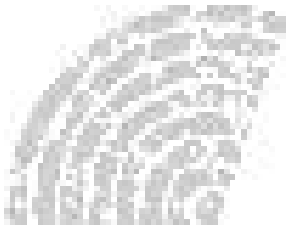
STUDY GUIDE
1998 - 1999



KEMI-TORNIO POLYTECHNIC

KEMI 1998

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SALUTE OF THE RECTOR

My warmest congratulations, you have been granted a studying place in Kemi-Tornio Polytechnic. There will be plenty work and challenges for you. I can, however, assure you that it is worth while to struggle for your future and professional skills. The world needs people who have versatile professional skills, this is true now and in the future. Be welcomed to our team!

Kemi-Tornio Polytechnic has succeeded well in the competition. Our operation started permanently a year ago and the first expansion into the field of culture takes place this autumn. Our traditional four faculties are: technology, business and management, social work and health care. There will be now the fifth faculty that provides education in art and media. The supply of our polytechnic will increase and become more versatile. Our students who will be engineers, BBA´s, nurses, public sector nurses, physiotherapists and professionals in the area of social work will benefit from the new breath of air from the world of creativity. The possibilities of taking courses from other faculties will expand substantially due to the expansion.

Special emphasis has been given to the quality aspects of education and operation. The students are comprehended as internal clients who will be served with high quality. In practise this means the use of multiform educational methods and regular collection of feedback from the students. The Quality Handbook of Kemi-Tornio Polytechnic has been approved and put into use last spring. The work of improving quality is a continuous process. The next step will be the internal assessment conducted by the faculties. We also participate in the external assessment carried out by the Ministry of Education.

Activities of the Student Union (Ketoakku) are valuable and deserve full support from the directors of Kemi-Tornio Polytechnic. Its own office and full-time secretary general make it possible to expand activities both in ideological and business fronts. It has been often found out that especially new students know only their own faculties. The other faculties and the whole polytechnic become more familiar when a student participates in the mutual activities organised by the Student Union. This is a good way of expanding the circle of friends and the end result is that you enjoy more your stay in the Kemi-Tornio area.

Take a vigorous and active grip to your studies because you have received a good opportunity to build your future. I promise that we will help you and work hard for your benefit.

Yours

Hannu Törmä
Ph.D. (econ.), docent
rector

1. INTRODUCTION

The Finnish education system consists of comprehensive school, post-compulsory general and vocational education, higher education and adult education. Comprehensive school provides a nine-year educational programme for all school-age children, beginning at the age of seven. Post-compulsory education is given by upper secondary schools (three years, ending in the matriculation examination) and vocational institutions (three years, leading to basic vocational qualifications).

Higher education is provided by 20 universities and 33 polytechnics (ammattikorkeakoulu, AMK).

Polytechnic education emphasises close contacts with business, industry and services, especially at the regional level. The degrees are designed to meet the changing occupational emphasis, and qualifying graduates for various expert duties. Polytechnics take some R&D with a distinctly applied and practical emphasis. Currently there are around 75.000 students registered at polytechnics in Finland.

The degree programmes in Kemi-Tornio Polytechnic concentate on a given area of professional expertise. They may be divided into specialisation lines.

The extent of a degree is measured in credits. The term ”credit” refers to approximately 40 hours of work. The study load for an academic year is 40 credits. The extent of the degree programmes is either 140 or 160 credits. They consist of basic studies, professonal studies, optional studies, practise, and a degree work. Students learn essential features, main areas, focuses, functions and applicatios in their field of expertise. The programmes also include communication and language studies and a compulsory on-the-job training period.

In all the programmes of this guidebook the language of instruction is English or English and Swedish.

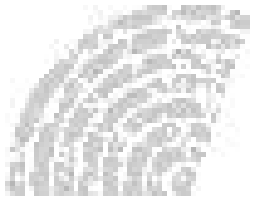
Kemi-Tornio Polytechnic offers also two international non-degree programmes for Finnish and foreign students, Gateway Education (18 credits) and Euro Arctic Tourism Education (20 credits).

Visiting students

Exchange students can come to Finland through EU programmes, such as Socrates/Erasmus and Leonardo da Vinci. Students from the other Nordic countries can take advantage of the Nordplus scheme. Kemi-Tornio Polytechnic has bilateral agreements with colleges, polytechnics and universities abroad which also cover exchange programmes. Students can also be accepted from outside the above schemes.

As a general rule, international applicants for a degree programme in Finland must first meet the minimum requirements of their own country for entry into higher education. Further information about application and entrance requirements is best obtained under the programmes listed in this guidebook.

Since higher education is funded by the State through the Ministry of Education, students enrolled in regular programmes pay no tuition fees. Student union membership is optional. Students have to pay for their books and other materials, plus their accommodation and living expenses.



2. KEMI-TORNIO POLYTECHNIC

Kemi-Tornio Polytechnic is situated in Finnish Lapland, near the Swedish border. The Polytechnic is made up of five units which specialise in different areas of education. These units are located in the neighboring towns of Kemi and Tornio, which have traditionally been industrial towns: paper and wood industries, steel industries, hi-tech enterprises, clothing industries, as well as the famous brewery Lapin Kulta. Kemi-Tornio's strength lies in its location in Northern Finland: the Polytechnic is a gateway between the Barents Region in Northern Russia and the rest of Europe.

EXOTIC WINTER AND SUMMER ACTIVITIES

Kemi has become known all around the world since 1996 by building the World's Largest Snowcastle. Other winter activities offered by the area include tours on an icebreaker, snowboarding and cross-country skiing. The Kemi-Tornio areas, being situated on the Gulf of Bothnia, offer a wide range of maritime sports during the summer months. In addition, Tornio has midnight sun golf, rapid shooting and salmon fishing.

FACTS ABOUT THE POLYTECHNIC

- Started in 1992
- Five areas of study:

  Business and Administration
  Engineering and Technology
  Health Care and Nursing
  Social Care
  Visual and Media Arts

- Degrees

  Bachelor of Business Administration
  Bachelor of Engineering
  Bachelor of Nursing
  Bachelor of Visual and Media Arts

SERVICES

All of the units are located near the services in the middle of the city centres of Kemi and Tornio. Internet, e-mail, an on-line library and modern work stations are freely available to students in each unit. The student union, called KETOAKKU, organises events and parties for students.

ENGINEERING AND TECHNOLOGY

The Unit of Technical Education in Kemi prepares technological experts for both domestic and international assignments in the field of Mechanical Engineering, Electrical Power Engineering, Automation, Product development and Information Technology. The school is situated in the Technology Village 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.

BUSINESS AND ADMINISTRATION

The Unit of Business and Data Processing in Tornio and the Unit of Management and Commerce in Kemi give expertise in data-processing, internet, marketing, finance, logistics or tourism. The students also learn how to establish a company. 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.

HEALTH CARE AND NURSING

The Unit of Health Care and Nursing in Kemi offers studies which enable students to work in hospitals or health centers, as well as in an international environment. In the future there will be more jobs available in the area of health care in the private sector, or as an entrepreneur, and the studies prepare the students for these possibilities. The instruction is given in three languages: Finnish, Swedish and English. A health station run by the unit prepares students for the realities of the nursing and service field.

VISUAL AND MEDIA ARTS

The Visual and Media Arts Unit in Tornio offers degrees in visual arts and communication, each taking about 4 years. The studies aim to educate technically and artistically qualified, multi-talented ethically and internationally competent professionals. The education requires a capability for creative and long-term work. The instruction is work-

oriented and “classless.” Soundwork, the basics of visual work, data processing, content production of manuscripts, commercials and the latest media technology are emphasised.

SOCIAL CARE

The Social Care Unit in Kemi offers studies which combine thinking, emotion and action. The object of the unit is to produce experts for various jobs within the social sector, such as: work with the elderly, handicapped, children, teenagers, etc. The atmosphere within this community of about 200 students is cozy and personal, but still efficient. The individual degree programs produce professionals in about 3,5 years.

3. INTERNATIONAL CO-OPERATION

The International Department of the Polytechnic participates in and co-ordinates several national and international projects. An important part of them is research and development projects related to the information society largely funded by the EU. The projects also benefit the teaching by offering both further education possibilities for teachers, and traineeships or themes for the diploma works for students. The department develops the business and working life in the region.

The department is situated in Tornio. The address is Hallituskatu 16 A (2 nd floor), 95400 Tornio.

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STUDENT EXCHANGE

The Polytechnic co-operates with institutions of higher learning in Europe, Russia, the United States, China and Nepal. Several international exchange programmes (Socrates, Leonardo da Vinci and Nordplus) help students and staff to find places abroad, as well as assist foreign students in coming to Kemi-Tornio Polytechnic. International officer Aira Rajamäki coordinates these education programmes and gives detailed information and advice both to Finnish and visiting students.

Contact:

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Subject based further information is also given by International Contact Persons in every unit of the polytechnic.

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http://www.tokem.fi

4. LIBRARY AND INFORMATION SERVICES

Each of the departments of the Polytechnic has their own library and in the director´s office there is a learning centre.

One can make reference search from the library's own online database, utilize on-line and CD-ROM-databases and Internet resources. Polytechnic´s own collection, the Kullero-database is shared between the five departments of the Polytechnic, Kemi´s and Tornio´s public library and the College of West-Lapland.

When students first arrive at the Polytechnic they are shown how to use the libraries and search for information. Additional help and information is also given at important times such as the start of the student´s individual dissertation. However, help can be obtained at any time, as the library staff are always available to assist students.

Contact Information

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Kirkkokatu 10, FIN-95400 TORNIO
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The Unit of Technical Education
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Internet http://www.tokem.fi

5. HARDWARE/SOFTWARE, TELECOMMUNICATION, TELESERVICES

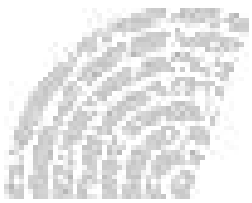
The Kemi-Tornio Polytechnic has about 650 PC's, Unix /NT-servers and NT-workstations. All PC:s have full internet access. Several portable computers can be connected to the Polytechnic's network and internet with gsm mobile phones. Also possibilities to study and work through ISDN are provided. The Polytechnic has five ISDN-videoconference systems and videoconference bridge. Some members of the staff even use at home ISDN based connections and videoconference system.

Polytechnic has own 2Mb ISDN connection for distant PC's. For the distance students the Polytechnic has 10 PC's with ISDN-cards and some of them have also possibility to desktop videoconference located in municipalities of Western Lapland. In the Polytechnic's new internal network ISDN can be used in several places.

The Polytechnic also has several UNIX, LINUX and NT servers with WWW-database.
(Internet, Intranet)

Local libraries (Cities, schools) are available in Polytechnic's
Web based library system. Polytechnic has nearly 100 Cd-rom databases, which can be used via network.

We are using the new ATM-based network technology between our units, 32 Mbits/100 Mbits/155 Mbits . We have ATM-based internet-connection to Funet (Internet of universities and polytechnics).



6. DEGREE PROGRAMMES

6.1 CROSS BORDER ENGINEERING

Bachelor of Engineering

The Unit of Technical Education in Kemi prepares technological experts for both domestic and international assignments in the field of Mechanical Engineering, Electrical Power Engineering, Automation, Product development and Information Technology. The school is situated in the Technology Village 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. Number of students in engineering is about 800.

In the Cross Border Engineering Education Programme is given completely in English. The students will specialise in digital electronics and embedded microprocessors design. The modular curriculum consists of e.g. Digital Electronics, Digital Design, Signal Theory, Mathematics , Business & Management, Laboratory exercises, Computing, Science and Physics, Research and Project Work. The entrance qualifications are a leaving certificate from high school, technical vocational school or a college level institution and an accepted entrance examination. The entrance examination consists of psychologial test and English language test. The qualified result should be obtained from both of the tests.

Graduates of the Engineering Degree Programme are qualified to work on international assignments in the field of Electronics Engineering and Informtion Technology.

Methods: Lectures, written exams, laboratory work, projects, reports, seminars
Credits: 160 credits / 240 ECTS credits
Fees: No fees are charged

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Module syllabuses of the CBE-97 Curriculum

Course Title	cu	year

R&D 3

Objective: The course is aimed at helping the students understand the basic principles of research and development in engineering.

Contents: Scientific knowledge and product development, the development process as an investment, systematic product development process

Literature: to be informed later

Assessments: one written exam

Philosophy 2 3

Objective: The course is primarily intended to help students acquire the thinking skills and societal awareness necessary to become excellent engineers and vital contributing members of society.

