices in the main EU countries and in the US, Consolidated group accounts, EU harmonization and EU directives, the International Accounting Standards (IAS) of The International Accounting Standards Committee (IASC) and the US Generally Accepted Accounting Principles (US.GAAP) of the Financial Accounting Standards Board (FASB)

Assesment: coursework, in and out of class 50 % and examination 50 %

Teaching: lectures 30 hours, assignments 50 hours

Literature: Christopher Nobes and Robert Parker, Comparative international accounting, Prentice Hall, New York 2000, research papers, articles (to be given by the lecturer)

Support material: Roberts, Weetman, Gordon: International Accounting – A Comparative Approach, Pitman Publishing, Alexander, D., Comparative International Accounting, San Diego: Harcourt Brace, 1996, Radebaugh, Lee H. and Gray, S.J., International Accounting and Multinational Enterprises, 4th ed. New York: John Wiley, 1997, Schweikart, Jim and Gray, S.J. and Roberts Clare, International Accounting: A Case Approach, New York: McGraw-Hill, 1995

181234 Business and Environmental Ethics 1,5 ECTS credits (1 credit)

Aims: to increase the students' awareness of ethical issues regarding business and environment by studying and discussing related issues

Content: reading articles regarding business and environmental ethics, introducing related topics for discussions either orally or in writing, discussing related topics in groups

Teaching: participating in class sessions in class, preparation work for class discussions and writing assignments

Assessment: thorough preparation for discussions; active participation in discussions in class; submitting assignments in time, 80 % attendance required

Learning material: selected articles from various sources discussing ethical and environmental issues, other current articles submitted by the instructor during sessions; students' own choice of articles for assignments

181241 Qualitative Methods 3 ECTS credits (2 credits)

Objective: to familiarise students with qualitative research methods

Content: the focus is on dealing with different bases for qualitative methods and analyses as well as different tendencies in these fields, group work is emphasised, the students will be introduced to writing coursework, the purpose of which is to deepen their understanding of one concrete research method

Teaching: lectures and discussions 30 hours, literature and coursework 50 hours

Assessment: reading material examination 50 %, lecture attendance and assignments 50 %

Literature: Pentti Alasuutari: Qualitative method and Cultural Studies, Robert K. Yin: Case Study Research, Design and Methods

Support Material: Mathew B. Miles, A. Michael Huberman: Qualitative Data Analysis, Robert E. Stake: The Art of Case Study Research, Norman K. Denzin, Yvonna S. Lincoln (ed.): Strategies of Qualitative Inquiry

181242 Quantitative Methods 1,5 ECTS credits (1 credit)

Objective: to enable students to acquire the necessary skills to apply statistical and mathematical techniques in business problems, students will learn how to use SPSS software as a tool for analyzing and presenting statistical information

Content: data Screening and transformation, descriptive statistics, correlation and T-tests, other analysing methods, reporting and presenting statistical information

Literature: Sheridan J. Coakes, Lyndall G. Steed: SPSS – Analysis without Anguish

Assessment: will be agreed at the beginning of the course

181243 Applications in Business Administration 4,5 ECTS credits (3 credits)

Objective: to give students the ability to use spreadsheets effectively and the ability to use most common business applications

Content: presentation programs and computer graphics, built in functions in spreadsheets, statistical tools, pivot table, the use of solver application, creating macros and programming with macro language, creating and using databases, the use of integrated applications in office work (Scala 1,5 cu)

Teaching: lectures 60 hours, assignments 60 hours

Assessment: continuous assessment, test and assignment

Reading material: will be submitted at the beginning of the lessons

Degree Programme in Business Information Technology

Bachelor of Business Administration

Degree programme in Business Information Technology leads to a Bachelor of Business Administration (BBA) degree after studies of 3.5 years. The total extent of credits is 210 ECTS credits/140 credits. The degree programme consists of the following main elements: Basic Studies (60 ECTS credits), Professional Studies (75 ECTS credits), Elective Studies (30 ECTS credits), Practical Training (30 ECTS credits) and Bachelor's Thesis (15 ECTS credits).

All the studies will be carried out in English. The teaching methods are lectures, seminars, project and teamwork, exercises, independent work and assignments. Modern information technology is available for studying. The practical training can be accomplished either in Finland or abroad.

On completion of the programme the graduate

- Is capable of designing, implementing, updating and further developing information systems
- Knows the application possibilities, limitations and program development in data processing
- Knows how to purchase a computer system and make agreements concerning it
- Is capable of handling databases and data networks

The studies have been designed to give Data Processing Designers, Application Programmers, System Analysts and Data Processing Managers theoretical and practical expertise in their professions. The programme consists of courses in information society technology, mathematical-technical information technology, business studies and mathematics. Through these studies the students will achieve expertise in data processing and understand the potential and problems of information technology.

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Outline of studies

291000 Orientation Studies 3 ECTS credits (2 credits)

Objective: to introduce the structure, content and implementation of the Business Information Technology education, the course highlights the goals, the outlines and the prospective professions and gives introduction to effective studies, to get familiar with information sources offered by Kemi-Tornio Polytechnic

Content: studying environment, studying programs, organising studies, library services, information services and information retrieval

Teaching: contact hours 28 hours and assignments

Assessment: attendance

Literature: study guide

291001 Project and Teamwork 3 ECTS credits (2 credits)

Objective: to improve student's ability to work in groups, teams and projects

Content: project planning, project administration, leading a project, working in a team, reporting and presentation of project plan and results, the use of project management software, evaluation

Teaching: contact hours 42 hours, assignments 38 hours

Assessment: assignment 80 %, a project work and journal; active participation in classroom work 20 %

Literature: will be submitted during the lessons

291002 Information Technology 4,5 ECTS credits (3 credits)

Objective: to give a basic understanding of computing concepts and to introduce common business information technology

Content: computer hardware and software, operating systems, using computers and operating system, data communications, Internet, e-mail, network services, HTML

Teaching: lectures 50 % and exercises 50 %

Assessment: lectures and test 70% and assignments 30%

Literature: will be submitted during the lessons

291003 Application Programs 7,5 ECTS credits (5 credits)

Objective: students achieve an extensive and comprehensive knowledge of the most common application programs and are able to use them in studies and work

Content: word processing, spreadsheets, databases, presentation and publication tools, graphics

Teaching: contact hours 112, exercises and assignments 88 hours

Assessment: test 50 % and assignments 50 %

Literature: will be submitted during the lessons

291004 Programming I 7,5 ECTS credits (5 credits)

Objective: to learn the basic idea of programming, how to design, build and test computer programs by using programming and testing tools in a third generation programming language environment.

Content: program structure, programming methods, the bases of language; libraries, variables, arrays, data types, input/output functions, decisions, loops, pointers and dynamic memory allocation, programming environment, compiling and linking

Teaching: lectures 50 % and exercises 50 %

Assessment: test 70 % and assignments 30 %

Literature: Ivor Horton's: Beginning C++ The Complete Language, Wrox, Latest edition

291005 Information System Analysis and Design 7,5 ECTS credits (5 credits)

Objective: to give an overview of the system design and planning process, approaches within system design and the use of the most common description methods and techniques

Content: developing information systems; requirements analysis and system design, system development models, methods, tools, instructions and construction stages

Teaching: lectures 60 % and exercises 40 %

Assessment: test 40 %, self-supervised work 30 %, active participation 30 %

Literature: will be submitted during the lessons

291006 Entrepreneurship 3 ECTS credits (2 credits)

Objective: to get general overview of the business operating process, entrepreneurship and success factors relating to business, emphasises the importance of interaction between the company and its environment

Content: concept of entrepreneurship, characteristics of an entrepreneur, motives for establishing a business firm, interest groups of the company, internal and external integration, forms of business ownership, phases on setting up a firm and organising a business operation

Teaching: lectures 28 hours and assignments 52 hours

Assessment: lecture and reading material test 70 % and assignment 30 %

Literature: Colin Barrow: The Essence of Small Business. Prentice Hall, Pride-Hughes-Kapoor: Business, pp 2-104, 668-756, Yrityksen Tietokirjat Oy: Establishing a Business in Finland

291007 Business Administration 3 ECTS credits (2 credits)

Objective: to provide the students with the idea that employees - human capital - are the most valuable assets of the company, to give a mental image of the how important work motivation and commitment to the organisational goals are for the success of business.

Content: firm's "human capital", to explain why people work, career development, frustration and how to reduce frustration, informal groups, formal organisation and structural options in organisational design, need and process theories of work motivation, work motivation techniques

Teaching: contact hours 42 and assignments 38 hours

Assessment: lecture and reading material test 70 % and assignment 30 %

Literature: Jones Gareth R.: Organizational Theory, Robbins Stephen P.: Organizational Behaviour

291008 Financial Accounting 4,5 ECTS credits (3 credits)

Objective: to offer a financial perspective on business structures, to enable students to present accounting information in such a way that the financial performance and position of an entity can be appraised and controlled, to enable students to use information technology in accounting, to introduce students to comparative accounting in an international context

Content: information system: the financial accounting as an information system, the identification of the users of financial information and their information requirements, double-entry bookkeeping: concepts and principles of double-entry bookkeeping, the trial balance and the preparation of the major financial accounting statements, financial statements: the major financial statements and their structure, interpretation of financial statements and the use of ratios, using information technology in accounting

Teaching: lectures and exercises 42 hours and assignments 78 hours

Assessment: assignments 50 % and examination 50 %

Literature: Bendrey, Hussey, West: Accounting and Finance in Business, Hussey, Hussey: Business Accounting, Macmillan, Press 1999

291009 Marketing 4,5 ECTS credits (3 credits)

Objective: to give students a basic understanding of modern marketing, to provide students with current knowledge in the application of marketing

Content: the concept of marketing, the marketing environment: external and internal environment, buying behaviour: the dimensions of consumer behaviour, characteristics of organisational buying behaviour, segmentation: segmenting consumer markets and organisational markets, target marketing, positioning, marketing Mix Decisions: product; concept, branding, product life cycle, product development, price; objectives, influencing factors, pricing policies and methods, distribution; marketing channels, wholesaling and retailing, promotion; advertising, personal selling, public relations and sales promotion

Teaching: lectures 63 hours and assignments 57 hours

Assessment: one written paper 60 % and assignments 40 %

Literature: Jobber David: Principles and Practice of Marketing 1998

291010 Law I 3 ECTS credits (2 credits)

Objective: to give students a basic understanding of legal orders, legal systems and legal terms, to provide the students with an introduction to the law of contracts and to develop the ability to make contracts

Content: introduction to the legal thinking; significance of legal order and different kinds of legal systems, sources of law, legal terms, contracts

Teaching: lectures 42 hours, assignments 38 hours

Assessment: lecture and reading material test 60 %, preparation work and assignments 40 %

Literature: submitted during the sessions

291011 Professional Reading, Writing and Discussions in English 3 ECTS credits (2 credits)

Objective: to improve students' ability to read material written for their field of specialisation, such as articles from manuals, handbooks, professional journals, reports etc., and to give students the opportunity to discuss such material, to introduce students to the skills needed for writing professional documents in their area of specialisation

Content: reading assignments, discussion of articles, lectures on professional writing skills, writing assignments

Teaching: contact hours 75 %, preparation work and assignments 25 %

Assessment: 80 % attendance required, preparation and comprehension of reading assignments; successful completion of writing assignments on time; active participation in class

Literature: submitted by the instructor during sessions; students' own choice of articles

291012 Coping with Presentations, Meetings, Negotiations and Business Contacts in English 3 ECTS credits (2 credit units)

Objective: to provide students with knowledge and skills in the English language for presentations, meetings, and negotiation practices to communicate efficiently in various situations in business environment

Content: the students will learn to give good business presentations, to introduce topics for discussion at informal and formal meetings, to plan and participate meetings and negotiations in English, the students will learn the meeting and negotiation procedure, language and documentation, i.e. writing business messages, memos and reports, the students will also learn to deal with intercultural contacts, e.g. to host foreign business clients, social English, and small talk

Teaching: lectures 48 hours and assignments 32 hours

Assessment: assessment is based on continuous assessment and performance, coursework in and out of class; in class – active participation during the sessions; out of class – good preparation for in-class-working and completion of home assignments, an 80 % requirement for class presence, there is no written exam

Literature: will be submitted during sessions

291013 Swedish for Finnish/Finnish for Foreigners 3 ECTS credits (2 credits)

Objective: to develop communication skills in Swedish or Finnish, written and oral skills in basic situations of everyday life and work

Content: everyday communication, studies, applying for job, phrases in social situations, leisure time; hobbies, travelling, shopping, eating out etc, working communication, introducing a company, customer service, demonstrating a product, visiting a company, phoning at work

Teaching: lectures 42 hours and assignments 38 hours

Assessment: written test, oral presentations, active participation in class

Literature: submitted at the beginning of the course

292000 Programming II 7,5 ECTS credits (5 credits)

Objective: to make a student acquainted with visual programming and www-application programming tools, how to construct a standardised user interface, programming language and technique

Content: layout design, visual objects, methods, properties, events, visual programming, ASP objects, their properties, methods and events, scripting objects and ASP components, data accessing and mail handling, indexing and directory services

Teaching: lectures 50 % and exercises 50 %

Assessment: test 50 % and project work 50 %

Literature: Halvorson Michael: Microsoft Visual Basic 6.0 Professional (Step by Step) Paperback -656 pages Bk&Cd Rom edition (August 1998), Microsoft Press; ISBN: 1572318090, reference literature: Visual Basic 6 Complete, Sybex (Ed.), paperback edition, 1008 pages (March 1999).