Contents: The course is focused on the traditional substantive problems in philosophy. Lectures will be given on ancient, medieval, and modern philosophy, logic and theory of argumentation. Special emphasis is placed on the question of ethics and its application.

The ethics component deals with moral concepts and theories; basic concepts and methods in ethics; ethics and professionalism in engineering; codes of ethics, organisational loyalty and professional rights; environmental and professional responsibilities in engineering, public safety, social control of sciences and technology. These issues will be developed through discussions of a variety of topics, case studies, inquiries, and problem-solving exercises.

Literature: Library and web research, textbook: Ethics in Engineering 3rd edition by Mike.W.Martin and Roland Schinzinger, ISBN 0-07-040849-1

Assessments will be based on the student's performance at exams, assignments, and class participation

Information search 1 4

contents will be informed later

Microcontroller applications 2 3

Objective: The objective of the course is to help students deepen their programming skills, especially in hardware-related and real time applications. At the end of the course student will be capable of designing and incorporating hard and software for controller applications.

Contents: developing software using IAR-tools, real time operating systems, input and output programming, real time applications, and controlling machines with the help of a microcontroller. This course also includes exercises and assignments.

Assessments: one written exam and assignments

Controller Programming 2 3

Objective: The course will provide students with the knowledge required in the use of real-time software in hardware control. Applications are programmed using ANSI-C high-level language.

Contents: IAR-environment, basic structure of controller software, implementing the state machine using software. This course also includes exercises in programming the applications.

Assessments: one written exam and assignments

Mathematics 3 5 3

3. Module 3 5 cu
3.1. Course 5: Fourier analysis and probability
Contents: Fourier series, Fourier transform, spectra, elements of probability.
3.2. Course 6: Applied mathematics and Statistics

Contents: Statistics, probability distributions, elements of information and coding theory.

Objectives: The course is designed to teach the student how to apply mathematics in the theory of data communication systems, and use the Fourier analysis for example, in signal processing.

Literature: Text book: Engineering Mathematics. A Modern Foundation for Electronic, Electrical and Systems Engineers by A. Croft - R. Davison - M. Hargreaves, Addison-Wesley 1996 ISBN 0-201-87744-9

Assessments: one written exam

Power Electronics 2 3

Objective: The course is intended to provide the student with the necessary skills in theoretic analysis of the fundamental switching power converters, and the application of MathCad and Pspice in basic power electronics circuits.

Contents: The switching matrix, voltage source, voltage law, current source, current law, existence (control) function, wanted and unwanted components, buck converter, boost converter, buck-boost converter, operation in different quadrants and basic power electronics components and their simulation.

The text book: Switching power converters by Robert E. Wood, Krieger Publishing Company, Inc., ISBN 0-89874-779-1

Assessment: one written exam

Windows Programming 2 3

Contents: Students will examine the structure and function of Windows programs created using C++ and other object oriented library. The course also involves modifying the programmes to meet given specifications.

Prerequisites: c-programming

Literature: online manual of the compiler, materials from the Internet

Windows Programming project 1 3

Contents: Students will create real Windows program using C++
Prerequisites: Windows programming
Literature: online manual of the compiler, materials from the Internet, C++ annotations

Digital Design 2 3

Objective: The course is aimed at deepening the student's knowledge and understanding in the fields of digital electronics and design.

Contents: Altera design-tool, design process, including schematic diagrams, text and wave forms as entries, verification of the design, and use of FPLD-components. The course is closely linked with the digital design project.

Literature: Altera manuals, VHDL Made Easy by David Pellerin and Douglas Taylor, Prentice-Hall Inc. 1997, Digital Systems Design and Prototyping Using Field Programmable Logic by Zoran Salcic and Asim Smailangic, Kluwer Academic Publisher, 1997. Further details on literature will be provided later.

Assessments: one written exam and assessment reports

Digital Design Project 3 3

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

Assessments will be based on student project reports.

Labs in Digital Electronics 3 3

Objective: To deepen the student's knowledge and understanding in the use of measurement equipment and test designs. Experiments vary from year to year.

Assessments will be based on written reports, and the students overall output, including attendance, and individual progress in laboratory work.

Automation Labs 2 3

Objective: The student will get first hand training in the use of computer based control systems. Laboratory work includes introductory exercises in process control, robot control, and modern optical measurement systems.

Assessments will be based on written reports, and the students overall output, including attendance, and individual progress in laboratory work.

Basics in Telecommunication 2 3

Objective: 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 MatCad or Matlab programmes.

Literature: Audio, Video and Data Telecommunications by David Petersen, McGraw-Hill

Assessments: one written exam and assignments

Computer Networks 2 3

Contents: The basics of local area networks, internetwork components and the ISO layers of communications. Analyzing LAN-traffic.

Literature: Unix Network programming by Stevens, chapter 4

Operating Systems 3 3

Contents: Principles of multitasking operating system, process management, memory management, and file management. Training with Linux -shells.

Literature: Unix for Programmers and Users by Graham Glass, chapters 1-4, 8 and 11

Control Theory 3 3

Objective: The course will introduce the student to understanding the basics of classical control theory.

Contents: Examples of control systems, mathematical tools of control theory, modelling of dynamic systems, transient response analysis, control actions and response of control systems, root-locus analysis, frequency response analysis, turning of PID controllers.

Literature: Modern Control Engineering, 3rd Ed. by Katsuhigo Ogata, Prentice-Hall, 1997 ISBN: 0-13-261389-1

Assessments: one written exam and possible assessment reports

Signal Theory 2 3

Objective: The course is intended to provide the student with adequate knowledge in understanding the basic concepts of analogue signal processing, the importance of signal theory in information technology. The course is also aimed at providing the students with the fundamentals for pursuing post graduate studies.

Contents: Elements of signals and systems, responses and transfer functions of an LTI-system, modulation, noise, types of filters, the use of PC in signal theory.

Literature: Text book (to be informed later), library and web research.

Assessments: one written exam

Engineering Report Writing 1 2

Objective: The course instructs the students in report writing in engineering.

Contents: The importance of documentation in engineering, different types of reports, ethical rules in writing scientific and engineering reports, lay-out of reports, use of computers in documentation i.e. combining the results of the different types of documentation programmes, including formulas, equations, tables, and graphs, creating the index and table of contents for a structured engineering document, documenting the sources of reports. The course is closely linked with laboratory experiments in physics. Assignments in this course include supervised report writing.

Assessments: evaluation of reports

CAD-drafting & SA 2 2

Objective: The course provides the student with knowledge on how to utilise the CAD and hypertext in engineering documentation. Topics include basics of structured analysis (SA) in computer software.

Contents: The user interface of a CAD-program, CAD-design vs. CAD-drafting, designing electronic circuit schematics using the CAD, hypertext in engineering documentation, creating web pages, basics of SA and applications of SA in software documentation

Literature: to be informed later

Assessments will be based on web-pages made by students, and other assignments

Sequential Circuits 2 2

Objective: 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.

Contents: Sequential circuit analysis, timing diagrams, state machine models, flip-flops, counters, shift registers, simulation of digital circuits using PSpice, other sequential components: memories, PALs, FPGAs

Literature: Digital Fundamentals, 6th ed. by Floyd, Merrill 1996, ISBN 0-02-338502-2, chapters 8 - 14

Microprocessors 2 2

Objective: This course is designed to teach the students the basics of microprocessors, as well as provide them with the knowledge on how to programme the hardware.

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

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

Digital Simulation Project 2 2

Objective: The course seeks to provide the student with knowledge of how the practical design project of a digital electronics module is carried out from specification to verification with the help of simulation.

Contents: Students work in groups of two. Individual descriptions are given to the groups, from which specifications are to be designed. After approving the specification, the supervisor will ask the respective groups to design the electronic unit and verify the design using simulation.

Literature: Digital Fundamentals, 6th ed. by Floyd, Merrill 1996, ISBN 0-02-338502-2, Component data books

Assessments will be based on student reports.

Mathematics 2 5 2

2. Module 2 5 cu
2.1. Course 3: Calculus 2
Contents: Continuation of calculus, ordinary differential equations, Laplace-transform.
2.2. Course 4: Mathematics of signal processing

Contents: z-transform, difference equations, basic concepts of Fourier series.

Objective: This course is designed to teach the student how to apply mathematical skills in solving advanced problems in electrical and control engineering. This course also provides the student with the basics for graduate studies.

Literature: Text book: Engineering Mathematics. A Modern Foundation for Electronic, Electrical, and Systems Engineers by A. Croft, R. Davison, and M. Hargreaves, Addison-Wesley 1996 ISBN 0-201-87744-9

Assessments: Written exams

Physics 2 3 2

Objective: The course provides the students with advanced knowledge of physics in the area of waves, electric and magnetic fields, induction, geometrical and physical optics. The topics in modern physics will cover areas like relativity, quantum theory, atomic physics, nuclear physics, nuclear energy, and particle physics.

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

Assessments: one written exam

Measurement Technology 2 2

Objective: The course is geared to provide the student with the basic understanding of how the measurement systems work, starting from classical instrumentation to modern computer based data acquisition systems. This includes applications where students get to measure specific physical quantities.

The instruction includes applied measurements as well as theory of measurement technology. Part of the theory is explained by the teacher in the form of demonstrations and part of it is carried out by students in the form measurements experiments.

Literature: Principles of Measurement and Instrumentation by Alan S. Morris, Prentice-Hall

Assessment: one written exam, and assessments based partly on laboratory assignments

German 2 4 2

Objectives: The course aimed at giving the student a deeper insight into the German language and culture. At the end of the course the student should be able to continue their studies in German.

Contents: The student will put his/her knowledge and skills into practice by working with technology and economic related texts in German. The instruction also includes discussions, written exercises and grammar.

Literature: To be informed later.

Assessments will be based on class participation, assignments, and exams.

Working in Multicultural Environments (selective course) 4 2

Objective: The course is designed to provide the student with knowledge of how to succeed in his or her career when working in cross cultural environments.

Contents: Knowing one's self, types of personalities, self management, career planning, making the best of one's working life, business cultures in Europe, cross cultural management.

Literature: To be informed later.

Assessments will be based on a written exam and assignments.

Circuit Analysis 2 2

Objectives: The course will teach the student how to analyse electric circuits under different circumstances; steady state and transient, and use computer in calculating the fundamental properties of suggested networks including time and frequency response,.

Contents: DC: 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, inductors, permeability, induced voltage, RL-transients, storage phase, decay phase, time constant, instantaneous values, equivalent circuits, inductors in series and parallel, energy stored by an inductor.
AC: Frequency response of basic elements, frequency response of series AC-circuits, absolute value and phase angle, frequency response of parallel AC-circuits, absolute value and phase angle, series resonance, resonant frequency, quality factor, selectivity, bandwidth, cutoff frequencies, parallel resonance, unity power factor, maximum impedance, selectivity, quality factor, filters, low-pass, high-pass, band pass, band-stop, and graph plotting.

Literature:Textbook: Introductory Circuit Analysis by Robert L. Boylestad, Macmillan Publishing Company New York, ISBN 0-02-313161-6

Assessments: one written exam

Analogue Electronics 1 2

contents will be informed later

Analogue Simulation Project 1 2

Objective: The students will learn how to designing a transistor amplifier as well as verify the design using PSpice-simulation.

Contents: Students work in groups of two. An individual design task is given to each group, which involves designing the transistor amplifier to meet given specifications. After the design students will check the parameters using the simulation.

Assessments will be based on written reports.

Electronics Lab 2 2

Objective: The contents of analogue and digital electronics courses are tied to the real world in the laboratory. Laboratory work will teach the students how to co-ordinate their theoretical knowledge in using electronic components and measuring equipment. Part of the course will include web and library research for report writing.

Contents: Basic applications of transistors and operational amplifiers, designing and processing a printed circuit board, detecting faults in prototypes, construction of small digital electronics devices using TTL-components.

Assessments will be based on written reports as well as the students overall output including attendance and individual progress in laboratory work.

Physics Lab 2 2

Objective: The course provides the student with advanced knowledge of physics through practical measurement experiments. This includes error estimation and general causes of measurement errors. The student will write reports on selected laboratory experiments.

Assessments will be based on written reports and the students overall output including attendance and individual progress in laboratory work.

Electric safety & First aid 1 2

This First Aid Course which includes CPR is intended to provide the student with the necessary skills in helping the wounded or injured in the event of an accident.

The students are awarded certificates at the end of the first aid course.

Modular Programming 2 2

Objective: The course is geared at providing the student with advanced knowledge of programming in high level language.

Contents: C-programming, creating multiple compilation unit projects, learning the use of structured data types.

Literature: The Art and Science of C, by Roberts, part two and three.

Computer Technology 2 2

Objective: The principal objective of the course is to provide the student with knowledge about the basic operational and structural features of the computer

Contents: Short history of computers, an overview of the computer hardware: processor, RAM, mass memory, monitors, principles of computer communication, peripheral devices.

Literature: to be informed later

Assessments: tne written exam

Basics in Swedish 2 2

Objectives: The course will focus on preparing students for the Finnish civil service exams in Swedish. The language of instruction is Finnish.

Contents: Grammar exercises, technology and business related texts, discussions, presentations

Literature: to be informed later

Assessments will be based on class participation, oral presentations, assignments, and exams.

Electrical Installations 2 2

contents will be informed later

3 1

Communication skills

Objective: The course will introduce students to the basic practical communication exercises in oral and written English.

Contents: The course is a combination of lectures, discussions, and written exercises. The main areas of instruction will include formal and informal meetings, presentations, negotiating and socialising skills, report writing, summaries, job applications, business letters, texts on technology, and corporate communication skills.

Literature: to be informed later

Assessments will be based on class participation, assignments, and exams.

German 3 1

Objectives: This course is designed to introduce the students to the structure and vocabulary of the German language and have them work with technology related texts in German

Contents: Basic grammar and structure of the language, texts on technology and corporate communication, discussions, exercises, and assignments.

Literature: Deutsch ist da! 1 by Pauli Kudel and Marketta Tikkanen, OTAVA

Assessments will be based on class participation, assignments, and exams.

Basic Analogue Electronics 3 1

contents will be informed later

Basic Digital Electronics 3 1

Objective: Students will study the basics of combinatorial logic, Boolean algebra, digital electronics and prepare themselves for subsequent courses in digital electronics and computer sciences.

Contents: Digital signals, analogue signals, binary, octal, and hexadecimal number systems, use of binary numbers in arithmetical calculations, Boolean algebra, creating and minimising combinatorial logic expressions, implementing combinatorial logic using gates, basic combinatorial logic applications: encoders, decoders, adders, and introduction to PAL-circuits

Literature: Textbook: Digital Fundamentals, 6th ed. by Floyd, Prentice-Hall 1997, ISBN 0-13-573479-9, chapters 1-7

Mathematics 1 5 1

Objective: This module is aimed at enabling the student solve mathematical problems encountered in other disciplines, as well as incorporate the use of computers and mathematical theories in resolving problems.

Students will be divided into two groups based on their previous knowledge in mathematics. The more advanced group will have lesser number of lectures whereas the less advanced group will have more lectures and tutorials where lots of exercises are done. After the first test the groups are rearranged.

Linear Algebra

Contents: Vector algebra, matrix algebra, linear systems of equations, complex numbers.

Calculus 1 (Math Computer Tools)

Contents: Elementary real functions, differential and integral calculus of one real variable real function, use of computers in understanding mathematical theories and solving problems.

Literature: Textbook: Engineering Mathematics. A Modern Foundation for Electronic, Electrical and Systems Engineers by A. Croft, R. Davison, and M. Hargreaves, Addison-Wesley 1996 ISBN 0-201-87744-9

Assessments: written exams

Physics 1 level gr a/b 3 1

Objective: 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.

Students will be divided into two groups based on their previous knowledge in physics. The more advanced group will have lesser number of lectures, whereas the less advanced group will have more lectures and tutorials where lots of exercises are done. After the first test the groups are rearranged

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

Assessments: written exams

General Economics & Entrepreneurship 3 1

Objective: Students will study the basics of economics, the significance of economics related information in engineering as well as the importance of entrepreneurship in an economy.

Contents: Markets and consumer behaviour, labour market, organisation of production, financial market, international trade, environmental issues, financial calculations, entrepreneurship and entrepreneur, starting a business and running the firm.

The Text book: Economics in a business context by Alan Neal and Colin Haslan, Chapman & Hall, ISBN 0-412-37570-2

Electric Circuits 3 1

Objective: The objective of the course is for the student to understand the importance of electric circuits in electrical engineering. The student will study the basic components and operational principles of DC and AC circuits as well as how to incorporate theoretic methods in electrical circuits. The course also provides the students with the fundamentals for further studies in this field.

Contents: DC: Resistance, current, voltage, Ohm's law, power, energy, efficiency, series circuits, voltage law, voltage divider, potential, voltage drop, parallel circuits, current law, current divider, source conditions, ladder network, potentiometer, source conversions, branch-current analysis, mesh analysis, nodal analysis, YD and DY conversions, superposition theorem, Thevenin's theorem, maximum power transfer theorem, Norton's theorem, and Millman's theorem.

AC: Sinusoidal waveform, frequency, period, angular frequency, phase relations, average value, effective value, resistance, reactance, frequency response, power, power factor, phasors, impedance, series circuits, voltage divider, admittance, susceptance, current divider, equivalent circuits, mesh analysis, nodal analysis, YD and DY conversions, superposition theorem, Thevenin's theorem, maximum power transfer theorem, Norton's theorem, and

Millman's theorem.

Literature: Textbook: Introductory Circuit Analysis by Robert L. Boylestad, Macmillan Publishing Company New York, ISBN 0-02-313161-6

Assessment: one written exam

Electric Circuits Lab 3 1

Objective: At the end of the course students will be able to interprete colour codes, create electric networks, perform basic electrical measurements, work in an electrical environment and in a team.

Contents: DC: Resistors and the colour code, DMM, VOM, Ohm' s law, series resistance, parallel resistance, parallel DC circuits, rheostats and potentiometers, series-parallel DC circuits, superposition theorem (DC), Thevenin' s Theorem and maximum power transfer.

AC: Oscilloscopes, RLC components, frequency response of R, L and C components, frequency response of series RL and RC network, using oscilloscope in phase measurements, series sinusoidal circuits, parallel sinusoidal circuits, series-parallel sinusoidal circuits, Thevenin' s theorem and maximum power transfer.

Electronics: Semiconductor diode, zener-diode, transistor, semiconductor switch, semiconductor rectifier, semiconductor rectifier with capacitive filter, series regulator, basics of digital electronics using TTL-components.

Assessments will be based the students overall output including attendance and individual progress in laboratory work.

Use of PC 2 1

Objective: The main objective of the course is to familiarise the student with how the use of computers can be incorporated into engineering studies. The course includes word processing exercises, spreading sheets, calculations, electronic mailing, and the use of MathCad in other disciplines.

Contents: Students determine the level at which they wish to begin, after which they will study the basic operation of the systems. They will be given an indepth review of the MicroSoft Windows, Word, and Excel programmes. Depending on the progress of the students, the course may also cover other applications such as the internet, virus protection etc. The latter part of the course focuses on the MathCad: Menus and palettes, variables, fonts, range variables, graphs, pictures, text regions, units, solving equations, symbolic calculations, and use of Help.

Literature: program manuals

Assessments will be based upon students reports and a written exam.

C-Programming 3 1

Objective: The course is designed to instruct the student in computer programming using a structured language. The course provides the student with the basics upon which he or she may pursue further studies in computer programming in C-language.

Contents: Basics of ANSI-C-language: programme structure, variables, expressions, program control, functions. The programming is carried out using PC’s and the Borland programming tools: editor, compiler, linker, and debugger. This incorporates the use of flow charts in describing algorithmic solutions, converting the flow charts to programmes, and the use of a symbolic debugger. A selection of exercises.

Literature. Textbook: The Art and Science of C - An Introduction to Computer Science by Eric S. Roberts, Addison Wesley Publishing Company, ISBN 0-201-54322-2

Environmental Technology 3 1

Objective: The student will be taught the fundamentals of major global environmental issues.

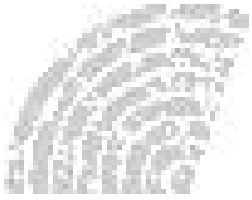
Contents: The student will be introduced to problems causing global atmospheric change, acidic depositions and their effects on the environment, natural disasters, energy issues, and emissions to water and air. In addition to this the student will study ways of reducing these emissions with the help of technology.

Literature: An introduction to global environmental issues by Kevin T. Pickering and Lewis A. Owen.

Assessment: one written exam

Business & Computing Project 1 1

contents will be informed later



CBE-programme module list

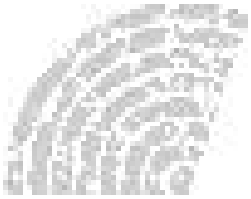
preliminary information

7.5.1998 RMä

Started 1998

rev. 1.2

Year 1 (prop.) 1998-1999	**Year 2 (draft)** 1999-2000	**Year 3** 2000-2001	**Year 4 (not planned)** 2001-2002
Languages and Economics	Documentation & Languages	General Engineering	Production Engineering
English 1 2 cu	Engin.Documentation 2 cu		Electronics Manuf.
Communcation Skills 2 cu	Computing Project 2 cu	Philosophy 2 cu	Test & Meas. autom.
German 1 2 cu	Grundkurs i svenska 2 cu	Optional course 1 2 cu	5 cu
	German 2 2 cu 1*	Optional course 2 2 cu	Electronics Design
General Economics 2 cu	German 3 2 cu 1*	Discrete Time Signals 2 cu	ASIC-design
Ecomics and Project 2 cu	Internat. Marketing 2 cu 1*	Stat. & Coding Theory 2 cu	PLD-design
10 cu	10 cu Work in Multicult. env. 2 cu 1*	10 cu	5 cu
Mathematics and Physics	Mathematics 2 and Circuit Theory	Continuous Time Systems	Special Module on Electronics
Analysis 2 cu	Calculus 2 2 cu		
Calculus 1 2 cu	L and Z-transforms 2 cu	Spectral Analysis 2 cu	
Math Computer Tools 2 cu	Diff. Equations 2 cu	Power Electronics 2 cu	5 cu
	Circuit Analysis 2 cu	Microelectronics 2 cu	Special Module on Product
Physics 1 2 cu	Measurement Techniq. 2 cu	Signal Theory 2 cu	Design
Physics 2 2 cu		Telecomm. Basics 2 cu	
10 cu	10 cu	10 cu	5 cu
Electric and Electronic Circuits	Computing 2	Digital Systems	Business Management
DC-Circuits 2 cu			SME-business planning
AC-Circuits 2 cu	Microprocessors 2 cu	Digital Design 2 cu	Business in Electronics
Basic Digital Electronics 2 cu	Analogue Simulation 2 cu	Design Project 2 cu	5 cu
Sequential Circuits 2 cu	Computer Technology 2 cu	Automation Basics 2 cu	Digital Signal Processing
Simulation of Electronics 2 cu	Object Oriented Progr. 2 cu	Digital Electronics Labs. 2 cu	DSP applications
	Digital Project 2 cu	Automation Labs 2 cu	DSP-processors
10 cu	10 cu	10 cu	5 cu
Computing 1 and Labs	Applied Electronics	Controller Systems	Lab. 4
Use of PC-Applications 2 cu			Special labs
Intoduction to Progr. 2 cu	Electrical Installations 2 cu	Computer Networks 2 cu	Project work
C++-Programming 2 cu	Electric Safety 2 cu	Operating Systems 2 cu	5 cu
Electric Circuits labs 2 cu	Measurement Labs 2 cu	Controller Applications 2 cu	Final Project
Environmental Tech. 2 cu	Analogue Electronics 2 cu	Controller Programming 2 cu	
	Digital Electronics Labs 2 cu	Controller Project 2 cu	
10 cu	10 cu	10 cu	
			10 cu
			Work Practise
	1* select one of the two modules	1* select one of the two modules	10 cu



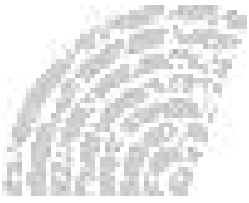
6.2 INTERNATIONAL NURSING PROGRAMME
DEGREE PROGRAMME IN HEALTH CARE AND NURSING
Bachelor of Nursing

The Unit of Health Care and Nursing in Kemi offers studies, which enable students to work in hospitals or health centres, as well as in an international environment. In the future there will be more jobs available in the area of health care in the private sector or as an entrepreneur, and the studies prepare the students for these possibilities. The instruction is given in Swedish and English.

Nurses and public health nurses are educated in this programme. All health-care professionals must have a appropriate qualifications to be registered by the Finnish authorities.