ISBN: 0782124690, Richard Andersson et al.: ASP 3.0 Programmers Reference, Wrox, Latest version, ISBN: 1861003234

292001 Programming III 7,5 ECTS credits (5 credits)

Objective: to familiarize students with web-application programming with Java and multimedia tools, to learn using databases and interactivity in web-environment

Content: programming environment, tools, objects, properties, designing and building the user interface, program structure, methods, applets, AWT-components, transactions, databases, files, multimedia tool

Teaching: lectures 50 % and exercises 50 %

Assessment: test 50 %, self-supervised work 50%

Literature: submitted at the beginning of the course

292002 Programming Project 6 ECTS credits (4 credits)

Objective: to get familiarized with practical programming project that include all the phases of implementing a data system, the project initiative is from real working life, the aim is also that the result has sustainability and utility

Content: Design and build a program by using methods studied in the previous courses. Design and write required documentation

Teaching: assignment 100 %

Assessment: self-supervised work 100 %

Literature: submitted at the beginning of the course

292003 Databases 7,5 ECTS credits (5 credits)

Objective: to import knowledge about the importance of databases in IT and creating of relational databases and structure design

Content: Database management system, data modelling, database design, SQL query language, embedded SQL, database implementing

Teaching: lectures 40 %, exercises 30 % and project work 30 %

Assessment: test 50 % and project work 50 %

Literature: Ryan K. Stephens, Ronald R. Plew: Teach Yourself SQL in 21 Days, Sams Publishing, 1999, ISBN: 0672316749

Reference literature: Date, C.J.: An Introduction to Databasesystem. Addison-Wesley Publishing Company, 1986, Elmasri, R., Navathe, S.B.: Fundamentals of Database Systems, 2nd ed. Addison-Wesley Publishing Company

292004 Operating Systems I 4,5 ECTS credits (3 credits)

Objective: the course will teach knowledge of different types of operating systems, their architecture and function. Students learn how to install, configure and operate the most commonly used operating systems

Content: Fundamentals and key implementation techniques of operating systems: file system, disk operations, resource and memory management, virtual memory, multi-user systems: user-rights, processes, data security, networking: user interface, protocols, user rights, user profiles, administration of shared resources, security

Teaching: lectures 63 hours and assignments 57 hours

Assessment: test

Literature: will be submitted during the sessions

292005 Data Network Operating Systems 4,5 ECTS credits (3 credits)

Objective: the students learn how to install and use different network operating systems, the aim is also become acquainted with special features of these operating systems

Content: Windows 2000, system managers tasks, data operators tasks, data security

Teaching: exercise: the students install different operating systems and practice the system manager's tasks in that environment according to the teacher's instructions, lectures 63 hours, assessments 57 hours

Assessment: test

Literature: will be submitted during the lessons

292006 Data Communication 4,5 ECTS credits (3 credits)

Objective: the course will teach the fundamentals of data communications, students learn different ways of data communication between computers, the aim is also to familiarize students with the Internet and its possibilities

Content: fundamentals of data communication: topologies, protocols, network devices and components, data network services, networking with PCs, the Internet and its possibilities, solutions in the Internet

Teaching: lectures and exercises 42 hours

Exercises: install modems and adapters, direct cable connections and Internet connections, install PCs into a local area network

Assignments: 38 hours

Assessment: test

Literature: will be submitted during the lessons

292007 Data Network Construction 3 ECTS credits (2 credits)

Objective: how to plan and construct different types of networks and how to dimension and test networks according to customers' needs

Content: network planning, installation and dimensioning networks, configuring and updating network, supporting networks and security

Teaching: contact hours 42 hours, assignments 38 hours

Assessment: test

Literature: will be submitted during the lessons

292008 Human – Computer Interaction 3 ECTS credits (2 credits)

Objective: to learn how to design and implement high quality user interfaces

Content: developing a user interface, requirements, principles, tools, ergonomics

Teaching: lectures 60 % and exercises 40 %

Assessment: test 40 %, self-supervised work 30 %, active participation 30 %

Literature: Jakob Nielsen: Designing Web Usability, New Riders Publishing, 2000, Alan Cooper: The inmates are running the asylum, SAMS, 1999, ISBN 0-672-31649-8

292009 System Construction 4,5 ECTS credits (3 credits)

Objective: student can define solution architectures, apply data models and is capable to make logical and physical system design

Content: defining solution architectures: database architecture, data system architecture, hardware architecture and humanware solution, documentation tools, CASE-tools, feasibility testing

Teaching: lectures 60 % and exercises 40 %

Assessment: test 40%, self-supervised work 30%, active participation 30%

Literature: will be submitted during the lessons

292010 Object-Oriented System Construction 4,5 ECTS credits (3 credits)

Objective: to introduce the student to object-oriented analysis, design and theory of programming, basic concepts and design methods

Content: unified modeling language UML, use case diagram, sequence, diagram, class diagram, statechart diagram, collaboration diagram, activity diagram, component diagram, deployment diagram, CASE-tool supporting UML

Teaching: lecture 40 hours, assignments 20 hours and literature 20 hours

Assessment: lecture 20 %, self-supervised work 30 %, test 50 %

Literature: handout

292011 Strategic Planning 3 ECTS credits (2 credits)

Objective: to get students familiar with the skills and abilities needed for strategic management of the IT enterprise

Content: management and administration of the IT company, organizational learning, strategic planning and leadership, insourcing and outsourcing, virtual organizations, electronic document management, innovations and strategic development, future scenarios of the software industry, total quality management

Teaching: lectures 40 hours, assignments and reading materials 40 hours

Assessment: lecture and reading material examination 70 %, assignment 30 %

Literature: submitted at the beginning of the course

292012 Law II 3 ECTS credits (2 credits)

Objective: to provide students with a basic understanding of EC Law, to examine legislation concerning information technology
Content: sources of EC law, free movement in the EC, copyright, privacy protection act, ADP crimes, law concerning the Internet

Teaching: lectures 40 hours and assignments 40 hours

Assessment: lecture and reading material test 60 %, assignments 40 %

292013 Mathematics and Statistics 4,5 ECTS credits (3 credits)

Objective: to provide the students with understanding of mathematical terminology and methods for problem solving, data analysis and decision making with the help of mathematical models, to enable the students to acquire the necessary skills in applying statistical techniques in problems

Content: numerical methods and computing; equations, integrals, sources of information: sampling methods, mean, median; quartiles, standard deviation; graphs used in statistics; elementary probability theory; binomial, Poisson and normal distribution; sampling errors, confidence intervals, inference; scatter diagrams, correlation, least square regression, coefficient of determination, prediction; time series, trend, index; statistical research project

Teaching: lectures and exercises 56 hours, assignments 64 hours

Assessment: test and assignment

Literature: will be submitted during the lectures

292014 Scientific Writing 4,5 ECTS credits (3 credits)

Objective: to provide the student with the ability and facilities to prepare scientific reports and to get familiar with professional publications

Content: professional writing in English, scientific terminology in information technology, process writing and reporting, scientific criteria, professional publications, outline of the Bachelor's thesis

Teaching: lectures 63 hours and assignments 57 hours

Assessment: assignment

Literature: will be submitted during the lessons

292015 Research Studies 3 ECTS credits (2 credits)

Objective: students get acquainted with different forms of research activity and know their application possibilities and viability in their studies and practical work, they perceive the impact of research on their studies and know how to utilize effectively different sources of information, they can perform the different tasks of a research project

Content: philosophy of science, polytechnic research, use of data services, research project work, empirical research, research methods, information technology as a tool in research

Teaching: contact hours 32 hours and assignments 48 hours

Assessment: assignment

Literature: will be submitted during the lessons

Unit of Technical Education

Kemi Institute of Technology, the predecessor of the Unit of Technical Education, was established in the year 1960; now the unit has a staff of 60 persons and the number of students is about 650. The Unit of Technical Education in Kemi prepares technological experts for both domestic and international assignments in the fields of Mechanical Engineering, Electrical Power Engineering, Automation, Electronics Production Technology, Product Development and Information Technology. The unit is situated in the Digipolis technology park and surrounded by hi-tech companies with expertise in various fields of technology. The unit runs its own Business Incubator, where experts help technological innovators to start their own companies.

The unit has run Bachelor of Engineering degree programmes since the early 80s. Now it runs, in addition to the programmes given in Finnish, an international programme in Information Technology. B.Eng. programmes are 4-year degree programmes and the international programme has about 100 students. In the international degree programme in Information Technology the tuition is given completely in English.

The unit has well-equipped laboratories for all its specialisation areas: machine construction, electrical power engineering, automation, and information technology. The unit has over 200 PCs for its students. The computer classes are open outside the scheduled hours for the students to work with their assignments. All the PCs are connected to the Internet.

The unit has a library, which provides a wide range of material for both study and leisure. Also a large choice of textbooks, magazines, and databases in English is available. For those interested in sports the unit offers a good gym for working out and playing basketball, for example. The student union also has several clubs, which the international students are more than welcome to join.

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Degree Programme in Information Technology

- formerly Cross-Border Engineering

Bachelor of Engineering

In the Cross-Border Engineering Education Programme the tuition is given completely in English. The students will specialise in digital electronics hardware design digital signal processing, and embedded microprocessor design. The project form curriculum consists of, for example, digital electronics design, signal theory, mathematics, business & management, laboratory exercises, computing, science and physics, research and project work.

The duration of the studies is 4 years and the extent of credits 240 ECTS credits/160 credits. Several different kinds of teaching and learning methods are used, such as lectures, written exams, laboratory work, projects, reports, and seminars. The degree programme comprises the following main elements: Basic Studies 75 ECTS credits, Professional Studies 57 ECTS credits, Line-specific Professional Studies 48 ECTS credits, Elective Studies 15 ECTS credits and Bachelor's Thesis 15 ECTS credits. The CBE/IT education also includes 12 months of training (measured to 30 ECTS credits) and the trainee post can be applied for either in Finland or abroad. The education is free of tuition fee.

The entrance qualifications are a leaving certificate from high school, technical vocational school or a college-level institution and a qualified entrance examination. The entrance examination consists of an aptitude test (including mathematics) and an English language test. Graduates of the Cross-Border Engineering Degree Programme are qualified to work on international assignments in the field of Electronics Engineering and Information Technology.

If you intend to study the whole degree programme in Kemi-Tornio Polytechnic the closing dates for applications from the EU and outside EU countries can be checked from the web. Please check the programme's web pages for this information. The application forms can be obtained from the education unit or applications@tokem.fi.

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Programme Description

The medium for tuition in the Information Technology Programme is English. The studies lead to a Bachelor of Engineering degree (Insinööri amk). The curriculum was completely renewed three years ago and in academic year 2002-2003 the new project-based curriculum is followed in all years. In the project-based curriculum about half of the studies are carried out in projects which all follow the theme of the term, and they last over the entire term. The other half of the studies is undertaken by means of traditional lectures, tutorials and home assignments. In the first year, the project teams consist of 5-6 students, the team size growing smaller during the years and finally, in the fourth year team size will be 1-2 students. Projects are large (8 cu or 12 ECTS credits) and every project is multidisciplinary, covering the content of several traditional courses. Typically the project is supported by two courses with lectures and tutorials in close connection to the project. In addition, each term also includes 2 or 3 project-independent courses.

Description of the specialisation option (Digital Electronics)

The Studies in Digital Electronics specialisation option are focused on techniques for digital information processing. The specialised staff for this field is needed in all developed countries. In the studies, the students will work on the practical level, where they construct electronic equipment, as well as on the abstract level, where different models are utilised. To be able to succeed in studies and later in work, the students should be persistent and deliberate and have talents for abstract reasoning. The education in the programme aims at providing the graduates with the skills that enable a career in product development or other expert positions. Due to the multicultural study atmosphere, where all the studies are completed in English, the programme will give a good educational background for making a successful career in international assignments.

The timing of the projects and courses in academic year 2002-2003

The autumn term is scheduled from 2nd September 2002 to 20th December 2002, with a holiday week from 21st October 2002 to 25th October 2002. Spring term will run from 6th January 2003 to 9th May 2003, with a holiday week from 3rd March 2003 to 7th March 2003.

Information Technology Curriculum Study Module List

Finnish credits

Introduction to Team and Project Work

3I0001	Introductory Project		4
3I0002	Introduction to Team and Project Work		2

Engineering Mathematics

3I0010	Basic Mathematics		2
3I0011	Linear Algebra		2
3I0013	Math. Computer Tools		2
3I0018	Difference Equations		2
3I0028	Spectral Analysis		2

Engineering Physics

3I0012	Physics 1		2
3I0020	Physics 2		2

Swedish/Finnish

3I0025	Swedish	or	2
3I0026	Introductory Finnish	or	2
3I0027	Intermediate Finnish		

German

3I0014	German for Beginners	or	2
3I0015	Advanced German		

Introduction to Computer Engineering

3I0003	Introduction to Computer Engineering		2
3I0004	Computer Technology Project		4

Electric Circuits and Analogue Electronics

3I0005	Analogue Electronics Project		8
3I0006	Electric Safety		2
3I0007	Analogue Electronics		2
3I0008	DC Circuits		2
3I0009	AC Circuits		2

Programming

3I0016	Programming Project		8
3I0017	Programming (Project Course)		2
3I0018	Programming Techniques (Project Course)		2

Digital and Microprocessor Electronics		
310021	Digital Electronics Project	8
310023	Digital Electronics (Project Course)	2
310024	Microprocessors (Project Course)	2
Real-Time Applications		
310029	Real-Time Application Project	8
310030	Real-Time Programming 1	2
310031	Real-Time Programming 2	2
Digital Electronics Design		
310032	Digital Electronics Design Project	8
310034	Digital Electronics Design	2
310036	ASIC Design	2
Signals and Systems		
310039	Signal theory	2
310042	Introduction to Telecommunications	2
Technology Management		
310041	Project Management	2
310044	SME Planning Project	8
310046	Entrepreneurship and new venture formation	2
310048	Cost Management in SME	2
310049	Technology Management	2
Digital Signal Processing		
310040	Discrete Time Signals	2
310043	DSP Application Project	8
310045	DSP-Application Development	2
310047	DSP Processors	2
Training		
Total		20
310200	Introductory Engineering Training	
310201	Trainee Seminar 1	
310202	Trainee Seminar 2	
310203	Engineering Training for Information Technology	
Bachelor's Thesis		
310100	Thesis	10
310101	Presentation	
310102	Maturity Exam In Finnish	or
310103	Maturity Exam In English	or
310104	Maturity Exam in Swedish	

Outline of studies

310001 Introductory Project 6 ECTS credits (4 credits)

Objectives: to teach the students to understand how to work in a team and what project work requires and to make them practise the use of PC tools in report writing and creating a presentation

Contents: depends on the subject of the project

Teaching method: 4 hours of supervision per student

Literature: will be announced later

Assessment: grade on scale 0–5, both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: none

310002 Introduction to team and project work 3 ECTS credits (2 credits)

Objectives: to familiarise the students with team and project work and the use of PC tools

Contents: tools of teamwork, basics of project work, report writing and presentation skills, main PC applications

Teaching method: lectures and exercises

Literature: will be announced later

Assessment: exercises will be assessed on the scale 0-5

Prerequisite studies: none

310003 Introduction to Computer Engineering 3 ECTS credits (2 credits)

Objectives: the principal objective of the course is to provide the student with knowledge about the basic operational and structural features of the computer and basics of digital electronics components

Contents: short history of computers, an overview of the PC hardware: processor, RAM, mass memory, monitors, principles of computer communication, peripheral devices, working with electronics hardware: ESD (Electro Static Discharge) precautions, soldering, using basic measurement equipment with basic digital electronics components, binary, octal, and hexadecimal number systems, use of binary numbers in arithmetical calculations are also covered

Teaching method: 40 hours of lectures and tutorials

Literature: will be announced later

Assessment: one written exam

Prerequisite studies: none

310004 Computer Technology Project 6 ECTS credits (4 credits)

Objectives: students will work in a project to obtain basic understanding about computer technology

Contents: during the project the students will disassemble and assemble a PC. The work includes both mechanical and electrical assembly and installing the operating system and application programs, the learning outcome will be documented in the project report

Teaching method: 4 hours of supervision per student

Literature: will be provided before the project begins and during the project

Assessment: grade on scale 0–5, both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: none

310005 Analogue Electronics Project 12 ECTS credits (8 credits)

Objectives: to learn to analyse, simulate, construct and test transistor and OP-amplifier circuits, small signal amplifiers, filters, power amplifiers and AC circuits, other objectives will be specified later

Contents: diodes, transistors and OP-amps used in amplifiers and filters as well as transformers, fuses, varistors, cooling of semiconductors, switches, power cords, grounding and electric safety

Teaching method: lectures, exercises and laboratory work

Literature: Electronic devices by Floyd, Introduction to Circuit Analysis by Boylestad

Assessment: grade on scale 0–5. Both group and individual performance is assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310008 DC circuits

310006 Electrical Safety 3 ECTS credits (2 credits)

Objectives: to learn the principles of dangers and safety issues related to electricity and how to ensure safety of users, customers and other parties who are in contact with electronic equipment, also the procedures of helping the victims of accidents and electric shocks are learned

Contents: course is divided into two parts, firstly covering electrical safety and the secondly a first-aid course, which includes CPR and is intended to provide the student with the necessary skills in helping the wounded or injured in the event of an accident

Teaching method: lectures and exercises

Assessment: written tests and students output during exercises, the students are awarded First Aid certificates at the end of the first-aid course

Literature: will be announced later

Prerequisite studies: none

310007 Analogue Electronics 3 ECTS credits (2 credits)

Objectives: to learn to analyse and simulate transistor and OP-amplifier circuits, small signal amplifiers, filters and power amplifiers

Contents: diodes, transistors and OP-amps used in amplifiers and filters

Teaching method: lectures and exercises

Literature: Electronic Devices by Floyd

Assessment: written test, reports from simulations

Prerequisite studies: none

310008 DC circuits 3 ECTS credits (2 credits)

Objectives: to learn to analyse and simulate DC circuits as well as to make basic measurements

Contents: capacitors, permittivity, dielectric strength, RC transients, charging, discharging, time constant, instantaneous values, equivalent circuits, current, capacitors in series and parallel, energy stored by a capacitor, induced voltage, RL transients, storage phase, decay phase, inductors in series and parallel, energy stored by an inductor

Teaching method: Lectures, exercises and labs

Literature: Introductory Circuit Analysis by Boylestad

Assessment: written test, laboratory reports

Prerequisite studies: none

310009 AC circuits 3 ECTS credits (2 credits)

Objectives: to learn to analyse and simulate AC circuits under different conditions (steady-state and transient) as well as to make basic measurements

Contents: frequency response of basic elements, frequency response of series AC circuits, absolute value and phase angle, frequency response of parallel AC circuits, series resonance, resonant frequency, quality factor, selectivity, bandwidth, cut-off frequencies, parallel resonance, unity power factor, maximum impedance, filters - low-pass, high-pass, band-pass, band-stop and graph plotting

Teaching method: lectures, exercises and labs

Literature: Introductory Circuit Analysis by Boylestad

Assessment: written test, laboratory reports

Prerequisite studies: none

310010 Basic Mathematics 3 ECTS credits (2 credits)

Objectives: this course is aimed at recalling to the student some basic and central parts of high school algebra in order to ensure the student's success in future math courses, students will be divided into two groups based on their previous knowledge in mathematics

Content: review of basic algebraic techniques, some of the most important engineering functions

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9

Prerequisite studies: none

310011 Linear Algebra 3 ECTS credits (2 credits)

Objectives: the student understands some of the central mathematical concepts and techniques needed in further courses in mathematics and engineering

Content: vector algebra, matrix algebra, linear systems of equations, complex numbers

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9

Prerequisite studies: 310010 Basic Mathematics

310012 Physics 1 3 ECTS credits (2 credits)

Objectives: the primary objective is to instruct the students in the basics of physics and provide them with the fundamentals needed for engineering studies

Contents: linear and non-linear motion in dimensions 1, 2, and 3, Newton's laws, energy and power, oscillations, pressure and kinetic gas theory, thermodynamics, the Carnot cycle and entropy, basic theory of relativity

Teaching method: students will be divided into two groups based on their previous knowledge in physics, the more advanced group will have a smaller number of lectures, whereas the less-advanced group will have more lectures and tutorials where many exercises are done, after the first test the groups are rearranged, the advanced group will have 36 hours of lectures, tutorials, and lab experiments and the less advanced 56, respectively

Literature: Fundamentals of Physics by Halliday, Resnic, and Walker, John Wiley & Sons Inc.

Assessments: one written exam

Prerequisite studies: finnish high school Advanced Physics with a grade of 7 or equivalent for the advanced group, none for the less advanced group

310013 Mathematical Computer Tools 3 ECTS credits (2 credits)

Objectives: the student understands the basic properties of trigonometric functions and the concepts of the derivative and the integral of a real function, additionally, the student can apply the skills obtained in the course in his/her later math studies and also courses of the professional subjects (e.g. signal theory, digital signal processing), the student can use the software Matlab in the solution of various mathematical problems

Content: basic properties of trigonometric functions, derivative of a real function (definition, derivatives of elementary functions), integration of a real function (indefinite and definite integral)

Teaching method: 42 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9

Prerequisite studies: 310010 Basic Mathematics, 310011 Linear Algebra

310014 German for Beginners 3 ECTS credits (2 credits)

Objectives: the course will give the students the basics of the German language, both in grammatical structure and in basic vocabulary

Contents: text studies, translations, discussions, grammar exercises

Teaching method: lectures, tutorials

Literature: Deutsch ist da! by Pauli Kudell

Assessment: will be based on class participation, assignments, and exams

Prerequisite studies: none

310015 Advanced German 3 ECTS credits (2 credits)

Objectives: the course is designed to introduce the students to the advanced structure of the language and to get familiar with the professional engineering German

Contents: technology and business-related texts, discussions, presentations, and grammar exercises

Teaching method: lectures and tutorials

Literature: will be announced later

Assessment: will be based on class participation, oral presentations, assignments, and exams

Prerequisite studies: 3 to 5 years of studies in German

310016 Programming project 12 ECTS credits (8 credits)

Objectives: in the project the students will learn how to specify, model, and solve a problem with computer programming tools, in addition the aim is to plan the project, to practise teamwork and to document the work

Contents: the requirements are analysed and a model of the solution is created using Unified Modelling Language, the solution is created using Java programming language, the quality of the solution is tested

Teaching method: 8 hours of supervision per student

Literature: Internet java.sun.com, www.omg.org

Assessment: grade on scale 0–5. Both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310004 Computer Technology Project

310017 Programming 3 ECTS credits (2 credits)

Objectives: show examples of objects and Java-code to make the students able to detect the structure of the program (objects) and the structure of the Java-code (classes), the main focus in the dynamics is in the flow-control of the execution

Contents: small programs with graphical user interface are introduced and changes to their behaviour are added, the visual components to the program are got from libraries

Teaching method: lectures and programming lab tutorials

Literature: will be provided later

Assessment: test and labs assessed on the scale 0-5

Prerequisite studies: 310003 Introduction to Computer Engineering

310018 Programming techniques 3 ECTS credits (2 credits)

Objectives: to give the students a tool to analyse and model the problem in structured way, investigating the static and dynamic behaviour of the intended solution derives to UML diagrams, which simplifies the programming, the student understands the basic concepts and problems involved in computer arithmetic, the knowledge obtained during the course can be used in various programming tasks in the programming project, in the student's later studies and at work

Contents: examples in UML are studied and some own models are built, derivation from diagrams to Java code is learned, different number systems, arithmetic in them, representation of numbers in computers, interpolation, and curve fitting are all taught

Teaching method: lecturing, programming labs

Assessment: test assessed on the scale 0-5

Literature: Floyd: Digital Fundamentals, also material from textbooks of numerical analysis

Prerequisite studies: 310003 Introduction to Computer Engineering, 310010 Basic Mathematics, 310011 Linear Algebra, 310013 Mathematical Computer Tools

310019 Difference Equations and z-transforms 3 ECTS credits (2 credits)

Objectives: the student understands the basic mathematical concepts connected with digital signal processing (DSP), i.e. difference equations and z-transform, he/she can apply the skills obtained here in a later DSP course in the polytechnic to have a solid foundation to work as a DSP-designer

Content: sequences, series, difference equations, z-transform and its use in the solution of difference equations

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9

Prerequisite studies: 310010 Basic Mathematics, 310011 Linear Algebra, 310013 Mathematics by Computer Tools

310020 Physics 2 3 ECTS credits (2 credits)

Objectives: to provide the student with foundation knowledge for engineering studies in the fields of waves, and modern physics

Contents: waves, electric and magnetic fields, induction, geometrical and physical optics and modern physics, the topics in modern physics will cover areas such as relativity, quantum theory, atomic physics, nuclear physics, nuclear energy, and particle physics, the course includes laboratory experiments

Teaching method: 40 hours of lectures and tutorials and labs

Literature: Fundamentals of Physics by Halliday, Resnick and Walker, John Wiley & Sons Inc

Assessment: one written exam

Prerequisite studies: none

310021 Digital Electronics Project 12 ECTS credits (8 credits)

Objectives: students will work in a project to deepen their understanding of digital electronics and microcontrollers

Contents: project includes both digital electronics hardware design and microcontroller software design, the students will work with the controller interfacing with FPGA and application development using both schematic entry and introductory VHDL, at the same time the controller software will be developed in the language C

Teaching method: 8 hours of supervision per student

Literature: will be provided before the project begins and during the project

Assessment: both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310005 Analogue Electronics Project

310022 Course will be defined later 3 ECTS credits (2 credits)

310023 Digital Electronics 3 ECTS credits (2 credits)

Objectives: students will study the basics of combinatorial logic circuits, Boolean algebra, digital electronics and introduction to sequential logic circuits, basics of VHDL are included in the course, and the students will prepare themselves for subsequent studies in digital electronics and computer sciences

Contents: digital signals, analogue signals, Boolean algebra, creating and minimising combinatorial logic expressions, implementing combinatorial logic using gates, basic combinatorial logic applications: encoders, decoders, adders, and introduction to VHDL and FPGA-circuits and the ALTERA Max + Plus II tool

Teaching method: 40 hours of lectures and tutorials

Literature: textbook: Fundamentals of Digital Logic with VHDL Design, by Brown and Vranesic, McGraw-Hill 2000, ISBN 0-07-012591-0, selected parts

Assessment: one written exam

Prerequisite studies: 310007 Analogue Electronics

310024 Microprocessors 3 ECTS credits (2 credits)

Objectives: this course is designed to teach the students the basics of microprocessors, as well as provide them with the knowledge of how to programme the hardware in C

Contents: basic architectures of processors, microcomputer as a hierarchical structure of levels, CPU, RAM, input and output, controllers, with emphasis on the Intel 8051 family, development tools for controller programming

Teaching method: 40 hours of lectures and tutorials

Literature: the 8051 Microcontroller by I. Scott MacKenzie, Prentice-Hall, ISBN 0-02-373660-7, info about the further literature will be provided later

Assessments: one written exam

Prerequisite studies: 310003 Introduction to Computer Engineering

310025 Swedish 3 ECTS credits (2 credits)

Objectives: the course will focus on preparing the students for the civil servant exam for engineers in the Swedish language, the instruction language is Finnish

Contents: technology and business-related texts, discussions, presentations, reports, grammar exercises

Teaching method: lectures, tutorials, computer-aided laboratory work

Literature: will be announced later

Assessment: will be based on class participation, oral presentations, summaries, assignments, and exams

Prerequisite studies: intermediate or higher course in Swedish in Finnish high-school or equivalent skills

310026 Introductory Finnish 3 ECTS credits (2 credits)

Objectives: the course will introduce the student to the Finnish language and help him/her to manage in everyday situations

Contents: some basic structures of Finnish, grammar exercises, texts and vocabulary about everyday life

Teaching method: 40 hours of lectures

Literature: will be announced later

Assessment: class participation and one written exam

310027 Intermediate Finnish 3 ECTS credits (2 credits)

Objectives: the course will deepen the knowledge of the Finnish language

Contents: grammar exercises, texts of current interests, discussions

Teaching method: 40 hours of lectures

Literature: will be announced later

Assessment: class participation and one written exam

Prerequisite courses: 310026 Introductory Finnish

310028 Spectral Analysis 3 ECTS credits (2 credits)

Objectives: the student understands the concepts of Fourier series and Fourier transform, i.e. the "traffic" from the time domain to the frequency domain and vice versa in periodic and non-periodic cases, the use of Matlab as an aid to illustrate these concepts is also practised. The student's ability to apply her/his knowledge in analogue and digital signal processing and in telecommunications theory as well as in product development in various telecommunications enterprises is also one of the principal aims

Content: periodic functions, the trigonometric and exponential forms of Fourier series, Fourier transform in continuous and discrete-time cases

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9.