The unit work closely with many external bodies and institutions, throug which students have the opportunity to undertake study and work placements in many Europian countries, Russia, China and the United States.

Methods used by the students and teachers are lectures, seminars, work-shops, laborating, projects, independent work and an internship. The duration of the studies is 3,5 years.



Credit = 40 hours

BASIC STUDIES 40 CREDITS 1ST AND 2ND TERM

INTRODUCTION TO POLYTECHNIC STUDIES		**6**
Orientation Studies	1	
Philosophical Study of Man and Ethics	1	
Information Systems	1	
Computer Science and ADP	2	
Statistics	1	
COMMUNICATION AND INTERACTION		**4,5**
Finnish	1.5	
Swedish	1	
English	1	
Interaction and Group Dynamics	1	
PHYSICAL AND PSYCHOLOGICAL FUNCTIONS		**8**
Anatomy and Physiology	3	
Pathophysiology	0.5	
Physical Exercise	1	
Psychology	2.5	
Science of Education	1	
ENVIRONMENT AND SOCIETY		**5,5**
Economics	0.5	
Sociology	1	
Social Policy	1	
Public Health Science	1	
Environment and Health	0.5	
Art and Culture	1	
Creativity	0.5	
FOUNDATIONS OF PROFFESSIONAL NURSING		**16**
Basic Studies of Nursing	2.5	
Helping Methods in Nursing	4	
Drug Administering Skills	1	
Gerontological Nursing	1	
First Aid	1	
Microbiology, Asepsis, Hospital Hygiene	1.5	
Practice	5	

COMPULSORY VOCATIONAL STUDIES

55 CREDITS 3RD - 6TH term

MEDICAL - SURGICAL NURSING AND PERIOPERATIVE NURSING		**18.5**
THE BASIS OF MEDICAL / SURGICAL AND PERIOPERATIVE NURSING		2
Clinical Laboratory Medicine and Radiology		
Pharmacology		
Crisis Intervention		
Dietetics		
MEDICAL NURSING		7
Nursing Strategies	1	
Internal Medicine	1	
Treatment of Skin Diseases	0.5	
Anatomy and Physiology	0.5	
Medical Practice	4	
SURGICAL AND PERIOPERATIVE NURSING		9.5
Nursing Strategies	1	
Surgery	1	
Perioperative Nursing	1	
Anaesthesiology	0.5	
Surgical Practice	4	
Perioperative Practice	2	
HEALTH PROMOTION		**12.5**
THE BASIS OF HEALTH PROMOTION		2
Health Education	1	
Community Care	0.5	
Social Policy	0.5	
PROMOTION OF THE HEALTH OF CHILDREN AND ADOLESCENTS		3
Health Care of Children and Adolescents	1	
Practice in Child Health Clinincs / Maternity Clinincs, in School and Student Health Care	2	
PROMOTION OF THE HEALTH OF ADULTS		4
Health Care of Adults	1	
Maternity Health Care and Obstetrics	1	
Practice in Occupational Health Care	2	

PROMOTION OF THE HEALTH OF OLDER ADULTS AND DISTRICT NURSING		3.5
Gerontological Care	0.5	
Geriatrics	0.5	
Treatment of Eye Diseases	0.5	
Practice in Home Nursing	2	
PEDIATRIC NURSING		**5**
Nursing Strategies	1	
Pediatrics	0.5	
Treatment of Ear Diseases	0.5	
Practice in the Pediatric Ward	3	
MATERNITY AND GYNAECOLOGICAL NURSING		**4.5**
Nursing Strategies	1	
Gynaecology	0.5	
Practice in the Maternity / Gynaecological Ward	3	
PSYCHIATRIC NURSING		**6**
Nursing Strategies	1	
Psychiatry	0.5	
Clinical Psychology	0.5	
Psychiatric Practice	4	
PRACTICE SUPPORTING ALTERNATIVE ADVANCED STUDIES		**8**

DIPLOMA WORK 10 CREDITS 4TH - 7TH TERM

Nursing Research	1
Mathematics and Statistics	1
Scientific Written Communication	0.5
Research Plan	0.5
Independent Work (guidance available)	4.5
Research Seminar	0.5
Maturity Test	1

ELECTIVES 15 CREDITS 3RD - 7TH TERM

Theoretical Studies	10
Practice	5

ALTERNATIVE ADVANCED STUDIES

20 CREDITS 6TH and 7TH term
(COMPULSORY)

MEDICAL- SURGICAL NURSING **20**

NURSING METHODS		4.5
Holistic Medical-Surgical Nursing	2	
Ethics		0.5
Surgery	1	
Internal Medicine	1	
CRITICALLY ILL PATIENTS		2
Special Features and Helping Methods	1	
Clinical Psychology	0.5	
Anatomy and Physiology	0.5	
NURSING EXPERTISE AND ADMINISTRATION		5
Nursing Administration and Work Management	1.5	
Nursing Expertise	2	
Health Care Economics and Enterpreneurship	0.5	
Counseling and Consultating	1	
NURSING IN AN INTERNATIONAL CONTEXT		2.5
Multicultural Nursing	0.5	
Swedish	1	
English	1	
PRACTICE		6

PERIOPERATIVE NURSING
20

PERIOPERATIVE NURSING		3.5
Nursing Strategies	1.5	
Hospital Hygiene and Asepsis	1	
Surgery	0.5	
Anaesthesiology	0.5	
CRITICALLY ILL PATIENTS		3
Immediate Medical Care	0.5	
Outpatient Treatment	0.5	
Intensive Care	1	
Anatomy and Physiology	0.5	
Clinical Psychology	0.5	

NURSING DEVELOPMENT AND ADMINISTRATION
IN PERIOPERATIVE NURSING 5
Administration and Work Management 1.5
Expertise in Perioperative Nursing 2
Health Care Economics and Enterpreneurship 0.5
Counseling and Consultating 1

NURSING IN AN INTERNATONAL CONTEXT 2.5
Multicultural Nursing 0.5
Swedish 1
English 1

PRACTICE 8

PSYCHIATRIC NURSING

20

HOLISTIC PSYCHIATRIC NURSING ON THE COMMUNITY LEVEL 4.5
Psychodynamic Helping Mehods 2
Psychiatry 2
Ethics 0.5

CLIENT/PATIENT CENTRED HOLISTIC NURSING 2
Psychodynamic Nurse - Patient Relationship 1
Clinical Psychology 0.5
Anatomy and Physiology 0.5

NURSING DEVELOPMENT AND ADMINISTRATION
IN PSYCHIATRIC NURSING 5
Administration and Work Management 1.5
Health Care Economics 0.5
Expertise in Psychiatric Nursing 2
Counseling and Consultating 1

NURSING IN AN INTERNATIONAL CONTEXT 2.5
Multicultural Nursing 0.5
Swedish 1
English 1

PRACTICE 6

PUBLIC HEALTH NURSE STUDIES

20

NINE MONTHS´ JOURNEY 3
Perinatal Nursing 2
Obstetrics 0.5

Anatomy and Physiology	0.5	
CHILDREN AND ADOLESCENTS		3
Pediatric Nursing	1	
Health Care of Children and Adolescents	1.5	
Clinical Psychology	0.5	
ADULTS		2.5
Health Care of Adults	2	
Occupational Diseases	0.5	
District Nursing and Health Care of Older Adults	1	
DEVELOPMENT OF PUBLIC HEALTH CARE		2
Administration and Work Management	1	
Health Care Economics and Enterpreneurship	0.5	
Counseling	0.5	
NURSING IN AN INTERNATIONAL CONTEXT		2.5
Multicultural Nursing	0.5	
Swedish	1	
English	1	
PRACTICE		6

TOTAL 140 CREDITS

6.3 DEGREE PROGRAMME IN EURO ECONOMICS

NORDIC STUDIES IN EURO ECONOMICS

Kemi-Tornio Polytechnic offers a degree programme in EURO ECONOMICS. Its main aim is to provide students with skills required in international business.

Nordic Studies in Euro Economics leads to a Bachelor's degree in Business Administration. The degree will take three and a half years to complete and consists of 140 credit units.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 be a mixture of 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 program as much as possible. Furthermore, the school provides an environment in which students can familiarize 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.

GENERAL AIMS AND OBJECTIVES

On completion of the course, students

- have acquired practical and theoretical skills to work in a business environment at home or abroad
- are able to work independently as well as part of a team
- have developed their communication and crosscultural skills
- have developed competence in information technology and in more than one foreign language

THE OUTLINES OF THE STUDIES

The first stage, consisting of basic studies, will provide students with a fundamental knowledge of the following subjects: Business Administration, Marketing, Presentation skills, Accounting, Information Technology, Economics, Quantitative Methods, Logistics and Law. The use of networks will facilitate to carry out international and social contacts.

The second stage 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 stage the students will be offered an extensive combination of theoretical lectures and professional studies in order to develop personal abilities required in performing a diploma work.

Euro Economics Education

		1st year		2nd year		3rd year		4th year	**Total**
		Autumn	Spring	Autumn	Spring	Autumn	Spring	Autumn	
Business Administration									**8**
281010	Business Administration	2							
281100	Human Resource Management				2				
281101	Internationalization of Companies			2					
281120	Strategic Planning							2	
Marketing									**9**
281012	Marketing	3							
281103	International Marketing				4				
281121	Foreign Trade						2		
Logistics									**5**
281014	Logistics		3						
281104	Logistical Management and Strategies			2					
Financial Accounting									**9**
281016	Financial Accounting	3							
281105	Taxation			2					
281122	International Accounting						2		
281123	Financial Analysis						2		
Management Accounting									**7**
281018	Management Accounting		3						
281106	Activity Based Costing				2				
281107	Financial Planning			2					
Financial Management									**3**
281124	Financial Management and International Finance						3		
Information Technology									
281020	Information Technology	3							**7**
281108	Advanced Use of Spreadsheets			2					
281109	Applications in Business Administration				2				
Research Methods									**7**
281022	Quantitative Methods		3						
281110	Statistics			2					
281125	Qualitative Methods						2		
Law									**9**
281024	Law		3						
281111	International and EC-Law			2					
281112	Private International Law				2				
281126	Law of Obligations						2		
Economics									**6**
281026	Economics	3							
281127	International Economics						3		
English									**10**
281028	Communication in Business	3							
281030	Presentations Skills	2							
281113	Professional Reading, Writing and Speaking			1,5	1,5				
281128	Negotiations							2	
Team and Project Work									
281032	Team and Project Work		2						**2**
German/French			2	2	2		2		**8**
Elective Studies		2,5	2,5	3,5	3,5		4	4	**20**
Work Placement						20			**20**
Dissertation								10	**10**
Total credits		21,5	18,5	21	19	20	22	18	**140**

Outline of Studies

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, Quantitative Methods, Law, Economics, Communication in Busines, Presentation Skills and Team and Project Work.

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 dissertation.

1st year

281010 Business Administration 2 credits

Aims To give students an idea that entrepreneurship is one of the basic factors in production and the foundation of social well being as well as to motivate students to set up businesses of their own.

Objectives To enable students to understand the significance of entrepreneurship.
To explain the motives and obstacles to entrepreneurship.
To analyze the main reasons why businesses fail.
To emphasize the social responsibility of a company.
To find out the importance of the firm´s interest groups.
To enable students to choose the best suitable company form among different alternatives.
To describe the steps the student has to take to start a new business.

Content The concept of an entrepreneur and entrepreneurship, the factors of production, the characteristics of an entrepreneur, the motives for setting up a business, business environment and social responsibility, the input and output of an organization, stakeholders of a company, types of business and merchandise, the forms of business ownership, phases of establishing a business.

Hours Lectures 48 hours, assignments 32 hours.

Assessment Lecture and reading material test 60 %
Assignments 40 %

Indicative Reading

Whitley, Richard: European Business System,1st ed.ISNB 0-8039-8732-3
Yrityksen Tietokirjat Oy, Establishing a Business in Finland, 2nd ed. Colin Barrow, Prentice Hall, The Essence of Small Business 1993, ISNB 0-13-285362-0

281012 Marketing 3 credits

Aim To develop in the student a basic understanding of modern marketing.

Objectives To introduce the basic concepts of marketing.
To explain the importance of modern marketing for a company.
To provide current knowledge in the application of marketing.

Content The concept of marketing: Evolution of marketing concept, marketing in a modern firm.
The marketing environment: External and internal environment
Buying behaviour: The dimensions of buyer behaviour, consumer behaviour, organizational buying behaviour.