Prerequisite studies: Basic Mathematics, Linear Algebra, Mathematics by Computer Tools, Difference Equations and Z-Transform

310029 Real-Time Application Project 12 ECTS credits (8 credits)

Objectives: students will work in a project to deepen their understanding about real-time programming, this is a practical course, which is a natural continuation of the courses Real-Time OS Programming I and II

Contents: will be provided later

Teaching method: 8 hours of supervision per student

Literature: will be provided before the project begins and during the project

Assessment: both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310016 Programming project

310030 Real-Time Programming 1 3 ECTS credits (2 credits)

Objectives: the students will learn the basics of real-time systems architectures and programming techniques

Contents: will be provided later

Teaching method: 40 hours of lectures and tutorials

Literature: will be provided later

Assessments: one written exam

Prerequisite studies: 310017 Programming

310031 Real Time Programming 2 3 ECTS credits (2 credits)

Objectives: the students will learn the basics of real-time systems architectures and programming techniques

Contents: course is the continuation for 310030 Real Time Programming 1. Detailed contents will be provided later

Teaching method: 40 hours of lectures and tutorials

Literature: will be provided later

Assessments: one written exam

Prerequisite studies: 310017 Programming

310032 Digital Electronics Design Project 12 ECTS credits (8 credits)

Objectives: the overall goal of the course is to instruct the student in industrial hardware design, and provide him/her with knowledge on the use of EDA tools in digital product design

Contents: the student will work with a complete design project, from specification to testing, the course is based on the applications of FPLD components and the use of hardware description language (VHDL) in designs

Teaching method: 8 hours of supervision per student

Literature: will be provided before the project begins and during the project

Assessment: both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310021 Digital Electronics Project

310034 Digital Electronics Design 3 ECTS credits (2 credits)

Objectives: this course is primarily designed to teach the student how to analyse, simulate, design, and synthesise sequential circuits using state machine models, and sequential components like flip-flops, counters etc. In addition the course aims to give the basic knowledge about modern digital electronics in terms of FPGA (Field Programmable Gate Array) components and VHDL language as a design tool

Contents: sequential circuit analysis, timing diagrams, state machine models, flip-flops, counters, shift registers, FPGAs, design flow, simulation of digital circuits using ModelSim and use of VHDL and synthesis tools

Teaching method: 40 hours of lectures and lab tutorials

Literature: textbook: Fundamentals of Digital Logic with VHDL Design, by Brown and Vranesic, McGraw-Hill 2000, ISBN 0-07-012591-0, selected parts. Application Specific Integrated Circuits by Michael John Sebastian Smith, Addison-Wesley, ISBN 0-201-50022-1, partly. Altera's and other manufacturers' manuals

Assessment: one written exam

Prerequisite studies: 310023 Digital Electronics

310036 ASIC Design 3 ECTS credits (2 credits)

Objectives: the course aims to give the basic knowledge about verification and testing in ASIC Design, student will learn also the main issues of vendor selection and sub-contracting

Contents: simulation, testing and verification, ASIC construction, floor-planning and routing, vendor selection and cooperation

Teaching method: 40 hours of lectures and tutorials

Literature: application Specific Integrated Circuits by Michael John Sebastian Smith, Addison-Wesley, ISBN 0-201-50022-1, partly

Altera's and other manufacturers' manuals

Assessment: one written exam, Prerequisite studies: 310023 Digital Electronics

310038 Statistics and Coding Theory 3 ECTS credits (2 credits)

Objectives: the student understands the basic concepts of probability theory and statistics and their applications in information and coding theory and can apply the skills obtained here in his/her later studies in information theory and coding of messages

Content: basics of probability theory, statistics, information theory and coding theory

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam

Literature: Croft et al. Engineering Mathematics, Addison-Wesley, 1996, ISBN 0-201-87744-9

Carlson: Communication Systems

Prerequisite studies: 310011 Linear Algebra, 310013 Mathematics by Computer Tools.

310039 Signal Theory 3 ECTS credits (2 credits)

Objectives: the student knows the basics of analogue signal processing and has ability to use Matlab independently in the solution of elementary problems in analogue signal processing

Content: basic concepts of signals and systems, especially LTI-systems, impulse response, frequency response, ideal and real analogue filters, modulation (AM and FM)

Teaching method: 40 hours of lectures and tutorials

Assessment: one written exam and an assignment

Literature: Kamen and Heck: Fundamentals of Signals and Systems using Matlab, Prentice-Hall, 1997, ISBN 0-02-361942-2

Prerequisite studies: 310028 Spectral Analysis, foundations of Matlab

310040 Discrete Time Signals 3 ECTS credits (2 credits)

Objectives: the student knows the basic concepts of discrete-time signals and can apply the skills obtained here in his/her later studies in digital signal processing and also at work as a DSP designer

Content: DSP systems and their mathematical models, pole-zero diagrams, stability, frequency response, basics of digital filters, use of Matlab in the processing of discrete-time signals

Teaching method: 42 hours of lectures and tutorials

Assessment: one written exam and an assignment

Literature: Ifeachor and Jervis: Digital signal Processing, A Practical Approach. Addison-Wesley, 1993, ISBN 0-202-54413-X, also material from other DSP-textbooks

Prerequisite studies: difference equations, z-transform, parts of signal theory

310041 Project management 3 ECTS credits (2 credits)

Objectives: to give the students basic knowledge about working in project organisations and to offer tools for project management

Contents: project definition, project development, management and decision making, project organisations, phasing, scheduling, cost and risk management, project management applications

Teaching method: lectures and exercises

Literature: will be announced later

Assessment: exercises will be assessed on the scale 0-5

Prerequisite studies: none

310042 Introduction to Telecommunications 3 ECTS credits (2 credits)

Objectives: the student will be taught the basics of telecommunication systems including telephone, video, television, and radio, special emphasis is placed on the relationship between signal theory and telecommunication systems

Contents: principles of radio and television receivers, pulse carrier and pulse code modulations, noise and error in signal transmission, basics of information theory, simulations and analysis of modulation and transmission systems using PSpice and MathCad or Matlab programmes

Teaching method: 40 hours of lectures and tutorials

Literature: Audio, Video and Data Telecommunications by David Petersen, McGraw-Hill Assessments: one written exam and assignments

Prerequisite studies: 310008 DC Circuits, 310009 AC Circuits, 1st year and 2nd year mathematics courses

310043 DSP Application Project 12 ECTS credits (8 credits)

Objectives: the overall goal of the project is to instruct the student in DSP (digital signal processing) on both theoretical and application level, and provide him/her with knowledge on applications DSP implemented using digital signal processors, the student will work with a complete design project, from specification to testing

Teaching method: 8 hours of supervision per student

Literature: will be provided before the project begins and during the project

Assessment: both group and individual performance are assessed evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: 310029 Real Time Application Project

310044 SME-planning Project 12 ECTS credits (8 credits)

Objectives: to teach the students to understand the meaning of business planning in small and medium-sized firms and give students facilities for starting a new firm or for developing an existing company

Contents: the main objectives of planning, searching for the market niche, developing and evaluating the business idea, creating the business plan step by step: company information, management, finance, manufacturing and marketing management

Teaching method: team and project work

Literature: will be announced later

Assessment: both group and individual performance are assessed, evaluation will be based on continuous commitment, project presentations, final report, and group interview

Prerequisite studies: none

310046 Entrepreneurship and new venture formation 3 ECTS credits (2 credits)

Objectives: to teach the students to understand the levels of entrepreneurship both as an entrepreneur and as an intrapreneur and give the tools for establishing a new company

Content: concepts and forms of entrepreneurship, innovations, patents and licences, legal aspects of a start-up

Teaching method: lectures and exercises

Literature: will be announced later

Assessment: exercises will be assessed on the scale 0-5

Prerequisite studies: none

310045 DSP with Applications 3 ECTS credits (2 credits)

Objectives: the student knows how to apply the foundations of DSP in the design of digital filters, understands the effects of quantization on DSP systems, knows how to use Matlab successfully in the design of digital systems and has abilities to apply her/his knowledge in the role of a DSP designer

Content: design of digital filters (FIR and IIR), quantization effects, power estimations, spectrograms, elements of image processing

Teaching method: 40 hours of lectures and tutorials

Assessment: assignment

Literature: Ifeachor and Jervis: Digital signal Processing, A Practical Approach. Addison-Wesley, 1993, ISBN 0-202-54413-X, McClellan et al.: DSP First, A Multimedia Approach, Prentice Hall, 1998, ISBN 0-13-243171-8

Prerequisite studies: Discrete-time Signals, Foundations of Matlab

310048 Cost management in SMEs 3 ECTS credits (2 credits)

Objectives: to help the student to understand the basics of accounting in an SME and to give the student tools for recognising the factors effecting business productivity

Content: concepts and levels of accounting, cost structure in companies, calculation methods: gross margin and activity-based costing, analysing the calculations

Teaching method: lectures and exercises

Literature: will be announced later

Assessment: test and exercises will be assessed on the scale 0–5

Prerequisite studies: none

310049 Technology management 3 ECTS credits (2 credits)

Objectives: to describe the skills needed when working as manager in different levels in a technology-based company

Contents: management requirements, skills and tasks, management techniques, leadership and management, strategic management, management problems

Teaching method: lectures and team work exercises

Literature: will be announced later

Assessment: report and exercises will be assessed on the scale 0–5

Prerequisite studies: none

Finnish
credits

Finnish
credits

1st Year Autumn	27	1st Year Spring	30
Introductory Project	6	3I0005 Analogue Electronics Project	12
Introduction to Team and Project Work	3	3I0006 Electric Safety	3
Introduction to Computer Engineering	3	3I0007 Analogue Electronics	3
Computer Technology Project	6	3I0009 AC-circuits	3
Trainee Seminar 1		3I0012 Physics 1	3
DC-Circuits	3	3I0013 Math. Computer Tools	3
Basic Mathematics	3	German	3
Linear Algebra	3	3I0014 German for Beginners or	
		3I0015 Advanced German	
2nd Year Autumn	27	2nd Year Spring	30
Programming Project	12	3I0021 Digital Electronics Project	12
Programming	3	3I0022 Course nn	3
Progr. Techniques	3	3I0023 Digital Electronics	3
Difference Equations	3	3I0024 Microprocessors	3
Physics 2	3	Swedish/Finnish	3
Optional 1	3	3I0025 Swedish or	
		3I0026 Introductory Finnish or	
		3I0027 Intermediate Finnish	
		3I0028 Spectral Analysis	3
		Optional 2	3
3rd Year Autumn	27	3rd Year Spring	30
Real Time Application Project	12	3I0032 Digital Electronics Design Project	12
Real Time Programming 1	3	3I0034 Digital Electronics Design	3
Real Time Programming 2	3	3I0036 ASIC Design	3
Signal theory	3	3I0038 Statistics and coding theory	3
Project management	3	3I0040 Discrete Time Signals	3
Optional 3	3	3I0043 Introduction to Telecommunications	3
		Optional 4	3
4th Year Autumn	27	4th Year Spring	45
Computer Architectures	3	Training	
Trainee Seminar 2		3I0200 Introductory Engineering Training	15
ASIC Design 1	3	3I0202 Trainee Seminar 2	
ASIC Design 2	3	3I0203 Engineering Training for Information Technology	15
Special Project in DSP/Programmign/ASIC Design	3	Bachelor's Thesis	15
DSP with Applications	6	3I0100 Thesis	
DSP-Processors	6	3I0101 Presentation	
Optional 5	3	3I0102 Maturity Exam In Finnish or	
		3I0103 Maturity Exam In English or	
		3I0104 Maturity Exam in Swedish	

Degree Programme in Health Care

- Nordic Studies in Nursing

Bachelor of Health Care

Unit of Health Care and Nursing offers studies which enable students to work as nurses in hospitals or health centres as well as in homes for the elderly, service houses and other residential settings. In the future there will be more jobs available in the area of health care in the private sector, as an employee or as an entrepreneur, and the studies prepare the students for these opportunities. The graduated students are qualified to work in Finland as well as abroad.

The aim of the programme is to provide the students with a broad core knowledge base as well as the advanced knowledge necessary to fulfill current and future needs in health care. The students receive a good knowledge of nursing science and nursing research so as to be able to contribute to the development of nursing. In the learning process the student formulates links between practical experience and theoretical concepts. These links require the integration of theory and practice and that is facilitated by, for example, reflection on practice. Students are offered a good opportunity to promote their personal growth and development also in international environments. The role of the lecturer is that of a resource and the facilitator of the learning process.

The duration of the studies is 3.5 years and the extent of credits is 210 ECTS credits (140 Finnish credits). The degree programme comprises the following main elements: Basic Studies, Professional Studies (compulsory studies and alternative advanced studies), Elective Studies and Bachelor's Thesis. Each term includes a period of clinical practice in a specific area and the total portion devoted to practice is 75 ECTS credits (50 Finnish credits). The clinical practice can be done in Finland and abroad. The language of the instruction is a combination of Swedish and English. International students can participate in instruction in accordance with their language skills.

Methods used by the students and teachers are lectures, seminars, workshops, laboratory work, classroom practice, projects, independent work/assignments and clinical practice. The team-teaching method is also used by the teachers in order to integrate the subjects of the modules into a relevant whole.

If you intend to study the whole degree programme in Kemi-Tornio Polytechnic, please note that the education programme follows the Finnish national common application deadlines which vary from year to year. Please inquire at the education unit for details of this year's deadlines. The application forms can be obtained from the education unit.