Segmentation: Segmenting consumer markets, segmenting organizational markets, target marketing, positioning.
Marketing Mix Decisions: Product; concept, branding, product life cycle concept. Price; objectives, influencing factors, pricing policies and methods, Place; marketing channels, wholesaling, retailing and physical distribution, Promotion; promotional mix, advertising, personal selling, public relations and sales promotion.

Hours Lectures 48 hours, assignments 72 hours.

Assessment One written paper 70 %, assignment 30 %

Indicative reading
Jobber David, Principles and Practice of Marketing. 1995

281014 Logistics 3 credits

Aims To provide students with general knowledge and an overall view of the relevant topics in the field of business logistics.

Objectives To introduce the evolution of the logistics concept
To develop student´s logistical thinking
To become familiar with tools and methods used in business logistics

Contents Framework and scope of business logistics, achieving an integrated supply chain, purchasing process, ethical standards in purchasing.
Managing material flows, inventory control , ABC-analysis and other techniques using inventory for competitive advantage through supply chain management.
Purchase portfolio, vendor management, supply chain management and relationship management, purchasing partnerships.
Transport cost characteristics, transport mode selection; road, rail, sea, combined, air, pipelines.
Transport technology; routes, networks, documents, costs, organisations, laws forwarding.
Electronic data interchange and the supply chain.

Identification of core business and outsourcing strategy.
Creating a competetive advantage through implementing logistics strategies future trends in logistics.

Hours Lectures 48 hours, assignments 72 hours.

Assesment
Lecture and reading material test	70 %
Assignments	30 %

Assignments can be carried out individually or in a team.

281016 Financial Accounting 3 credits

Aims 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.

Objectives To introduce the principles and concepts of financial accounting.
To prepare profit and loss account, a balance sheet and a cashflow statement from accounting records of an entity.
To use EDP in processing accounting information.
To carry out analyses and interpretations of accounting reports useful for decision making.

Content Information system: The financial accounting as an information system. The indentification 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.
Interpertation of financial statements: the use of ratios. Presentation of financial accounting data. Using information technology in accounting.

Hours Lectures 48 hours, assignments 72 hours.

Assessment One written paper 60 %, assignment 40 %

Indicative Reading
Will be submitted at the beginning of the lectures.

281018 Management Accounting 3 credits

Aims To provide an introduction to the theory and practice of managerial accounting primarily in the manufacturing environment with the view to provide 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.

Objectives To show how a management accountant can contribute to the successful running of a business.
To show a clear understanding of elements of costs and their use in decision-making and control.
To describe how costing systems accumulate costs and calculate cost per unit and equivalent units.
To be able to produce statements, prepare analyses and calculate various costs using spreadsheet computer software.

Content Management of costs
Overhead cost management
Accounting for production systems (includes an introduction to activity based costing)

Hours Lectures 48 hours, assignments 72 hours.

Assessment One written paper 40 %, assignment 60 %

Indicative Reading
Will be submitted at the beginning of the lectures.

281020 Information Technology 3 credits

Aims To give students a basic understanding of computing concepts
To introduce students to common business information technology

Objectives To introduce the basic concepts of computing
To distinguish hardware and software
To be able to use operating systems
To introduce students to the use of network services

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 wordprocessing 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.
Library services: To introduce the use of library services.

Hours Lectures 64 hours, assignments 56 hours.

Assessment Continuous assessment 30 %, test in computing skills 70 %.

Support material
Hardware and software manuals. Additional material will be submitted during the sessions.

281022 Quantitative Methods 3 credits

Aim To enable students to acquire the necessary skills to apply mathematical techniques in accounting and business problems

Objectives To provide students with the mathematical tools used in elementary break-even analysis.
To introduce students to the basics of financial mathematics.
To familiarize students with diagrammatic and numeric summaries of data sets.

Content Algebra: Simplification of algebraic expressions; Square and conjugate rules; Polynomial division; Solution of linear and quadratic equations; Simultaneous linear equations; Graphs of linear and qudratic functions; exponential and logrithmic functions; Inequalities; Graphical solution of equations and simultanious linear equations

Financial Mathematics: Supply and demand, cost and revenue, break-even analysis; Arithemetic and geometric series; Applications in simple and compound interest, discounts, present values, annuities, amortisation.

Hours Lectures 60 hours, assignments 60 hours.

Assessment One written paper, 3 hours 70 %, assignment 30 %

281024 Law 3 credits

Aims 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
To provide students with an introduction to the company forms in Europe

Objectives To develop an understanding of the nature of legal thinking and legal principles
To develop the ability to make contracts and to understand the legal effects of contracts
To develop a knowledge of company forms

Content Introduction to legal thinking: the significance of legal order, different kinds of legal systems
Sources of law
Legal terms
Contracts
Nature of business organisations: sole traders, partnerships, companies

Hours Lectures 48 hours, assignments 72 hours.

Assessment Lecture and reading material test 60 %
Assignments 40 %

Indicative reading
Will be submitted during the sessions.

281026 Economics 3 credits

Aim 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.

Objectives To identify the economic aspects of the behaviour of business, households and government.

To examine the determinants of price and non-price decisions in different market environments.

To evaluate the influence of macroeconomics variables on the firm´s performance.

Content Microeconomics Basics:
The subject matter of economics: Scarcity, choice, allocation, efficiency, comparative economic systems.
The market and price mechanism: Elementary analysis of supply and demand, elasticity and substitution, the market and resource allocation.
Resource markets: An overview of resource markets, labour market and wage differentials, capital, land and entrepreneurial ability.

Macroeconomics Basics:
National income accounting: Measures of output and income.
The Business Cycles
Inflation
Economic growth and development: What is economic growth and how are economic growth rates determined, productivity.
An introduction to the foreign exchange market, the balance of payments and international trade: Exchange rate systems and practices; the balance of payments, commercial policy.
An introduction to the macroeconomic policy: Fiscal policy; money and banking, monetary policy.

Hours Lectures 48 hours, assignments 72 hours.

Assessment One written paper, 3 hours 70 %, assignments 30 %

Indicative Reading
Boyes, Melvin: Economics
Rycroft, Robert S: The Essentials of Macroeconomics I and II
Parkin, Michael: Economics

281028 Communication in Business 3 credits

Aims To provide students with in-depth knowledge and skills in business communication practices to operate efficiently in various business contexts.

Objectives To enable the students to convey information both spoken and written in business situations.

To enable the students to learn how to communicate using modern information technology to convey messages.

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 report writing, memos, and agendas and minutes for meetings, business letters and fax and email messages.
Meetings: The language used in formal and informal meetings will be covered, and students will have an opportunity to practice both situations.
The students will have exercises in conducting meetings and have discussions related to companies which will be videotaped.

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

Hours 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.

281030 Presentation Skills 2 credits

Aims 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.

Objectives To learn how to convey a message to the audience.
To learn how to use audio-visual aids.
To become aware of one's own and the audience's body language during a presentation.
To learn to review one's own performance.

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 %.

Hours Lectures 32 hours, assignments 8 hours.

Indicative Reading

Submitted during the sessions.

281032 Team and Project Work 2 credits

Aims To enable the students to be able to work in groups.
To give the students an opportunity to plan and carry out a project.

Objectives To introduce the concepts of project planning.
To enable the students to put into practice the theories of business basics learnt in first semester courses.
To become familiar with the basics of research methods and tools, and report writing and presentation skills.To introduce the students to the concept of self-evaluation during the course of the project.

Content Team Work and Project Planning: The students will be oriented to team work and project planning by way of lectures in the beginning of the course. The lectures will be carried out by teachers who possess the necessary expertise for the areas needed in this project. There will be one teacher who will supervise and guide the class during the project. The supervising teacher will assess the students' work at various stages throughout the project. This assessment will include the students' abilities to meet deadlines set for the various stages in their project as well as how the group works together and how each individual works as a memeber of the group. In addition, the final project will be evaluated by teachers in related courses and possibly participating companies.

Methods and Tools: During the lectures the students will be introduced to various reasearch methods and the necessary tools for research.

Report Writing and Presentation Skills: The students will be introduced during the lectures to the skills needed to write a business report to be able to prepare a written business plan. At the completion of the project the students will be asked to orally present their work using skills aquired during the related course.

Self-evaluation and Supervision: The students will be required to keep a journal of their work which includes their own assessment of their work. The students should learn to be objective in evaluating their own work. The students will discuss about their evaluations in groups and with the supervising teacher. From these sessions the students will learn to improve their work.

Hours Lectures 48 hours, assignments 32 hours.

Assessment Continuous assessment 100 %

Indicative Reading

Will be submitted during the sessions.

2nd year

281100 Human Resource Management 2 credits

Aims To provide students with the knowledge that management, especially leadership abilities, is the force that holds everything in a business enterprise in motion to achieve desired material and immaterial results.

Objectives To familiarize the students with the skills and abilities necessary in management and prepare the students for management positions. To get an outlook of company´s personnel planning, recruitment, personnel maintenance and development.

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 %
Self supervised assignment 30 %

Hours Lectures 24 hours, asignments 56 hours.

Indicative Reading
Human Resource Management, Graham H.T., Bennet R., 7th ed. ISNB 0 7121 0844 0, Business Leadership, Viv Shackleton , 1995, ISNB 0-415-12678-9.

Support Material
Business, Pride et al., p. 136 - 196, ISNB 0- 395- 63340-0, Management, Bovée C. L., Thill J.V. et al., Mc. Graw-Hill,1993.

281101 Internationalization of Companies 2 credits

Aims To provide students with knowledge of different ways of going global.

Objectives To enable students to analyze a firm´s prerequisites for going international.
To introduce students to alternative forms of international business transactions.
To make students familiar with different sources of information.

Contents Reasons for going international
Roadblocks to going international
International business transactions
Sources of information
Foreign trade organizations

Assessment Examination 60 %, assignments 40 %

Hours Lectures 32 hours, assignments 48 hours

Indicative Reading

Koslow, Business Abroad, Gulf Publishing Company 1996
Luostarinen-Welch, International Business Operations, Kyriiri Oy 1993

281103 International Marketing 4 credits

Aim To develop in the student an understanding of international marketing.

Objectives To introduce the choosing process of target market, export planning and application of the marketing mix on the international market.
To explain the importance of the product as a part of international marketing mix.
To provide knowledge and skills to carry out trade fairs or exhibition.

Content Choosing the target market: International environment, choosing process.
Export plan: Content.
International marketing mix: Product, price, place and promotion.
Product decisions.
Trade fairs and exhibitions: Implementation of trade fairs or exhibition.

Hours Lectures and exercises 70 hours, assignments 90 hours.

Assesment One written paper 40 %, assignments 60 %.

Indicative reading

Jobber David, Principles and Practice of Marketing
Terpstra - Sarahty, International Marketing

281104 Logistical Management and Strategies 2 credits

Aim To give students an in-depth knowledge of the Integrated Supply Chain Process.

Objectives To describe ways to apply logistics principles to achieve competitive advantage.
To provide a conceptual approach for integrating logistics as a core competency in enterprise strategy.

Contents Vendor management and purchasing strategies. Inventory management. Transportation management. Logistics reengineering. Logistics environmental assessment. Alternative logistics strategies. Time based logistics. Warehouse management and warehousing strategies. Logistics administration. Logistical organizational development. Beyond structure: virtuality and transparency. Global logistics. Future logistics challenges.

Indicative reading

Bowersox Donald J., Closs David J.: Logistical Management, The Integrated Supply Chain Process, 1996. ISBN: 0-07-114070-0.

Hours Lectures and case discussions 48 hours, assignments 32 hours

Assessment Case reports and presentations, class participation, assignments 70 %, written exam 30 %.

281105 Taxation **2 credits**

Aim
To provide the student with an understanding of the Finnish taxation system and to give a view of taxation principles in another EU-country.

Objectives
To give a view of tax rates in Europe and explain the focus of taxation in each country.
To introduce to the principles of personal income and property taxation in Finland.
To clarify the financial statements as the source of information for corporate taxation.
To provide the relevant information concerning taxation of sole traders, partnerships and limited companies.
To introduce to the principles of V.A.T.

Content
Taxation: General introduction to taxation in Finland and in EU. Tax rates of income, property and consumption.
Taxation of the Individual: Taxation of earned income. Sources of income including benefits in kind. Personal allowances and reliefs. Taxation of income from capital.
Corporate taxation: Financial statements as the source of taxable income and property. Principles of taxation of partnerships and limited companies. Earned income and capital income. Taxes of different income.
Value added taxation: Principles and practices, V.A.T. in bookkeeping

Hours
Lectures 30 hours, assignments 50 hours

Assessment

Lecture and reading material examination	60 %
Assignments	40 %

Reading Material
Will be submitted at the beginning of lessons.