The Unit Coordinator for ECTS
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www.tokem.fi/terv



Outline of studies

Basic studies, The first year

Introduction to polytechnic studies 4,5 ECTS credits (3 credits)

Aims: the student adapts him/herself to the Polytechnic's studying environment, learns the sufficient knowledge and technical skills to work with the computers needed in studies and at work, becomes familiar with the most important computer applications in the field of health care, gains the ability to study independently

Content: Orientation studies, Information Skills and e-learning, Computer Science and ADP

Teaching: tutoring in groups and individually, lectures, workshops, independent work

Assessment: written tests, skill test and independent assignments

Literature: topical literature

Communication and interaction 6 ECTS credits (4 credits)

Aims: the student develops his/her interactive skills that are needed in the studies and the field of health care as an individual and in a group

Content: Written and Spoken communication, Swedish, English, Interaction and Group Dynamics

Teaching: lectures, exercises, assignments

Assessment: active participating in lectures (80 % attendance) and passed assignments

Literature: topical literature

Physical and psychological functions 12 ECTS credits (8 credits)

Aims: the student recognises the physical and psychological functions that adjust the life of a person, is able to meet people in crises of life, is able to counsel patients with a special diet

Content: Anatomy and Physiology, Pathophysiology, Physical Exercise, Psychology, Science of Education, Nutrition and dietetics

Teaching: lectures, workshops, exercises, assignments, literature

Assessment: written tests and assignments

Literature: topical literature

Environment and society 7,5 ECTS credits (5 credits)

Aims: the student becomes aware of different conceptions of humanity and of health care as a part of the society

Content: Social Policy, Public Health Science, Environment and Health, Sociology, Cultural Environment and Creativity, Economics

Teaching: lectures, workshops, assignments

Assessment: written tests and assignments, Literature: topical literature

Foundations of professional nursing 16,5 ECTS credits (11 credits)

Aims: the student understands nursing as a profession and is motivated to study and develop his/her work

Content: Basic Studies of Nursing, Helping Methods in Nursing, Drug Administration Skills, Gerontological Nursing, First Aid, Microbiology, Asepsis and Hospital Hygiene, Geriatrics, Treatment of Eye Diseases, Treatment of Ear, Nose and Throat diseases

Teaching: lectures, classroom practice, workshops, independent assignments, clinical practice

Assessment: active participating in lectures, written tests, skill tests, assignments, clinical practice

Literature: topical literature

Practice during the first year 7,5 ECTS credits (5 credits)

Practice in an elderly home or a service house, Practice in a health centre hospital

Compulsory professional studies, The third term

The basis of medical-surgical and perioperative nursing 2,25 ECTS credits (1,5 credits)

Aims: the student forms a general picture of clinical laboratory medicine and radiology and understands their significance and physiological background as well as the clinical application in caring for the patient, is familiar with different medical substances, pharmaceutical products and their effect mechanisms and understands their proper use in different diseases and functional disorders

Content: Clinical Laboratory Medicine and Radiology, Pharmacology

Teaching: lectures, seminars, classroom practice, clinical practice

Assessment: written test, assignments, active participation in lectures

Literature: topical literature

Medical nursing 9,75 ECTS credits (6,5 credits)

Aims: the student acquires basic skills to heal, rehabilitate and support patients with different needs, learns to help patients with biopsychosocial problems caused by their illness and its treatment, acquires the ability to guide and teach patients and their next of kin to cope with their illness and the treatment as well as to promote health and rehabilitation, is able to report on the nursing process both orally and in writing, increases her/his knowledge in prevention of infections and learns to act according to the aseptic rules, takes advantage of the latest knowledge in the science of nursing

Content: Nursing Strategies, Internal Medicine, Treatment of Skin Diseases, Medical Practice

Teaching: lectures, classroom practice, seminars, individual/group assignments, clinical practice

Assessment: written tests, assignments, clinical practice

Literature: topical literature

Surgical and perioperative nursing 14,25 ECTS credits (9,5 credits)

Aims: the student becomes acquainted with the nature of perioperative nursing and forms an overall picture of the perioperative nursing process, learns to prepare patients for different examinations, operations and other procedures by observing and nursing them according to the known nursing principles + see the aims above

Content: Nursing Strategies, Surgery, Perioperative Nursing, Anaesthesiology, Surgical Practice, Perioperative Practice

Teaching: lectures, seminars, classroom practice, clinical practice

Assessment: written tests, active participation in lectures, assignments and clinical practice

Literature: topical literature

51VH0011 Electives; theoretical studies 3 ECTS credits (2 credits)

The fourth term

The basis of health promotion 9 ECTS credits (6 credits)

Aims: the student understands the close interaction between an individual's health and the community, environment and society, knows different methods of health promotion and is able to use them

Content: Health Education, Community Care, Social Policy, Philosophical Study of Humanity and Ethics (basic studies), Practice in the school's "Health Station"

Teaching: lectures, exercises, seminars, assignments, clinical practice

Assessment: written assignment

Literature: topical literature

Promotion of the health of children and adolescents 7,5 ECTS credits (5 credits)

Aims: the student is aware of the progress, goals and methods of the health care of children and adolescents, knows the factors affecting on children's and adolescents' development and health, is acquainted with the priorities of preventive health care and the most essential methods in the health care of children and adolescents

Content: Developmental Psychology, Health Care of Children and Adolescents, Practice in Child Health Clinics / Maternity Clinics, in School and Student Health Care

Teaching: lectures, seminars, classroom practice, seminars, clinical practice

Assessment: by agreement

Literature: topical literature

Promotion of the health of adults 7,5 ECTS credits (5 credits)

Aims: the student is aware of the development, goals and methods in the health care of adults and in occupational health care, is acquainted with the key aspects of the preventive health care and with the occupational health care fixed by law, is familiar with the examinations and treatments during pregnancy, childbirth and childbed, is aware of the role and goals of maternity care in the health care system

Content: Health Care of Adults, Maternity Health Care and Obstetrics, Practice in Occupational Health Care

Teaching: lectures, classroom practice and seminars, clinical practice

Assessment: written assignments or tests, clinical practice

Literature: topical literature

Home nursing and promotion of the health of older adults 5,25 ECTS credits (3,5 credits)

Aims: the student becomes familiar with gerontological care and is aware of the factors affecting on the older adults' health, becomes familiar with the organisation of the public health care and its multiprofessional co operation, is aware of the normal signs and changes of ageing and knows how they are explained by different scientific theories of ageing

Content: Gerontological Care, Practice in Home Nursing

Teaching: lectures, classroom and clinical practice

Assessment: written test or assignment, clinical practice

Literature: topical literature

Bachelor's thesis 1,5 ECTS credits (1 credit)

Aims: the student is familiar with the goals and principles of nursing research, acquaints him/herself with her/his field of research, knows the stages of the quantitative research process and alternative solutions made during the process, is able to make good use of scientific publications adopts the ethics of nursing research, knows the basic concepts of statistics and can use tables and figures when presenting the findings of research

Content: Nursing Research I, Statistics (basic studies)

Teaching: lectures, assignments

Assessment: written test, written report on the analysis of research done by the student

Literature: topical literature, the thesis guide

The fifth term

Pediatric nursing 7,5 ECTS credits (5 credits)

Aims: the student acquires a basic knowledge of childhood illnesses and hereditary diseases and their effects on a child, recognises the special features in paediatric nursing, is able to help and support an ill child and her/his family in critical situations

Content: Nursing Strategies, Paediatrics, Practice in the Paediatric Ward

Teaching: lectures, classroom practice, study visits, independent studies, clinical practice

Assessment: written tests / assignments, clinical practice

Literature: topical literature

Maternity and gynaecological nursing 6,75 ECTS credits (4,5 credits)

Aims: the student gets a basic knowledge of the most common gynaecological diseases, their symptoms, examinations, treatments and prevention, understands the special features of gynaecological nursing and is able to take care of a patient, deepens her/his knowledge of maternity nursing and acquires the readiness to support families with a disabled child

Content: Nursing Strategies, Gynaecology, Practice in the Maternity/Gynaecological Ward

Teaching: lectures, classroom practice, independent studies, clinical practice

Assessment: written test/assignment, clinical practice

Literature: topical literature

Psychiatric nursing 9 ECTS credits (6 credits)

Aims: the student understands the significance of mental health as a resource for an individual and a community, is able to consider mental health and mental health disorders holistically, gets an overall picture of psychiatric helping methods and the psychiatric organisation and service system, is aware of preventive, caring and rehabilitative psychiatric nursing on the individual and community level, develops her/his own self-knowledge and understands the significance of counselling

Content: Nursing Strategies, Clinical Psychology, Psychiatric Practice

Teaching: lectures, study visits, individual/group assignments, clinical practice

Assessment: written tests/assignments, practice

Literature: topical literature

Bachelor's thesis 2,25 ECTS credits (1,5 credits)

Aims: the student deepens her/his scientific thinking and understands the significance of nursing research in the development of nursing practice, education and administration, knows the stages of qualitative research and the alternative solutions made during the research process, can use the statistical programme (SPSS) when analysing the data

Content: Nursing Research II, Statistics (basic studies), Project work, Information Skills (basic studies)

Teaching: lectures, seminars, assignments

Assessment: tests, assignments, active participating in lectures

Literature: topical literature, the thesis' guide

Electives theoretical studies 3 ECTS credits (2 credits)

Alternative advanced studies, Medical- surgical nursing, The sixth term

Nursing methods 6,75 ECTS credits (4,5 credits)

Aims: the student deepens and extends her/his knowledge of medical-surgical nursing, integrating the knowledge base of other sciences, understands the significance of cultural values in nursing

Content: Holistic Medical-Surgical Nursing, Ethics, Surgery, Internal Medicine

Teaching: lectures, seminars, assignments, classroom practice, clinical practice

Assessment: written tests, assignments, active participating in lectures, clinical practice

Literature: topical literature

Critically ill patient 3,75 ECTS credits (2,5 credits)

Aims: the student becomes acquainted with the methods of helping critically ill patients of different ages, is able to guide, advise and support patients and their families both in an accident and emergency department and in an outpatient department

Content: Special Features and Helping Methods in Nursing, Clinical Psychology, Anatomy and Physiology

Teaching: lectures, independent work, seminars, classroom practice, clinical practice

Assessment: written tests, active participating in lectures, clinical practice

Literature: topical literature

Practice during the sixth term 12 ECTS credits (8 credits)

Practice 10,5 ECTS credits, Electives: practice 1,5 ECTS credits

Bachelor's thesis 6 ECTS credits (4 credits)

Aims: the student becomes familiar with scientific writing, is able to utilise guidance in different ways during the process of his/her bachelor's thesis, understands the significance of nursing research from the point of view of the development of nursing

Content: Scientific Writing, Research Plan, Independent Work (guidance available)

Teaching: lectures, seminars, independent work

Assessment: active participating in lectures, presentation of research plan

Literature: topical literature

Electives; theoretical studies 3 ECTS credits (2 credits)

The seventh term

Nursing expertise and administration 7,5 ECTS credits (5 credits)

Aims: the student forms an overall picture of her/his profession and adopts a positive approach to nursing development, is able to plan, carry out, develop and evaluate the nursing process holistically, know, what economic activity in health care means, is willing to develop herself/himself and her/his profession, get an overall picture of nursing administration and understands that administrative activity is a part of a patient's holistic care

Content: Nursing Administration and Work Management, Nursing Expertise, Health Care Economics and Entrepreneurship, Counselling and Consultation, Practice

Teaching: lectures, independent work, seminars, clinical practice

Assessment: written tests, active participation in lectures, clinical practice

Literature: topical literature

Nursing in international context 3,75 ECTS credits (2,5 credits)

Aims: the student is able to carry out nursing in an international context as well in Finland as abroad

Content: Multicultural Nursing, Swedish, English

Teaching: lectures, exercises, workshops, assignments

Assessment: written and oral tests, assignments

Literature: topical literature

Bachelor's thesis 5,25 ECTS credits (3,5 credits)

Aims: the student is able to work persistently, evaluates her/his own and others' work with criticism, is capable of reporting on her/his bachelor's thesis in a presentational diagram or in an article

Content: Independent Work (guidance available), Seminars, poster, summary in English, Proficiency Test, Creativity (basic studies)

Teaching: independent working, seminars

Assessment: grade for the bachelor's thesis, proficiency test

Total 210 ECTS credits (140 credits)

Note: all information given here is preliminary and should be checked by the education unit.

Degree Programme in Health Care and Nursing										
Code	Course	1st year		2nd year		3rd year		4th year		Total ECTS
		ECTS		ECTS		ECTS		ECTS		
		autumn	spring	autumn	spring	autumn	spring	autumn	spring	
	BASIC STUDIES									60,0
	Introduction to Polytechnic Studies	3,75	0,75		3,0	1,50				
	Communication and Interaction	4,50	1,5					0,75		
	Physical and Psychological functions	4,50	7,50							
	Environment and Society	5,25	2,25					0,75		
	Foundations of Professional Nursing	8,25	8,25							
	Practice	3,00	4,50							
	COMPULSORY PROFESSIONAL STUDIES									74,25
	Medical-Surgical Nursing and Perioperative Nursing									
	The Basis of Medical/Surgical and Perioperative Nursing			2,25						
	Medical Nursing			3,75						
	Medical practice			6,0						
	Surgical and Perioperative Nursing			5,25						
	Surgical and perioperative practice			9,00						
	Health Promotion									
	The Basis of Health Promotion				3,0					
	Practice				4,5					
	Promotion of the Health of Children and Adolescents				3,0					
	Practice				4,5	*				
	Promotion of the Health of Adults				3,0					
	Practice				4,5	*				
	Promotion of the Health of Older Adults and District Nursing	1,50			0,75					
	Practice				4,50					
	Pediatric Nursing		0,75			2,25				
	Practice					4,5				
	Maternity and Gynaecological Nursing					2,25				
	Practice					4,50				
	Psychiatric Nursing					3,0				
	Practice					6,0				
	ALTERNATIVE ADVANCED STUDIES									45,75
	Medical-surgical Nursing									
	Nursing Methods						6,75			
	Critically Ill Patient						3,75			
	Practice						12,0			
	Nursing Expertise and Administration							7,5		
	Practice							12,0		
	Nursing in International Context								3,75	
	ELECTIVES		3,00	3,00	1,50	3,00	3,00	1,50		15,00
	BACHELOR'S THESIS				1,5	2,25	6,0	5,25		15,00
	Total ECTS credits	29,25	30,0	29,25	29,25	29,25	31,5	31,5		210,0

Unit of Social Education and Social Care

Unit of Social Education and Social Care offers nearly 250 young people and adults such training as leads to a polytechnical degree as well as special studies such as drama and working instructor training. The chief person responsible for the social field is Unit Director Arja Honkakoski; the senior teacher and the adult education coordinator, together with a staff of fifteen permanent teachers and numerous experts from outside the school, are responsible for the training provided. Our working community maintains a warm, cosy and intimate, yet efficient, atmosphere.

The students have at their disposal their own library of the social field with its data acquisition systems, as well as the various learning centres of the Polytechnic in the Kemi and Tornio area. In their own library and in the learning centres, the students have access to the lending services, data services and computers for independent work and data acquisition.

The students in the social field participate actively in the development of their studying conditions. Tutor students do their part in acquainting new students with the studying routines and convey to them their own studying experience. The student association of the Unit of Social Education and Social Care has its important role in improving the studying conditions and general comfort and enjoyment.

Contact information:

Kemi-Tornio Polytechnic
The Unit of Social Education and Social Care
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FIN-94100 Kemi Finland
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The Unit Coordinator for ECTS
Ms. Leena Leväsvirta
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International Student Exchange/Tutor
Ms. Eliisa Kursula
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Unit Director
Ms. Arja Honkakoski
Tel. + 358 16 258 603
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Unit of Cultural and Media Studies

Art and media training is intended to produce qualified media experts (in TV, radio and multimedia) and visual artists (in media art, 2D graphics, animation, 3D, photography, multimedia and web art). Upon graduation, media students qualify for the following professions: editor, web artist, stage manager, TV cameraman, sound engineer, music producer, cinematographer, production manager, media graphics designer, TV lighting cameraman, director or assistant director, media designer etc. Education in visual artistry aims at providing skills and knowledge needed in visual professions, as well as in technical or artistic tasks involved in producing images with the use of the latest and most advanced information technology. Side by side with traditional visual art subjects, the study programme emphasises the interactive net publishing, image processing and environmental art application.

The Degree programmes of Media and Visual Arts are organised every year in five eight-week-long periods so that the final amount of credits is 240 ECTS credits/160 credits. The duration of the studies is 4 years. The degree programmes comprise the following main elements:

- Basic studies
- Professional studies
- Advanced studies
- Elective studies according to the students' choices and interests
- Practical training and
- Bachelor's Thesis.