281106 Activity Based Costing (ABC) **2 credits**

Aim
To give students the ability to use activity-based costing as a costing-method and as a tool in quality management.

Objectives
To learn how to design an ABC-model
To understand how the results of ABC can be used in cost management
To familiarize students with the use of ABC-applications
To understand the possibilities that ABC offers to quality management

Content
Activity-based costing: origins, mechanics, discussion on results, activity-based product costs, cost management

ABC-applications: EasyABCQuick, CostControl

Quality management: the basic principles of quality assurance and control, quality costs and their roles in quality improvement

Hours Lectures 40 hours, assignments 40 hours

Assessment Coursework (in and out of class) 30 %; Written examination 40 %; Assignment 30 %

281107 Financial Planning 2 credits

Aim To provide students with skills in the budgeting process and the process of budgetary control.

Objectives To understand how budgets are formulated and how budgetary control helps to run business
To draw up budget statements
To understand the differences between fxed and flexible budgets
To understand how cost behaviour affects the use of budgets
To understand the advantages and problems of budgetary control systems.

Content The purposes of budgets
Stages in the planning process
Functional and master budgets
Flexible budgets and standard costs
Computerized budgeting
Budgetary control

Hours Lectures 40 hours, assignments 40 hours

Assessment Lecture and reading material examination 50 %
Assignments 50 %

Reading material
Bendrey-Hussey-West, Accounting and Finance in Business, DP Publications, 1996
Drury, Management Accounting for Business Decisions, International Thomson Business Press, 1997
Lucey, Costing, Ashford Colour Press, 1996

281108 Advanced Use of Spreadsheets 2 credits

Aim To give students the ability to use spreadsheets effectively

Objectives To provide students with good knowledge in using spreadsheets in financial and economical tasks
To familiarize students with the use of spreadsheet tools
To introduce students to the use of macros in spreadsheets

Content Built in functions in spreadsheets
Statistical tools
Pivot table
The use of solver application
Creating macros and programming with macro language

Hours Lessons 40 hours, assignments 40 hours.

Assessment Continuous assessment, test and assignment

Support material
Indicative reading will be submitted at the beginning of the lessons.

281109 Applications in Business Administration 2 credits

Aim To give students ability to use most common applications

Objectives To familiarize students with the use of presentation programs
To familiarize students with the use of database programs
To give students basic skills to use integrated applications

Content Presentation programs and computer graphics
Creating and using databases
The use of integrated applications in office work

Hours Lectures 40 hours, assignments 40 hours.

Assessment Continous assessment, test and assignment

Reading material
Will be submitted at the beginning of the lessons.

281110 Statistics 2 credits

Aim To enable students to aquire the necessary skills to apply statistical techniques in accounting and business problems

Objectives To provide students with diagrammatic and numeric summaries of data sets
To provide students with a probability basis for statistical techniques used in sampling, testing hypotheses and constructing confidence intervals
To introduce to the elementary analysis of bivariate data through simple regression analysis and time series analysis.

Content 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; Construct of interview sheet; Statistical research project, writing a report

Hours Lectures 40 hours, assignments 40 hours.

Assessment One written paper, 3 hours 70 %, assignment 30 %

281111 International and European Community law 2 credits

Aims To consider the evolution and development of the European Community and the main branches of European Community law.

Objectives To define the leading principles of international law.
To define the main principles 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 Institututions: 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.

Hours Lectures 40 hours, assignments 40 hours.

Assessment Lectures and reading material examination 60 %
Assignments 40 %

Mandatory reading
Kent, Law of the European Union. Pitman Publishing 1996.

281112 Private International Law 2 credits

Aim To give understanding of international contract law, of compensation for damages and of dissolving legal disputes.

Objectives To be able to make contracts.
To be able to understand terms of agreement.
To develop an understanding of the way damages are compensated.
To provide knowledge of dissolving legal disputes arising in contractual issues.

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

Hours 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 lessons

281113 Professional Reading, Writing and Discussion Skills 2 credits

Aims To provide students with more specific oral and written communication skills.

Objectives To give students an opportunity to read more challenging business texts, and to give students the skills they need to read with comprehension.
To give students an opportunity to report on business texts.
To give students an opportunity to discuss business oriented texts.
To introduce the students to the language used in scientific writing.

Contents 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 base 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 - active participation during the sessions; out of class - satisfactory completion of home assignments)25 %; Reports 25 %; Scientific Writing Assignment 50 %.

Reading Material

To be given during the lessons.

3rd year

281120 Strategic Planning 2 credits

Aim The students will learn the importance of planning in enterprises in order to deal with global and regional turbulence. They also learn the meaning of vision and long-term planning when you want to be successful in business.

Objectives To understand that the only permanent thing in business is continuous change
The students will know how to manage an enterprise in the long term and make the enterprise succesful with the right strategy planning.

Content What is vision and strategy planning
Operational management and strategic management
The basic premises of strategic management
Strategic behaviour in a turbulent situation
Decision making in a risky situation

Assessment Lectures and reading material examination 50 %
Assignments 50 %

Hours Lectures 32 hours, assignments 48 hours.

Indicative reading
Will be submitted at the beginning of the lectures.

281121 Foreign Trade 2 credits

Aim To develop in the student a basic understanding of foreign trade procedures in a company.

Objectives To introduce different stages of the foreign trade procedure.
To introduce how to make a trade contract.
To provide knowledge of international delivery terms, documents and customs procedure.

Content Stages of export and import procedure.
Trade contract: Content and responsibitilies.
International delivery terms: Incoterms as a part of a trade contract.
Documents: Invoices, certificates of origin, ATA-carnet and transport documents.
Customs procedure: Using a customs declaration in different situations.

Hours Lectures and exercises 32 hours, assignments 48 hours.

Assesment One written paper 50 %, assignment 50 %.

Indicative reading
Will be submitted at the beginning of lectures.

281122 International Accounting 2 credits

Aims To introduce students to the problems of international accounting and reporting.

Objectives 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.
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%.

Hours Lectures 30 hours, assignments 50 hours.

Reading material

Christopher Nobes and Robert Parker, Comparative international accounting, Prentice Hall, New York 1995
Research papers, articles (to be given by the lecturer)

Support material

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

281123 Financial Analysis 2 credits

Aim To learn the interpretation of financial statements and how accounting data are used for analytical purposes.

Objectives To understand the purposes of financial accounting analysis, to identify the purposes of ratios, to calculate the main performance ratios, to calculate the main liquidity ratios, to interpret the meaning of these ratios and to recognize their limitations.

Content Financial accounting analysis
Profitability, funds management, liquidity and solvency
Inter-firm comparison
Gearing ratios
Investment ratios
Performance measurement.

Assessment Coursework 50 %, examination 50 %.

Hours Lectures 32 hours, assignments 48 hours.

Indicative reading

Kinserdal, Financial Accounting - An International Perspective, Pitman Publishing 1995
Bendrey-Hussey-West, Accounting and Finance in Business, DP Publications, 1996

281124 Financial Management and International Finance 3 credits

Aims 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.

Objectives To know the external and internal sources of finance.
To understand the process by which financial information concerning business is communicated to interest parties.
To understand the role of data to aid management in performing the essential management functions of planning, decision making and control.

Content Sources of finance and financial institutions
Cost of capital and capital structure
Capital budgeting
Risk and capital asset pricing model
Financial ratios
Stock market investments
The structures of financing from EU point of view.

Assessment Two assignments á 25 %, examination 50 %.

Hours Lectures 56 hours, assignments 64 hours

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.

281125 Qualitative Methods 2 credits

Aims To familiarize students with qualitative research methods.
To provide students with skills necessary to perform case studies.

Objectives To help students to find a variety of ways to adapt qualitative research and analysing methods in their own research papers.

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 emphasized. Preliminary assignment and concise exercises to be submitted.. The students will be introduced to writing a coursework, the purpose of which is to deepen an understanding of one concrete method of analysing.

Assessment Reading material examination 50 %, lecture attendance and assignments 50 %.

Hours Lectures and workshops 30 hours, literature and coursework 50 hours.

Indicative Reading

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

Support Material

Mathew B. Miles, A. Michael Huberman: Quantitative Data Analysis
Robert E. Stake: The Art of Case Study Research. Sage 1995

281126 Law of Obligations 2 credits

Aim To give an introduction to the law of ogligations.

Objectives To enable students to understand leading principles of obligations of debtor to creditor.
To provide an introduction to different types of debt restructuring and bankruptcy.

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 restructing: grounds for arrangement of debts, proceedings, different ways of arranging debts

Hours 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

281127 International Economics 3 credits

Aim To give the student an understanding of living in a global economy.

Objectives The student should be able to
- understand the importance of world trade
- appreciate the forces that contribute to economic intergration
- analyse the International Monetary System
- appreciate the competition between global trading blocks
- analyse changes in the world economy and their impact

Content Theories of trade, commercial policy, exchange rate systems and practices, the transitional economies.

Hours Lectures 40 hours, seminars 8 hours and assignments 72 hours.

Assessment Lectures and reading material examination 50 %
Oral presentation and written report 50 %

Indicative Reading

Will be submitted at the beginning of lessons.

281128 Negotiations 2 credits

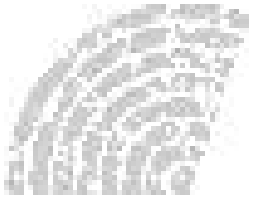
Aim To give students the opportunity to learn and practice negotiation skills.

Objectives To introduce students to the process of negotiating and the necessary strategies and techniques used in negotiating.
To go through the different intercultural aspects of negotiating.
To encourage students to read and understand written contracts and agreements.

Content Reading, writing, and discussions about articles concerning negotiation strategies and techniques, as well as intercultural differences/similarities in international negotiations. The students will then have the opportunity to practice these strategies and techniques in class. In particular, they will be asked to carry out a sales negotiation, 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 30 %, assignments 70%.

Indicative Reading
Will be submitted during the classes.



6.4 INFORMATION SYSTEMS SPECIALIST EDUCATION

Information systems specialist utbildningen börjar med ett års grundläggande studier. Studerande med en tidigare utbildning i datakunskap och företagsekonomi kan komma direkt till årskurs 2. Efter examen vid Kemi-Torneå Yrkeshögskola är det möjligt att fortsätta studierna vid någon högskola med extra 60 - 80 poäng till magisterexamen.

Studierna kommer att bedrivas på svenska eller på engelska i form av föreläsningar, lektioner och seminarier i skolan eller med videokonferensutrustning. Tillgång till all modern informationsteknologi kommer att vara möjlig. Laborationer och övningar på tid studenterna disponerar själv tillhör studierna.Utbildningen innehåller också möjligheter till praktik utomlands.

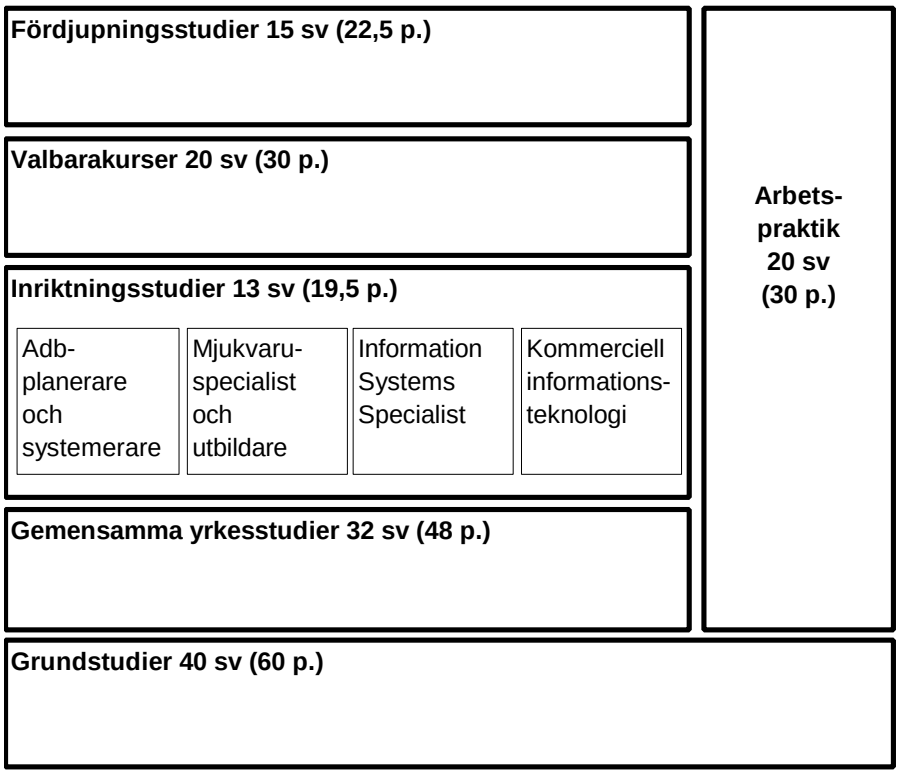
Utbildningen ordnas av Kemi-Torneå Yrkeshögskola Huvudansvaret för utbildningen vilar på Enheten för företagsekonomi och databehandling i Torneå. Utbildningen börjar i augusti 1998 med 20 studerande från Finland och Sverige.

Vart leder utbildningen?

Utbildningen är planerad för att ge programmerare, systemprogrammerare, systemvetare, system - och IT-ansvariga teoretisk och praktisk förberedelse för sina yrken. Utbildningen innehåller kurser inom administrativ databehandling, matematisk-teknisk databehandling, företagsekonomi och matematik. Detta gör att studenterna får en allsidig kunskap om databehandling och de problem och möjligheter som finns inom informationteknologi.

ISS programstruktur

Grundstudier	40 sv (60,0 p.)
Gemensamma yrkesstudier	32 sv (48,0 p.)
Inriktningsstudier	13 sv (19,5 p.)
Fritt valbarakurser	20 sv (30,0 p.)
Arbetspraktik	20 sv (30,0 p.)
Fördjupningsstudier	15 sv (22,5 p.)
Totalt	140 sv (210 p.)



Figur 1. Struktur för databehandlingsutbildning f.r.o.m hösten 1998

Moduler inom Databehandlingsprogrammet

Studieplan för databehandlingsutbildningen består av moduler. Innehållsmässigt är modulerna logiska enheter som består av kurser. Modulen innehåller obligatoriska och fritt valbara kurser. Varje elev som avlägger examen måste fullgöra från modulerna 1 - 15 ett minimi antal obligatoriska kurser. Ytterligare måste hon/han avlägga frittvalda kurser totalt 20 sv (30p.), som kan bestå av kurser som ingår som fritt valbara kurser i en modul eller kurser från andra studieprogram eller från yrkeshögskolans gemensamma valbarakurser. En studievecka (1 sv) motsvarar 1,5 ECTS poäng.

Moduler

1 Databehandling, grundkurser 6 sv
2 Programmering, grundkurser 9 - 14 sv
3 Datakommunikation 2 - 4 sv
4 Databassystem 8 sv
5 Tillämpningsprogram 8 sv
6 Programmering, påbyggnadskurser 3 - 8 sv
7 Operativsystem 5 sv
8 ADB-hårdvara 2 - 4 sv
9 Systemanalys 17 sv
10 Samhället och dess funktioner 6 - 8 sv
11 Företagsekonomi 21 - 28 sv
12 Marknadsföring 5 sv
13 Språkstudier 8 - 20 sv
14 Examensarbete 14 sv
15 Arbetspraktik 8 sv

ISS Education struktur

		Sv	ECTS	år	modulnr
Grundstudier					
291000	Databehandling, grundkurs	3,0	4,5	1.	1
291040	Programmeringteknik och C-programmering	2,0	3,0	1.	2
291160	Tillämpningsprogram	4,0	6,0	1.	5
291161	ADB-produkter	2,0	3,0	1.	5
291280	ADB-hård och mjukvara	2,0	3,0	2.	8
291321	Systemering	3,0	4,5	2.	9
291322	ADB-teknisk systemering	2,0	3,0	2.	9
291360	Economics	2,0	3,0	1.	10
291361	Orientering till YHS studier	2,0	3,0	1.	10
291362	Law I	2,0	3,0	1.	10
291400	Projektarbete	2,0	3,0	1.	11
293402	Financial Accounting I	3,0	4,5	1.	11
291401	Entrepreneurship	2,0	3,0	1.	11
291440	Marknadsföring	3,0	4,5	1.	12
291441	Internationell marknadsföring	2,0	3,0	1.	12
291484	English for International Business	2,0	3,0	1.	13
291485	ADP-english,Professional Reading, Writing and Discussions in English	2,0	3,0	1.	13
Gemensamma yrkesstudier					
292041	Förtsättningskurs i C-programmering	5,0	7,5	2.	2
292120	Databaser /SQL	5,0	7,5	2.	4
292241	Datanätoperativsystem	3,0	4,5	3.	7
292323	Systemkonstruktion	3,0	4,5	3.	9
292325	Människa-dator interaktion	2,0	3,0	3.	9
292403	Ekonomisk analys och budgetering	3,0	4,5	2.	11
292405	Företagets andra ekonomisystem	2,0	3,0	2.	11
292407	Business Administration	2,0	3,0	2.	11
Inriktningsstudier					
293001	Operativsystem I	3,0	4,5	2.	1
293240	Operativsystem II	2,0	3,0	2.	7
293201	Lotus Notes-programmering	3,0	4,5	3.	6
294202	Toolbook-programmering	2,0	3,0	2.	6
293324	Objekt-orienterad systemkonstruktion	2,0	3,0	2.	9
293404	Law II	2,0	3,0	2.	11
293162	ADB inom redovisning	2,0	3,0	2.	5
293200	Windows-programmering/C++	3,0	4,5	3.	6
293320	Matematik och Statistik	5,0	7,5	1. - 2.	9
293042	Visual Basic-programmering	2,0	3,0	1.	2
293080	Datanätkonstruktion	2,0	3,0	3.	3
293121	Databasprogrammering (Delphi)	3,0	4,5	1.	4
294044	Cobol	2,0	3,0	1.	2
295521	Vetenskaplig skrivning	3,0	4,5	3.	14
295522	Forskningens grunder	2,0	3,0	3.	14

Arbetspraktik		20,0	30,0	2. - 3.	15
Valbarakurser		20,0	30,0	1. - 3.	
Examensarbete		10,0	15,0	3.	14

Valbarakurser

293043	WWW-programmering	3,0	4,5	1. - 3.	2
294408	Law III (European Community Law and ADP Legislation	2,0	3,0	2. - 3.	11
293281	Multimedia hårdvara	2,0	3,0	1. - 3.	8
293403	Management Accounting I	3,0	4,5	1. - 3.	11
294480	Suomi vieraana kielenä 1	2,0	3,0	1.	13
294481	Suomi vieraana kielenä 2	2,0	3,0	2.	13
294482	Suomi vieraana kielenä 3	2,0	3,0	2. - 3.	13
294483	Svenska	2,0	3,0	1. - 3.	13
294484	Muntlig och skriftlig kommunikation på svenska	2,0	3,0	1.	13
294081	Freestyle learning in networks (valbar)	2,0	3,0	2. - 3.	3
294363	Gymnastik	2,0	3,0	1. - 3.	10
294486	Engelska	2,0	3,0	1. - 3.	13
294487	Franska	2,0	3,0	1. - 3.	13
294489	Ryska	2,0	3,0	1. - 3.	13
294490	Spanska	2,0	3,0	1. - 3.	13
294491	Tyska	2,0	3,0	1. - 3.	13
294492	Finska	2,0	3,0	1. - 3.	13

Språkstudier

Minimi	8,0	12,0	
Valbara språkstudier		8,0	12,0
Maximi		16,0	24,0

Kodnyckel:

1. siffra	Skolnummer, Torneå enhet = 2
2. siffra	utbildningsprogram nummer, ISS-utbildning = 9
3. siffra	ämnesgrupp 1 = grundstudier 2 = gemensamma yrkesstudier 3 = inriktningsstudier 4 = valbara kurser 5 = fördjupningsstudier
4. - 6. Siffra	studieperiodnummer (modulberoende)

ISS-Education

				8	7	7	8	6		
1. året		sv	ECTS	Perioder 1	2	3	4	5	Kontakt	Totalt
Grundstudier										
291000	Databehandling, grundkurs	3	4,5	4	3	2			67	120
291040	Programmeringteknik och C-programmering	2	3,0				3	3	42	80
291160	Tillämpningsprogram	4	6,0	3	3	3			66	160
291161	ADB-produkter	2	3,0				3	3	42	80
291360	Economics	2	3,0			4			28	80
291361	Orientering till YHS studier	2	3,0	3	3				45	80
291362	Law I	2	3,0		3	3			42	80
291400	Projektarbete	2	3,0	4	4				60	80
293402	Financial Accounting I	3	4,5		3	3			42	120
291401	Entrepreneurship	2	3,0	2	2				30	80
291440	Marknadsföring	3	4,5	4	3	2			67	120
291441	Internationell marknadsföring	2	3,0				3	2	36	80
291484	English for International Business	2	3,0				3	5	54	80
291485	ADB-engelska,Professional Reading, Writing and Discussions in English	2	3,0				3	5	54	80
Gemensamma yrkesstudier									0	
293042	Visual Basic-programmering	2	3,0			3	3		45	80
293121	Databasprogrammering (Delphi)	2	3,0			2	3	2	50	80
293320	Matematik och Statistik	3	4,5	4	3	3			74	120
294044	Cobol	2	3,0			2	2	3	48	80
		42	63	24	27	27	23	23	892	1680

2. året		sv	ECTS	Perioder 1	2	3	4	5	Timmar Kontakt	Totalt
Grundstudier										
291280	ADB-hård och mjukvara	2	3,0			3	3		45	80
291321	Systemering	3	4,5				5	4	64	120
291322	ADB-teknisk systemering	2	3,0		3	3			42	80
Gemensamma yrkesstudier										
292041	Förtsättningskurs i C-programmering	5	7,5	4	3	3			74	200
292120	Databaser /SQL	5	7,5			3	3	4	69	200
292403	Ekonomisk analys och budgetering	3	4,5	4	4				60	120
292405	Företagets andra ekonomisystem	2	3,0				3	3	42	80
292406	Personaladministration	3	4,5			3	3	3	63	120
292407	Business Administration	2	3,0	2	2				30	80
293320	Matematik och Statistik	2	3,0	3	3				45	80
		29	43,5	13	15	15	17	14		
Inriktningsstudier										
293001	Operativsystem I	3	4,5	3	3	2			59	120
293240	Operativsystem II	2	3,0				3	3	42	80
293324	Objekt-orienterad systemkonstruktion	2	3,0	3	3				45	80
293404	Law II	2	3,0			3	3		45	80
293162	ADB inom redovisning	2	3,0	3,0	2,0				38	80

3. och 4. Året		sv	ECTS	Perioder 1	2	3	4	5	Kontakt	Totalt
Arbetspraktik										
Arbetspraktik (3. Året ht)		20	30	X	X					800
Inriktningsstudier										
293080	Datanätkonstruktion	2	3,0				3	3	42	80
293200	Windows-programmering/C++	3	4,5			3	3	2	57	120
292241	Datanätoperativsystem	3	4,5			2	2	3	48	120
292323	Systemkonstruktion	3	4,5			3	3	3	63	120
292325	Människa-dator interaktion	2	3,0			3	3		45	80
293201	Lotus Notes-programmering	3	4,5				4	6	68	120
Fördjupningsstudier										
295520	Examensarbete (4. året ht)	10	15,0	X	X					400
295521	Vetenskaplig skrivning	3	4,5			3	3	2	57	120
295522	Forskningens grunder	2	3,0			3	3		45	80

Fritt valbara kurser 1. - 3. åren	20	30,0
Totala antalet sv	140	210,0

Valbarakurser		sv	ECTS
293043	WWW-programmering	3	4,5
294408	Law III (European Community Law and ADP Legislation	2	3,0
293281	Multimedia hårdvara	2	3,0
293403	Management Accounting I	3	4,5
294480	Suomi vieraana kielenä 1	2	3,0
294481	Suomi vieraana kielenä 2	2	3,0
294482	Suomi vieraana kielenä 3	2	3,0
294483	Svenska	2	3,0
294484	Muntlig och skriftlig kommunikation på svenska	2	3,0
294081	Freestyle learning in networks (valbar)	2	3,0
294202	Toolbook-programmering (valbar)	2	3,0
294363	Gymnastik	2	3,0
294486	Engelska	2	3,0
294487	Franska	2	3,0
294489	Ryska	2	3,0
294490	Spanska	2	3,0
294491	Tyska	2	3,0
294492	Finska	2	3,0