The study groups are mixed at several intervals and they also vary in size according to the aims of the particular training. The unit also annually offers some continuation studies in audio-visual journalism, animation, media management and other applied subjects.

Much emphasis is put on the practical and expressional skills and knowledge of arts and media. Methods vary from lessons to exercises, field trips to examinations. Required reading consists partly of English and Swedish books. Teamwork is also an essential factor in production-based training, which itself requires good social skills. Assessments are usually carried out differently for each course. The bachelor's thesis is an independent study based on a research plan approved by the unit. Additionally, one must also present an audio-visual product connected thematically with the thesis. Tutoring is organised by the lecturers. In addition to the general admission requirements, the unit arranges an aptitude test and an interview for the domestic applicants.

A special study course "INTERNATIONAL BROADCASTING WORKSHOP" is designed for the foreign students. The course provides the students with the basic skills of special radio and TV technology plus the key elements of applied journalism. At the same time students will also have training in net journalism. Various forms of presentation, such as interviews, commentaries and news reports, will be studied, discussed and practised. Substantial knowledge of English, Swedish or Russian is obligatory. The results achieved will be evaluated through an exam, fulfilment of homework, presentations and performance of journalistic work (12-60 ECTS credits/8-40 Finnish credits).

The study course includes:

- Media theory and practice
- Media technology
- Social and cultural studies
- Work practice

The course is arranged under the condition of the sufficient number of foreign students involved. The course is optional for the Finnish students, available under special arrangements.

Foreign students (all except the Erasmus exchange students) are asked to send their:

1. Foreign Student application (special form)
2. Previous work record (if any)
3. Curriculum vitae and possible recommendations

For further details, contact the unit coordinator.

The language of instruction is Finnish and English. Please inquire at the education unit for details of the courses in English and for details of this year's deadlines. The application forms can be obtained from the education unit.

The unit coordinator for ECTS

Ms. Maija Lauri

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E-mail: majja.lauri@llaky.fi

International relations administrator

Ms. Tatiana Liljeström

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E-mail: tatiana.liljestrom@tokem.fi

6. NON-DEGREE PROGRAMME

Technology as Business - TaB

(30 ECTS credits/20 credits)

The goal of the programme

The Unit of Technical Education in Kemi-Tornio Polytechnic is situated close to the Digipolis Science Park. Many expanding hi-tech companies are nowadays operating in this area and it enables close cooperation between the unit and the firms. In this region companies continually need skilful and internationally capable employees. Especially engineering students need to obtain a deeper understanding of business thinking – knowledge of this field is also highly valued in hi-tech companies. This specialisation programme has been created for meeting the needs of companies and their future employees. With this programme the participants receive information about entrepreneurship in technology-based business, tools for working in demanding projects, experience of international teamwork and contacts with growing hi-tech firms.

Target group

This programme is designed for:

- Engineering students after three years of polytechnic or university studies.
- Students of other disciplines after three years of polytechnic or university studies.
- Employees with a suitable background from the cooperating companies.

Teaching methods and resources

Various teaching methods will be used – lectures, exercises, teamwork and company visits. The TaB programme will be carried out together with the cooperating companies. Some representatives of the hi-tech companies operating in the Science Park are willing to participate in teaching and case analyses. The final project work of the programme will be done for some of the companies and it will be based on a real and current problem.

The structure and contents of the programme

The main structure of the programme is as follows:

BUSINESS PLAN CONTEXT	PROJECT WORK 4 cu	SUPPORTING STUDIES Languages, presentation skills
	SUPPLEMENTING STUDIES 9 cu	
	BASIC STUDIES 6 cu	
	PRECOURSE ASSIGNMENTS 1 cu	
PRECEDING STUDIES		

The courses included in the programme are listed in the next table:

PRE-COURSE ASSIGNMENTS	BASIC STUDIES	SUPPLEMENTING STUDIES	PROJECT WORK
Background information for the studies	Entrepreneurship in Hi-Tech firms	Leadership in Technology based business	Technology based Business plan or project work
	Creativity and Innovations	Change Management	
	Technical Project Management	Global Business Operations	
	Business to Business marketing	Cross-cultural Management	
		Company visits and guest lectures	

The latest version of course descriptions can be found on our www pages www.tokem.fi.

Applications and schedules

The closing date for the applications is 7th November 2002. The application form is available on our www pages.

The programme will be started on 1st February 2003 and it ends on 31st May 2003.

Contact information

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 Unit of Technical Education
 Kiveliönkatu 36
 FIN-94600 Kemi Finland
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 Fax + 358 16 258 800
 E-mail: ketol@tokem.fi

Outline of studies

A. Pre-course assignments 1,5 ECTS credits (1 credit)

Objectives: to enable the students to find background information from their own country needed in doing the final project work of the programme

Contents: the main topics can be, for example, company law, marketing statistics, and business finance possibilities

Methods: research report assessed on the scale pass–fail

B. Basic studies

Entrepreneurship in hi-tech firms 1,5 ECTS credits (1 credit)

Objectives: to familiarise the students with the contents and meaning of entrepreneurship in technology-based companies

Contents: the concept of entrepreneurship, the preconditions of entrepreneurship, intrapreneurship, different types of entrepreneurship, entrepreneurship and culture, legal aspects

Methods: lectures, company cases, teamwork

Assessment: test

Creativity and innovations 1,5 ECTS credits (1 credit)

Objectives: to practise creative thinking and problem solving and to familiarise the participant with different product and business ideas

Contents: meaning of creativity, creativity methods, problem-solving methods, product development phases, immaterial property rights

Methods: lectures and exercises

Assessment: test and exercises

Technical project management 3 ECTS credits (2 credits)

Objectives: to learn the tools for effective project management needed in demanding technical projects

Contents: increasing efficiency in WBS, project organisations and teams, resource management, risk management, cost management, time management, project documentation, project tracking, effective utilization of the computer applications

Methods: lectures and exercises, case analysis

Assessment: test and exercises

Business-to-business marketing 3 ECTS credits (2 credits)

Objectives: to clarify the tools needed in building and maintaining customer relations in business-to-business marketing

Contents: environment analysis, understanding customer behaviour, finding out customer needs, marketing strategy, marketing mix, alliances and networks in b-2-b marketing

Methods: lectures, exercises and case studies

Assessment: test

C. Supplementing studies

Leadership in technology-based business 3 ECTS credits (2 credits)

Objectives: to introduce the students to the importance of leadership and to practise the leadership skills needed in modern companies

Contents: meaning of leadership, preconditions of leadership, leadership styles, leadership instruments, leadership problems, leadership and HRM, leadership and organisation structure

Methods: lectures, exercises, case analysis

Assessment: test and exercises

Change management 3 ECTS credits (2 credits)

Objectives: to describe the present environment of modern hi-tech companies and to give examples for managing change

Contents: organisation development and change, internal and external factors of change, process of change, resistance of change, creating commitment to change

Methods: lectures, exercises and case analysis

Assessment: exercises

Global business operations 3 ECTS credits (2 credits)

Objectives: to familiarise the students with the possibilities and requirements of international business operations

Contents: requirements of global business, global economy, options for internationalisation, international networks, risks and problems of global business

Methods: lectures, case analysis

Assessment: test

Cross-cultural management 3 ECTS credits (2 credits)

Objectives: to offer tools and models for working in cross-cultural environments

Contents: cultural differences by different theories, habits in different cultures, cross-cultural teams, problems in cooperation

Methods: lectures and exercises

Assessment: research report

Visits to science parks and hi-tech companies 1,5 ECTS credits (1 credit)

Objectives: to familiarise the participants with the Multipolis network of specialized science and technology parks, to enable students to become acquainted with local hi-tech companies and their business conditions, and to offer a chance to create personal networks

Assessment: travel reports

D. Project work 6 ECTS credits (4 credits)

Objectives: to create a general view of the elements of the whole programme and to put to use the information learned

Contents: a technology-based business plan or a demanding piece of project work based on company needs

Methods: teamwork and individual work, report writing and presentations

Assessment: research report and presentations

7. ACADEMIC INFORMATION

The academic calendar for 2002-2003

The academic year at the polytechnic consists of an autumn period and a spring semester. The autumn semester runs from August to mid-December, while the spring semester runs from January to May. The exact starting point depends on the education unit and programme. Each period consists of about a 7- to 8-week lecturing period which contains, besides lecturing, also other kinds of working methods. Examinations are usually given at the end of each period or semester for all the courses given during that time.

<i>Autumn term 2002</i>	<i>Starts</i>	<i>Ends</i>
Degree Programme in Business Management	26 August	20 December
Degree Programme in Business Information Technology	26 August	20 December
Degree Programme in Information Technology	2 September	20 December
Degree Programme in Health Care	- August	20 December
<i>Spring term 2003</i>	<i>Starts</i>	<i>Ends</i>
Degree Programme in Business Management	7 January	31 May
Degree Programme in Business Information Technology	7 January	31 May
Degree Programme in Information Technology	7 January	9 May
Degree Programme in Health Care	- January	- May
TaB – Technology as Business	3February	30 May

A Holiday week from 21th October to 25th October

Christmas vacation from 21th December to 6th January

Winter holiday from 3th March to 7th March

Easter from 18th April to 21th April

Application and registration procedures

The application procedures vary depending on whether the student is applying within an exchange programme such as Erasmus or an exchange agreement between his/her home institution and Kemi-Tornio Polytechnic. Erasmus students fill in a special application form which includes a learning agreement. The learning agreement is drawn up by Erasmus students and the institutions involved before the student goes abroad. The application form for Socrates/Erasmus Student Exchange Programme is attached at the end of the guide.

Application deadlines for Erasmus students are as follows:

Autumn semester 15 th May, Spring semester 15 th May, the whole year see the special applications deadlines.

If a student intends to study the whole degree programme in Kemi-Tornio Polytechnic, s/he must follow the special application deadlines of individual degree programmes. In this case a student must also use the special application forms of degree programmes which can be obtained from the educational units. Some educational fields arrange aptitude tests of their own. More detailed information on aptitude tests can be requested from the educational units. All exchange students must sign up for their degree programmes in the educational unit as soon as possible after their arrival.

B. GENERAL PRACTICAL INFORMATION

Before leaving your country

Erasmus students must get certain documents before they leave their home country:

- Form of identification/passport
- Document certifying Erasmus student status and grant allowance (home institution)
- A letter of acceptance (will be sent to you by the host institution)
- 2 photographs
- Medical information and form (E111)
- The transcript of records from the home institution

The following requirements are valid for full-term degree students:

- Form of identification/passport
- Document confirming that you can support yourself financially while in the country
- A letter of acceptance (will be sent to you by the host institution)
- 2 photographs
- Medical information and form (E111)
- The transcript of records from the home institution

Arrival in Finland and the Kemi-Tornio region

Helsinki-Vantaa Airport is an international airport with good connections to all the European capitals and, beyond, to the US and Asia. There are good domestic connections. From all Finnish airports there is an airport bus service or local minibus to the centre of the local town and of course taxis are also available. It is also possible to arrive by sea, from Sweden, Germany or Estonia. The main harbour towns are Helsinki and Turku. There are international train links from Moscow and St. Petersburg and from Sweden to northern Finland.

Kemi and Tornio are situated some 700 kilometres to the north of Helsinki. You can take a flight from Helsinki to Kemi and it takes about an hour. It is also possible to take a train from Helsinki to Kemi and it takes about nine hours. You can also arrive via Sweden and take a flight from Stockholm to Luleå which takes about an hour. The overnight train from Stockholm to Luleå is also an alternative. From Luleå to Kemi or Tornio you have to come by bus and it takes about an hour and a half. The cities of Kemi and Tornio are located within 25 kilometres from each other and there are many regular bus connections between the two cities. Please fax or e-mail, in good time, your arrival date and flight number/train arrival time to the person who is in charge of your degree programme or the International Relations Coordinator (mobile phone +358 40 5316 381). When students arrive they will usually be met at the airport or the train station. After arriving, students are guided to the student residences.

Authorisation/identification documents

Passport

Before coming to Finland there are certain preparations you should undertake before leaving your home country. Take into account the new Schengen agreement:

As from 25 March 2001, there will be altogether 13 EU countries fully applying the Schengen agreement. In addition, Norway and Iceland, which are not members of the EU, also apply the agreement.

In practice, the application of the Schengen agreement means that regular passport controls on persons:

- on ferry crossings between Finland and the other Schengen countries
 - on internal flights within the "Schengen area"
- will no longer be carried out

Although there are no longer regular checks on persons in the Schengen area, nationals of EU countries are obliged to prove their identity. Be sure that you take your passport or identity card or an electronic identity card with you in order to be able to prove your identity. For more information, please see: www.intermin.fi/eng/schengen/index.htm. The citizens of the countries which have not signed the Schengen agreement need a valid passport.

Visa

A visa is granted for a trip to Finland lasting for a maximum of three months or for a comparable short-term stay. A visa has to be applied for before departure to Finland in the country where the applicant permanently resides. Very seldom are visas granted or extended in Finland. Depending on your nationality and the length of your stay in Finland, you will require a visa or a residence permit. Students from the Nordic countries and students from EU/EEA (= European Economic Area = EU countries and Iceland, Liechtenstein and Norway) countries do not need visas at all. About 80 countries have concluded an agreement with Finland abolishing the visa requirements: check at your local Finnish embassy or legation whether your country is among these.

Students from countries outside the EU/EEA or outside the other visa-free countries who intend to stay in Finland for less than three months have to apply for a visa before arrival to Finland at the Finnish embassy or consulate in the country where the applicant permanently resides. To be issued a visa, the student should demonstrate that s/he has means to cover the living expenses, which means about 34 EUR per day, while studying in Finland.

Residence permit

Foreigners must fulfil certain criteria in order to obtain a residence permit for study in Finland. You must

- (in most cases) be at least 18 years old.
- intend to become a full-time student at an institution of higher education or a secondary vocational school.
- show proof that you have been accepted as a full-time student at such an institution.
- show that your application indicates the estimated length of studies and the final degree of your studies.

Students coming from the Nordic countries do not need residence permits. Students coming from EU/EEA countries need to apply for a residence permit if they intend to stay for more than three months. The residence permits for students coming from EU/EEA countries are granted by the local police in Finland. The guarantee money is not required from citizens of the EU and EEA countries. However, they must demonstrate that they have means to cover the living expenses while studying in Finland.

Students from countries outside the EU/EEA who intend to stay in Finland for more than three months must apply for a residence permit before arrival to Finland at the Finnish embassy or consulate in the country where the applicant permanently resides. If a non-EU resident arrives in Finland without the necessary residence permit, it is not usually possible to issue it in Finland. If you have come to Finland with a visa to take an entrance examination, and you pass this examination, you will be eligible for a residence permit for one academic year at a time. In this case you can apply for a residence permit from local police authorities in Finland. Foreign students from countries outside the EU/EEA countries are required to demonstrate that they have sufficient funds by depositing the sum of 5046 EUR, with no conditions restricting the use of this account.

A new deposit is required at the beginning of each academic year. In this case the price of the first residence permit is 67 EUR. If you apply for continuation of residence permit the price is 22 EUR. The fee must be paid also in the event that the visa or residence permit is not granted. And please note that it must be paid in advance!

Work permit

Students who are citizens of EU/EEA countries or participate in EU education need no work permits and they are allowed to work without restrictions. Other international students are allowed to do paid work for a maximum of twenty hours a week during the semesters and full-time during the vacations. You will need a special permit if you intend to work more than this during the semesters. A work permit can be obtained from the Finnish embassy in your country or a consulate/legation abroad or in Finland from the local police authorities.

Civil registration

If you wish to stay in Finland more than a month, you have to submit an official notification of change of residence, the Notice of Moving, to a local register office within one week after your arrival. Notice should then be given every time you move within the country or away from it. The notification should be made within one week before or at the latest one week after moving. The forms for the Notice of Moving are available at post offices, register offices and police offices. If you move from another Nordic country, you must present an Inter-Nordic Migration Form. Citizens of the Nordic countries do not need to report at the Register Office.

Basic information (name, address, nationality and date of birth) on people residing in Finland is recorded in the Population Information System. On the basis of the registration, a foreigner is given the Finnish personal identity number. If you reside in Finland for at least one year, you must be registered in the Population Information System. In case you wish to stay for a shorter period of time it is possible to ask for registration to get the personal identity number. However, no municipality of residence is registered for you in Finland and therefore you do not necessarily have the same rights as persons who reside in Finland permanently. The Finnish personal identity number is used for identification purposes in many situations such as in banks, hospitals and libraries. The registration takes place in a local Register Office which in most cities is located at the main police station.

Accommodation

For Erasmus students, the polytechnic aims to arrange accommodation. International students who are not a part of any exchange program have to arrange accommodation on their own. The polytechnic does not have dormitories of its own. Students can apply for a student flat to "Tornio Oppilasasuntola Oy" or "Kemi Opiskelija-asuntosäätiö" (the Tornio Student Apartment Administration Company and the Kemi Student Dormitory Foundation respectively). Also the cities of Kemi and Tornio and the private sector provide flats which are rented out to students. Contact information is provided in attachment.

In Tornio the student housing is located within a 500m radius of the polytechnic. You are provided with a single room and will share kitchen, bathroom and shower with two students. The flats are furnished. You will have to bring your own bed-linen except a mattress. In the kitchen there are no cooking utensils. You also have access to laundry facilities. The rent is approximately 143 EUR per month. If you want to you can share the room with another student and then the rent is approximately 84 EUR person/month. Electricity, heating and water are included in the rent. Students have to pay a deposit one month's rent which returned when leaving if there are no claims.

In Kemi the student housing is located both in the city center and within a 2,5 km radius of the educational units. You are provided with a single room and will share kitchen, bathroom and shower with two students. The flats for single persons are furnished but so-called family apartments are unfurnished. When it comes to other equipment and laundry facilities the information given above on student housing in Tornio is also valid for Kemi. The rent is about 143–210 EUR. Electricity, heating and water are included in the rent. The deposit is 134 EUR.

When you fill in the application for Foreign Students and Socrates/Erasmus Student Exchange Programme, you are also asked about the need for accommodation and asked to fill in the special application for accommodation. Both applications, for Student Exchange Programme and accommodation, must be sent at the same time to the International Officer.

Health care and insurance

The level of health care in Finland is high. There are two parallel systems: the public one financed by the government and municipalities, and the private sector. Both sectors are available but the private services are more expensive to the patient. There are public health-care centres and hospitals throughout the country. Citizens of the EU/EEA countries are covered by the National Health Insurance plan administrated by the Social Insurance Institution, or KELA (Kansaneläkelaitos). If their stay in Finland lasts for less than one year, they must have the E111 form from their local social security office before arriving in Finland in order to be covered by the plan. If the stay of an EU/EEA citizen lasts for more than a year, s/he must get the E106 or E109 form from the local social security office before arriving in Finland. This form must always be taken to a local KELA office after arriving in Finland.

You need some basic vaccinations: Tet + d, Polio, MPR (Mumps = Parotitis, Measles = Morbilli, German Measles = Rubella). Should you wish to do your practical training here, for example in a hospital, you have to check the required vaccinations and tests from the education unit. In Kemi the Unit of Health Care and Nursing runs its own "Health Station" called "Terveys-säkki". A nurse is available as follows: Monday 8-11, Tuesday 12-14, Wednesday 8-11, Thursday 8-11, Friday 8-11.

During the other hours you have to make an appointment. Telephone number is 258 422 and the address is Meripuistokatu 26, 94100 Kemi. In Tornio a nurse is available Monday-Friday 8.00 am. to 10.00 am. in the following address: West Lapland Vocational School, Kauppakatu 35 A 95400 Tornio. Telephone number is 451 225.

In case of serious or acute illness, contact the emergency service in the municipal health care centres and hospitals. An appointment in a health-care centre costs about 9-17 EUR. In the event of serious illness or in jury transportation can be called from the general emergency phone number 112. In a dental emergency you have to turn to the dental clinic in a local health-care centre.

For your own safety it is advisable to have insurance. You have to check whether your school has insured you during your stay abroad. Otherwise you have to take care of your insurance by yourself. Students coming from outside the EU/EEA countries should pay special attention to their insurance because they are not covered by the National Health Insurance in Finland. Discuss with your individual insurance company what kind of cover would be most beneficial for your stay in Finland. The Centre for International Mobility CIMO and Pohjola Insurance Company Ltd have signed a cooperation agreement on insurance concerning students, research workers and trainees. For further information contact CIMO (www.cimo.fi).

Estimated personal expenses per month

Polytechnics do not charge tuition fees. Usually the libraries have a few copies of course literature but sometimes students have to buy the books or pay for other kinds of studying materials. Accommodation expenses are approximately 150 EUR per month if you live in a student dormitory and 330 EUR per month if you rent a flat from the private sector.

Groceries are more expensive in Finland than in many other countries. All education units have a restaurant of their own and lunch there costs about 1,7-2 EUR. There are always two lunch alternatives; the other one is vegetarian. Eating out is more expensive. Do not forget to include personal and leisure expenses. The total monthly living expenses of a single student average around 650 EUR.

Banking

Travellers' cheques are best. Personal cheques are hardly ever used in Finland. The most common credit cards such as Visa can be used, as well. Banks charge approximately 3,5 EUR for money exchange and it is advisable to limit the number of money exchanges you make. Be sure that you have euros on hand when you arrive in Finland.

After arrival exchange students can open a bank account. Prepare to prove your identity when opening an account. The account is provided with a cash card which you can use to withdraw money from cash machines. You recognise the cash machines from the logo OTTO. You can get banking assistance from student advisors, teachers, the International Relations Officer and banks.

Communication

E-mail and telephone

E-mail is a widely-used way of communicating both internationally and domestically. All students have access to computers and use of e-mail is available to them. Students have access to coin/card telephones in the polytechnic. There are also coin/card telephones in the student residences. Card telephones are more common nowadays and telephone cards can be bought from, for example, kiosks. Mobile phones are extremely common, also among students.

How to call abroad

Dial the international prefix 990, 999, 994 or 00 (some regional/country phone charges are more favourable depending on the prefix you choose). Then dial the country code, trunk code and the subscriber's number. Note that the first number of the trunk code (often 0) is omitted.

Leisure time facilities

There are several possibilities to take part in sporting activities in the Kemi-Tornio region. In the wintertime the most popular activities are cross-country skiing and downhill skiing, for example slalom. Special activities such as husky and snowmobile safaris are also available and snow provides plenty of opportunities for your creativity. Also ice sports, such as ice hockey and "bandy" (a variant of hockey with a ball instead of a puck) are good outdoor activities. In both towns there are also good facilities for indoor sports such as tennis, squash, bowling, gym, aerobics, boxing etc. If you are keen on outdoor sports there are several possibilities: parachuting, shooting, walking in the nature, sailing etc. Both towns have high-standard swimming halls which are worth a visit.

The Tornio river offers great opportunities for fishing. Other popular hobbies in the summertime are, among other things, sailing and golf. The golf course of Tornio-Haaparanta, Green Zone Golf, is the only course which crosses a border between two states. There are many beaches and during hot summer days it is refreshing to dive into the cool water.

If you prefer cultural experiences, there are museums and beautiful churches in both towns, for example The Aine Art Museum in Tornio and the church of Tornio are worth visiting. The theatre in Kemi has several plays in its repertoire. Both city libraries offer a great book collection to the friends of literature. If you are keen on history there are many monuments to see. Several discotheques, pubs and restaurants provide good opportunities for social gatherings or nightlife. For more information please see www.kemi.fi/english

KETOAKKU - the student body of Kemi-Tornio Polytechnic

KETOAKKU consists of six different student bodies from all units of Kemi-Tornio Polytechnic. It has approximately 700 members. It was founded on 1st January 1996 and registered officially on 23rd April 1998.

The purpose of KETOAKKU is to look after students' rights in educational and social matters. We also try to make students feel at home while studying in Kemi-Tornio Polytechnic. KETOAKKU arranges several student events during the terms of the academic year. Information about events can be found on the school notice board and our websites (www.tokem.fi/ketoakku).

Student bodies from different units of Kemi-Tornio Polytechnic play a very active role in tutoring foreign students. They also arrange various free-time and leisure activities for their students in their own units. For further information feel free to contact the student body in your own unit. For foreign students KETOAKKU arranges at least one meeting per term. The purpose of those meetings is to introduce Finnish culture to foreign students and vice versa. It is also an excellent opportunity for foreign and Finnish students to get to know each other.

KETOAKKU has its own office on Nahkurinkatu 6 (2nd floor), Kemi. The office is open Mon.-Fri. from 8 a.m. to 4 pm. All students are very welcome to visit there if they have any problems, big or small. The office is also an excellent place to do assignments or just spend time playing games: darts, pinball etc. The office can also be used during the evenings. If you need to use our premises, please contact the office.

For further information please do not hesitate to contact us!

Kemi-Tornio Polytechnic student body KETOAKKU
Nahkurinkatu 6, 2nd floor
FIN-94100 Kemi Finland
Tel. + 358 16 250 425
Fax + 358 16 250 426
E-mail: ketoakku@tokem.fi



APPLICATION (please select appropriate category)

Degree Programmes		Period of study	
Degree Programme in Business Management Bachelor of business administration	<input type="checkbox"/>	Autumn semester (August-December)	<input type="checkbox"/>
Degree Programme in Business Information Technology Bachelor of business administration	<input type="checkbox"/>	Spring semester (January-May)	<input type="checkbox"/>
Degree Programme in Information Technology Bachelor of engineering	<input type="checkbox"/>		
Degree Programme in Health Care and Nursing Bachelor of health care	<input type="checkbox"/>		
Non-degree programmes		Period of study	
Technology as Business	<input type="checkbox"/>	Spring semester only	<input type="checkbox"/>
		Must be checked by the education unit	<input type="checkbox"/>
Arrival date:			
Accommodation should be organised yes <input type="checkbox"/> no <input type="checkbox"/> from _____ to _____			
(please refer to the special application for accommodation)			

ECTS - LEARNING AGREEMENT

Course unit code (if available)	Course unit title (as indicated in the information package)	Number of ECTS credits

Student's signature

Date: _____

Sending institution

We confirm that this proposed programme of study/learning agreement is approved.

Departmental Socrates coordinator's signature

Institutional Socrates coordinator's signature

Date: _____

Date: _____

Receiving institution

We confirm that this proposed programme of study/learning agreement is approved.

Departmental Socrates coordinator's signature

Institutional Socrates coordinator's signature

Date: _____

Date: _____

Kemin opiskelija-asunto säätiö
(The Kemi Student Dormitory Foundation)
Tornion oppilajasuntola Oy
(The Tornio Student Apartment Administration)



APPLICATION for accommodation

APPLICANT

(Please write in block letters)

Surname	Nationality	Social security no./Date of birth
First names	Sex Male <input type="checkbox"/> Female <input type="checkbox"/>	Marital status Single <input type="checkbox"/> Married <input type="checkbox"/>

HOME ADDRESS

Street address	Telephone number (note country code)
Postal code and town	Country

HOME INSTITUTION

Name of the home institution	
Street address	Telephone number (note country code)
Postal code and town	Country

GENERAL INFORMATION

Name of the school you have been accepted in	Education programme
Date of arrival	Need for accommodation from to

OTHER EXTRA INFORMATION (what kind of room required, allergies etc.)

Date and Place	Signature
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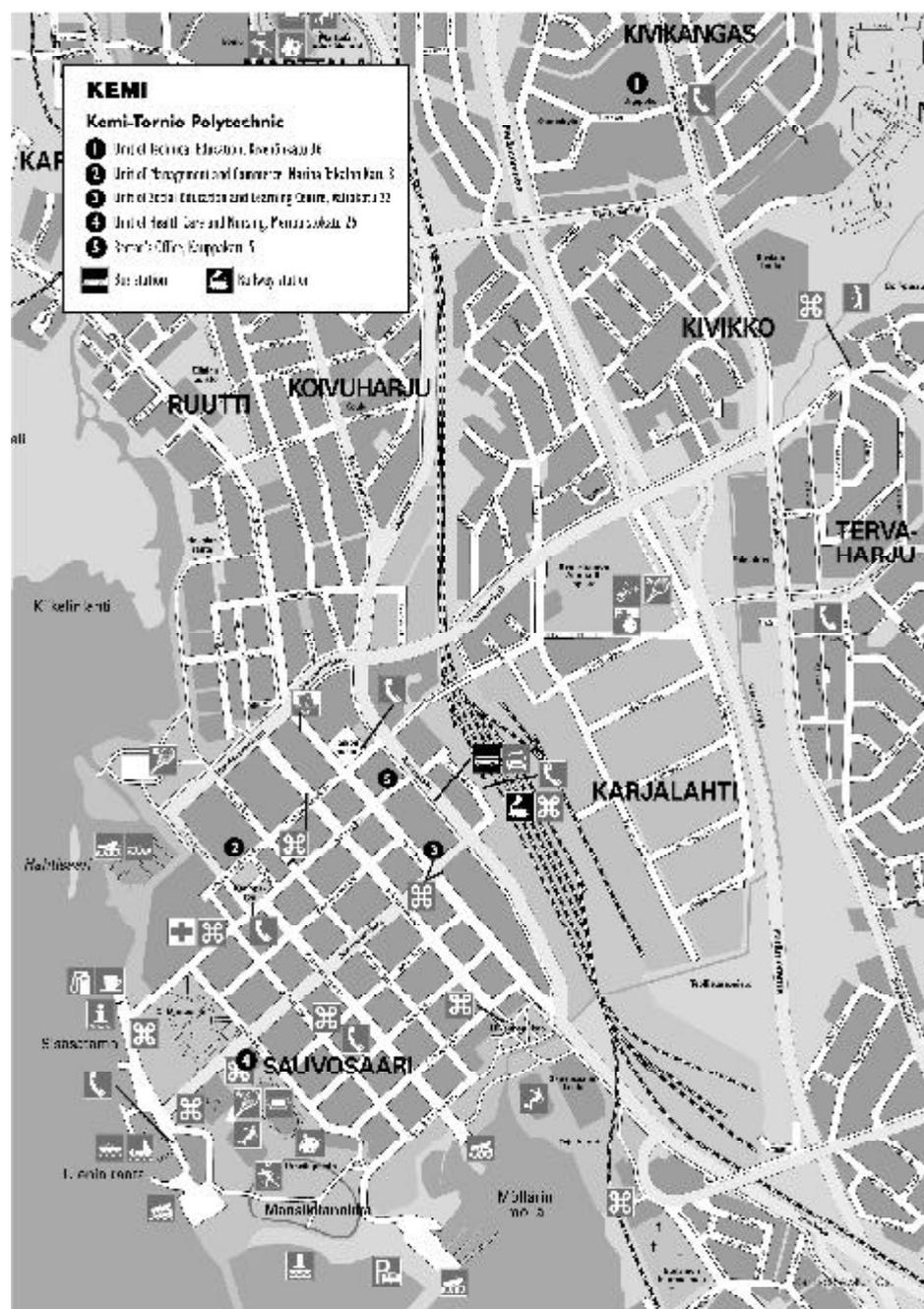
Please submit the application with the Socrates/Erasmus/First application to the International Officer

MAP OF EUROPE

WHERE WE ARE



MAP OF KEMI



SOCRATES/ERASMUS PARTNERS 2002-2003

INSTITUTION	CONTACT PERSON	AREA	NATURE OF COOPERATION
Hochschule Bremen Neustadswall 30 D-28199 BREMEN	H G Jansen Neustadswall 30 28199 BREMEN tel. +49 421 5905-0 fax +49 421 5905 174	AV Journalism Technology	Student exchange Teacher exchange
Universidad Politecnica de Cartagena (E-MURCIA04)	Jose Luis Munoz Lozano Paseo Alfonso XIII, 22 30201 CARTAGENA tel. +34 968 325 470 fax +34 968 32 14 32 E-mail: josulu.mlozano@upct	Industrial Engineering	Student exchange
Vestsjaellands Amts Sygeplejeskole (DK SLAGEL50)	Hanne Wissing Slagelse, Ingemannsvej 35 4200 Slagelse, DENMARK tel. +45 58 56 07 00 fax +45 58 56 07 77 E-mail: hwi@sygeplejeskolenslagelse.dk	Nursing	Student exchange Teacher exchange
Instituto Politecnico De Castelo Branco (P Castelo01) Escola Superior De Tecnologia E Gestao	Maria da Conceicao Av. Empresario, 6000 Castelo Branco, Portugal tel. +351 272 339 600 fax +351 272 3393 601 E-mail: gri.ipcb@mail.ipcb.pt	Engineering	Student exchange Teacher exchange
Ev. Fachhochschule Darmstadt (D DARMSTA03)	Winfried Seelisch Zweufalltorweg 12 64293 DARMSTADT tel. +49 615 87 98 42 fax +49 6151 879 858 E-mail: ethd@efh-darmstadt.de	Social Science/ Social Work Nursing	Student exchange Teacher exchange
Peter Sabroe Seminarier DK ARHUS11	Svend Bak Finsensgade 14 8000 Aarhus C tel +45 87 32 70 00 fax +45 87 32 70 32 E-mail: da@udd.petersabroe.dk www.petersabroe.dk	Social educator training	Student exchange Teacher exchange
Haute Ecole Namuroise Catholique (HENac) (B CHAMPIO02) Departement Paramedical Sainte-Elisabeth	Place Louise Godin, 15, B 5000 Namur-Belgique tel. +32 81 73 52 19 fax +32 81 73 84 78 E-mail: henac.paramed@gate71.be	Nursing	Student exchange
Hogeschool Alkmaar (NL-Alkmaar01)	Dr Ed Wichers P.O.Box 403, 1800 AK Alkmaar The Netherlands tel. +31 72 518 37 756 fax +31 72 518 3732 E-mail: E.C.E.S. Wichers@hsa.nl	Business studies	Student exchange Teacher exchange
Techno Z Salzburg- Research Verein (A Salzburg08)	Gabriele Abermann Schillerstrasse 30 A-5020 Salzburg Austria tel. +43 662 4665 623 fax +43 662 4665 609 E-mail: gabriele.abermann@fh-sbg.ac.at	Engineering MultiMediaArt Inf management/digital Business	Student exchange Teacher exchange
THE KAROL ADAMIECKI UNIVERSITY OF ECONOMICS in KATOWICE	Barbara Centkowska Gosia Sawicka, UL 1, Maja 50, 40 287 Katowice Poland tel +48 32 25 98 114 fax +48 32 25 88 828 E-mail: posias@ae.katowice.pl	Business studies	Student exchange

INSTITUTION	CONTACT PERSON	AREA	NATURE OF COOPERATION
Universidad de Murcia (EMURCIA01)	Angel Perez Ruzafa Avda. Teniente Flornesta, Edif. de la Convalecencia 3000-Murcia SPAIN tel. +34 968 363 620/21 fax +34 968 363 506/4130 E-mail: vexuniv@fcu.um.es	Business & Management Studies Tourism, Catering, Hotel Management Nursing	Student exchange Teacher exchange
Kodolanyi Janos University College (HU SZVAR 01)	Kinga Petrucz 8000 Szekesfehervar, Szabedsagharcos u. 59, Hungary tel. +36 22 543 377 fax +36 22 543 391 E-mail: petrucz@mail.kodolanyi.hu	Tourism Business studies Teacher Ed. Training Economics International Relations Communication	Student exchange Teacher exchange
Fachhochschul-Studien- gänge-Vorarlberg (A Dornbir01)	Karin Wüstner-Dopler Achstrasse 1, 6850 Dornbirn, Austria tel. +43 5572 20336 105 fax +43 5572 20336 120 E-mail: karin.wuestner-dobler@ fh-vorarlberg.ac.at	Business Studies Manufacturing Science Informatic	Student exchange
the Wismar University of Technology, Business and Design	Prof. Dr. Norbert Grynwald Fachbereich Maschinenbau/Verfahrens und Umwelttechnik tel. +49 3841 753 312 fax +49 3841 753 444 E-mail: s.huber@verw.hs-wismar.de	Engineering	Student exchange Teacher exchange
Budapest Business School Faculty of International management Business (CMBS) HU BUPAPES20	Mr. György Hasko 1165 Budapest, Dioso Lajos u. 22-24 Hungary tel. +361 467-78 11, +36 1 467-78 00 fax +36 1 407 15 56 E-mail: haskogy@kkf.hu	Business&Management Studies	Student exchange Teacher exchange
Budapest Polytechnic Kando Kalman Faculty of E Engineering (HU BUDAPES 16) Institute of Computer Engineering	Mrs. Maria Dudas H-1084 Budapest Tavaszmező u. 15-17 tel. +36 1210 2651 fax +36 1303 9425 E-mail: dudas@nfs.jozsef.kando.hu	Engineering/Electronic Engineering	Student exchange Teacher exchange
Tallinna Tehnikaülikool (EE Tallinn04) Tallinn Technical University	Maret Hein Ehitajate tee 5, Tallinn EE0026, Estonia tel. +372 62 03 502 fax +372 6202 020 E-mail: maret@edu.ttu.ee	Engineering/Electronic Engineering	Student exchange Teacher exchange
Fachhochschule Augsburg (D Augsburg02)	Ingrid Hahn-Eisenhardt Auslandsamt, Baumgartnerstrasse 16, Raum B 216a, D-86161 Augsburg tel. +49 821-55 86 205 fax +49 821-55 86 207	Engineering, technology	Student exchange Teacher exchange
North Down and Ards Institute (UK Bangor03)	John Ashe Castle Park Road, Bangor, Co Down, N Ireland BT20 4TF tel. +44 2891 276 721 fax +44 2891 276 601 E-mail: johnashe@ndai.ac.uk	Business&Management Business Studies with technology Social Work Art & Design Engineering	Student exchange Teacher exchange
Vytautas Magnus University	Jurate Stanaityte S. Daukanto st 28, LT-3000 Kaunas, Lithuania	Business Studies Business Studies	Student exchange Teacher exchange
Fachhochschul Studiengänge Steyr	Michael Mutschlechner-Dien Wehrgrabengasse 1-3, Steyr, A-4400 Austria	Business studies and Management Sciences	Student exchange

INSTITUTION	CONTACT PERSON	AREA	NATURE OF COOPERATION
Fachhochschul-Studiegänge Wiener Neustadt (A Wiener01)	Sabine Pata Johannes Gutenbergstrasse3, A-2700 Wiener Neustadt, Austria	Business&Management Studies	Student exchange
Wiener Neustädter Bildungs- und Forschungs Ges.M.B.H	tel. +43/2622/89 0 84 0 fax +43/2622/89 0 84 99 E-mail: pata@fhwn.ac.at		
Ingeniörhögskolen Köbenhavns Teknikum (DK Köbena14)	Prof. Ib Gustafsson Lautrupvang 15, DK-2750 Ballerup	Engineering, Technology	Student exchange
	tel. +45 44 80 52 32 fax +45 44 80 52 10 E-mail: ig@cph.ih.dk		
TECHNICUM WIEN (A Wien20)	Martin Kimmel A-1200 Wien, Wexstrasse 19-23 (TGM)	Electronic Engineering	Student exchange
	tel. +43 1 333 40 77/216 fax +43 1 333 40 77/269 E-mail: martin.kimmel@technikum-wien.at		Teacher exchange
Hogeschool van Utrecht Faculteit Natuur en Techniek NL Utrecht 24	dr.ir. P.J.M. Scholten P.O Box 182-3500 AD-Utrecht The Netherlands	Business Studies and Management Science	Student exchange
	fax +31 30 238 88 89 E-mail: p.scholten@staf.fnt.hvu.nl		
Piteå Musikhögskola S Luleå01	Lars Hallberg SE 97 187 Luleå	Media, musik production	Student exchange
	tel +46 911 72627 fax +46 911 72610 E-mail: lars.hallberg@mh.luth.se		Teacher exchange
IESN Haute Ecole d'Enseignement Supérieur de Namur (B Namur10)	Carine Vervaeeren Rue Joseph Calozet 19-B-5000 Namur Belgium	Business&Management Studies Engineering	Student exchange Teacher exchange
	tel. +32 81 72 36 43 fax +32 81 72 36 49 E-mail: c.vervaeeren@iesn.be		
Luleå tekniska universitet (SLULEA01)	Karl Axelsson-Grafström International Office, SE-971 87 Luleå Sweden	Business&Management Studies Electronic Engineering	Student exchange Teacher exchange
	tel. +46 920 91611 fax. +46 920 913 99 E-mail: International.Office@adm.luth.se		
Bodo Graduate School of Business (N Bodo 04)	Grete Knudsen Bodo Graduate School of Business, N-8002 BODO	Business&Management Studies	Student exchange Teacher exchange
Høgskolen i Bodo	tel. +47 755 17 677 fax +47 755 17268 E-mail: Grete.Knudsen@hibo.no		
Kingston University (UK Kingston)	Ms Jacqui Moorhouse International Relations Office River House, 53-57 High Street, Kingston Upon Thames, Surrey KT1 1LQ, UK	Related to nursing	Teacher exchange
	tel. +44 20 8547 7763 fax +44 20 8547 8132 E-mail: j.moorhouse@kingston.ac.uk		

USEFUL CONTACT INFORMATION

About accommodation

Kemin opiskelija-asuntosäätiö
(The Kemi Student Dormitory Foundation)
Keskuspuistokatu 6-8
FIN-94100 Kemi Finland
Tel. + 358 16 226 0332

Tornion oppilasasuntola Oy
(The Tornio Student Apartment Administration)
Kirkkokatu 1B
FIN-95400 Tornio Finland
Tel. + 358 16 430 985

Tornion vuokra-asunnot Oy
(The Tornio Rental Apartment Administration)
Kauppakatu 10
FIN-95400 Tornio Finland
Tel. + 358 16 432 227

Kemin kaupungin vuokra-asunnot
(Rental apartments of the city of Kemi)
Valtakatu 26
FIN-94100 Kemi Finland
Tel. + 358 16 259 298

About health care

Health station "Terveyspysäkki"
The Unit of Health Care and Nursing
Meripuistokatu 26
FIN-94100 Kemi Finland
Tel. + 358 16 258 422

Kemin terveyskeskus
(Health-care centre in Kemi)
Kauppakatu 22
FIN-94100 Kemi Finland
Tel. + 358 16 259 700

Emergency medical service in the central hospital in Kemi
Kauppakatu 25
FIN-94100 Kemi Finland
Tel. + 358 16 243 271

Tornion terveystakeskus
(Health-care centre in Tornio)
Sairaalakatu 1
FIN-95400 Tornio Finland
Tel. + 358 16 432 814

General emergency number 112

About taxi services

Taxi services in Kemi and Tornio
Tel. 100410

About living and studying in Finland

CIMO
Centre for International Mobility
P.O. Box 343 (Hakaniemenkatu 2)
FIN-00531 Helsinki Finland
Tel. + 358 9 7747 7033
Fax + 358 9 7747 7064
E-mail: cimoinfo@cimo.fi
www.cimo.fi

Useful WWW-pages

www.tokem.fi
www.tornio.fi
www.kemi.fi
www.haparanda.se
www.rovaniemi.fi
www.lapland.fi
www.bothnianarc.net
www.laplandfinland.com