Moduler

Information Systems Specialist Education

		Sv	ECTS	år	modul
Grundstudier					
291000	Databehandling, grundkurs	3	4,5	1.	1
291040	Programmeringteknik och C-programmering	2	3	1.	2
291160	Tillämpningsprogram	4	6	1.	5
291161	ADB-produkter	2	3	1.	5
291280	ADB-hård och mjukvara	2	3	2.	8
291321	Systemering	3	4,5	2.	9
291322	ADB-teknisk systemering	2	3	2.	9
291360	Economics	2	3	1.	10
291361	Orientering till YHS studier	2	3	1.	10
291362	Law I	2	3	1.	10
291400	Projektarbete	2	3	1.	11
293402	Financial Accounting I	3	4,5	1.	11
291401	Entrepreneurship	2	3	1.	11
291440	Marknadsföring	3	4,5	1.	12
291441	Internationell marknadsföring	2	3	1.	12
291484	English for International Business	2	3	1.	13
291485	ADP-english,Professional Reading, Writing and Discussions in English	2	3	1.	13
Gemensamma yrkesstudier					
292041	Förtsättningskurs i C-programmering	5	7,5	2.	2
292120	Databaser /SQL	5	7,5	2.	4
292241	Datanätoperativsystem	3	4,5	3.	7
292323	Systemkonstruktion	3	4,5	3.	9
292325	Människa-dator interaktion	2	3	3.	9
292403	Ekonomisk analys och budgetering	3	4,5	2.	11
292405	Företagets andra ekonomisystem	2	3	2.	11
292407	Business Administration	2	3	2.	11
Inriktningsstudier					
293001	Operativsystem I	3	4,5	2.	1
293240	Operativsystem II	2	3	2.	7
293201	Lotus Notes-programmering	3	4,5	3.	6
294202	Toolbook-programmering	2	3	2.	6
293324	Objekt-orienterad systemkonstruktion	2	3	2.	9
293404	Law II	2	3	2.	11
293162	ADB inom redovisning	2	3	2.	5
293200	Windows-programmering/C++	3	4,5	3.	6
293320	Matematik och Statistik	5	7,5	1. - 2.	9
293042	Visual Basic-programmering	2	3	1.	2
293080	Datanätkonstruktion	2	3	3.	3
293121	Databasprogrammering (Delphi)	3	4,5	1.	4
294044	Cobol	2	3	1.	2
295521	Vetenskaplig skrivning	3	4,5	3.	14
295522	Forskningens grunder	2	3	3.	14
Arbetspraktik		20	30	2. - 3.	15
Valbarakurser		20	30	1. - 3.	
Examensarbete		10	15	3.	14

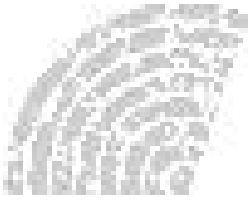
Valbarakurser	**sv**	**ECTS**	**år**	**modul**

293043	WWW-programmering	3	4,5	1. - 3.	2
294408	Law III (European Community Law and ADP Legislation	2	3	2. - 3.	11
293281	Multimedia hårdvara	2	3	1. - 3.	8
293403	Management Accounting I	3	4,5	1. - 3.	11
294480	Suomi vieraana kielenä 1	2	3	1.	13
294481	Suomi vieraana kielenä 2	2	3	2.	13
294482	Suomi vieraana kielenä 3	2	3	2. - 3.	13
294483	Svenska	2	3	1. - 3.	13
294484	Muntlig och skriftlig kommunikation på svenska	2	3	1.	13
294081	Freestyle learning in networks (valbar)	2	3	2. - 3.	3
294363	Gymnastik (valbar)	2	3	1. - 3.	10
294486	Engelska (valbar)	2	3	1. - 3.	13
294487	Franska (valbar)	2	3	1. - 3.	13
294489	Ryska (valbar)	2	3	1. - 3.	13
294490	Spanska (valbar)	2	3	1. - 3.	13
294491	Tyska (valbar)	2	3	1. - 3.	13
294492	Finska (valbar)	2	3	1. - 3.	13
294408	Law III	2	3	1. - 3.	11

Språkstudier

Minimi	8	12
Valbara språkstudier	8	12
Maximi	16	24

Valbarakurser		**sv**	**ECTS**
293043	WWW-programmering	3	4,5
294408	Law III (European Community Law and ADP Legislation	2	3
293281	Multimedia hårdvara	2	3
293403	Management Accounting I (EEE)	3	4,5
294480	Suomi vieraana kielenä 1	2	3
294481	Suomi vieraana kielenä 2	2	3
294482	Suomi vieraana kielenä 3	2	3
294483	Svenska	2	3
294484	Muntlig och skriftlig kommunikation på svenska	2	3
294081	Freestyle learning in networks (valbar)	2	3
294363	Gymnastik	2	3
294486	Engelska	2	3
294487	Franska	2	3
294489	Ryska	2	3
294490	Spanska	2	3
294491	Tyska	2	3
294492	Finska	2	3



Kursinnehåll för ISS-utbildningen

Grundstudier

291000 Databehandling, grundkurs 3 p

Kursens mål:
* Kursen mål äratt ge en överblick av ADB och dess mjuk- och hårdvara och användning av datorer.

Kursinnehåll:
* ADB hårdvara, mjukvara och miljö
* Operativsystem, hjälpprogram och användning av datautrustning
* Olika yrkesgrupper inom ADB och arbetsområden
* Tillämpningstest för studenten

291040 Programmeringsteknik och C 2 p

Kursens mål:
* Kursen mål är att ge studenten färdighet att planera och konstruera programstrukturer.

Kursinnehåll:
* variabler
* tabeller
* programstrukturer
* programmeringsmetoder
* översättäre, kompilator

Kurslitteratur:
Kahn Lars, En introduktion till programmeringens principer, Studentlitteratur

291160 Tillämpningsprogram 4 p

Kursens mål:
* Kursen mål är att ge studenten kunskap att använda de vanligaste tillämpningsprogrammen.

Kursinnehåll:
* ordbehandling och kontorssystem
* kalkylprogram
* grafik
* datakommunikation

291161 ADB-produkter 2 p

Kursens mål:
* Kursen mål är att ge studenten en överblick av det senaste program- och hårdvaru-utbudet och deras användningsområden.

Kursinnehåll:

* jämförelse mellan olika datorer och operativsystem
* marknadsöverblick över hård- och mjukvara

291280 ADB -hård- och mjukvara 2p

Kursens mål:
***** Kursens mål är att studerande blir bekant med nyaste hårdvara och mjukvara och är medvetna om deras egenskaper och användningsområden.

Kursinnehåll:
* ADB- produktfakta (kataloger)
* Produktutveckling
* Produktförverkligande av ADB-produkter

Övning:
***** Studerande gör en utvärdering mellan likvärdiga produkter och redovisar resultatet i ett seminarium. Resultatet kan presenteras med PowerPoint Slide Show.

Kurslitteratur:
* Handbok För DatakonsulterDatakommunikation, Televerket, 1992

291321 Systemering 3 p

Kursens mål:
* Kursen skall ge en helhetsbild av en systemutvecklingsprocess. Vidare skall studenterna ges kunskaper att bedöma metoder, tekniker och arbetssätt inom systemutvecklingens område.

Kursinnehåll:
* utgångspunkt för systemutveckling
* behovsanalys
* utvecklingsmodeller, metoder, hjälpmedel och projektadministration
* systemutvecklingsprocess

291322 ADB-teknisk systemering 2 p

Kursens mål:
* Studerande kan planera och implementera datasystemets tekniska lösningar. Vidare kan han/hon anpassa det planerade systemet till olika program- och datoromgivningar.

Tid: 1. År

Undervisning:
Föreläsningar 40 t
Laborationer/Inlämningsuppgifter 40 t

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40

291060 Economics 2 p

Kursens mål:
* Studenterna skall få en överblick över de allmänna ekonomiska funktioner samt få grunder för fortsatta ekonomiska studier.

Kursinnehåll:
* grundbegrepp
* konsument och producent beteende
* marknadens spelregler

Kurslitteratur:
Parkin, King, Economics, Addison-Wesley, 1995
Begg, Economics, McGraw-Hill, 1994
Rycroft, The Essentials of Macroeconomics I, Research and Education Association, 1994
Rycroft, The Essentials of Macroeconomics II, Research and Education Association, 1994

291361 Orientering till YHS studier 2 p

Kursens mål:
* Studenten lär sig att känna Euro Systemarkitekt Utbildningens struktur, målsättning, innehåll och den blivande yrkesbilden. Studenten kan studera effektivt och använda en passande studiestrategi. Han/hon kan utnyttja utbud från olika avdelningar inom polytechnic, bibliotek och övriga kunskapskällor.

Kursinnehåll:
* studiemiljö
* studieprogram
* organisering av studier
* bibliotekstjänster
- informationstjänster
-

291362 Law I 2 credits

Lecture:
3 hours per week16 weeks at 3 hours per week 48 hours

Distance EducationReading material and self supervised work:
different kinds of agreements and case material 72 hours

Aims:
* 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
* To provide the students with an introduction to the company forms in Europe

Objectives:
* To develop an understanding of the nature of legal thinking and legal principles

* To develop the ability to make contracts and to understand the legal effects of the contracts
* To develop a knowledge of company forms

Assessment:
* Lecture and reading material test 60 %
* Self supervised work 40 %

Content:
* Introduction to the legal thinking
- signifigance of the legal order
- different kinds of legal systems
* Sources of law
* Legal terms

* Contracts
* Nature of business organisations: sole traders, partnerships, companies

Learning material:
* Will be submitted by the teachers during the sessions

291400 Projektarbete 2 p

Kursen mål:
* Studenten skall lära sig att medverka i en projektorganisation. Hon/han skall lära sig att starta, arbeta i och leda ett projekt.

Kursinnehåll:
* projektplanering
* riskutvärdering
* projektverktyg
* projektarbete

Kurslitteratur:
Statskonsult AB, Projektstyrning, Solna
Stenlund, Projektin ohjaus, Edita, 1986
Lundin, Nilsson: Nätplanering, Esselte
Olsson, Stensson: Projektarbete - en handledning, Hlu

293402 Financial Accounting I 3 credits

Aims:
To offer a financial perspective on business structures.
To enable students to present accounting information in such a way that the financial performance and postition 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.

Objectives:

To introduce the principles and concepts of financial accounting.
To prepare profit and loss account, a balance sheet and a cash flow statement from accounting records of an entity.
To use EDP in processing accounting information.
To carry out analyses and interpretations of accounting reports useful for decisions making.

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: the use of ratios. Presentation of financial accounting data.Using information technology in accounting.

291401 Entrepreneurship 2 credits

Objectives of the course: to get general overview of the business operating process, entrepreneurship and success factors relating to business. Emphasizes the importance of interaction between the company and its environment.

Contents:
* concept of entrepreneurship
* characteristics of an entrepreneur
* motives to establish a business firm
* interest groups of the company
* internal and external integration
* forms of business ownership
* phases on setting up a firm a organizing a business operation

Reading material: The Essence of Small Business, Colin Barrow, Prentice Hall,1993, Business, Pride-Hughes- Kapoor, 2nd ed. p 2 -104, 668-756, ISNB 0-395-64012-1, Establishing a Business in Finland, second edition, Yrityksen Tietokirjat Oy.

Assessment:
Lecture and reading material test 70 %
Self supervised work 30 %

291440 Marknadsföring 3 p

Kursens mål:
* Kursen ger eleven kunskaper om olika marknadsföringsteorier och synsätt som förekommer.

Kursinnehåll:
* marknadsföringsteorier
* ledning och marknadsföring av tjänster
* klassiska marketing-mixsynsätt
* kundorienterad marknadsföring
* marknadsundersökning

Kurslitteratur:
Jobber, Principles and Practise of Marketing, McGraw-Hill, 1995
Kotler, Marketing Management, Prentice-Hall, 1994
Boone, Kurtz, Contemporary Marketing, Dryden, 1992
Lampikoski, Suvanto, Vahvaselkä, Framgångsrik marknadsföring, Utbildningsstyrelsen, 1995
Olsson, Skärvad, Företagsekonomi 99, Liber-Hermods, 1995
Lekvall, Wahlbin, Information för marknadsföringsbeslut, HM-förlag

291441 Internationell marknadsföring 2 p

Kursens mål:
* Kursens mål är att ge eleverna grundläggande färdigheter i att analysera nya marknader, samt ge en inblick i hur företagets konkurrensmedel anpassas vid exportförsäljning.

Kursinnehåll:
* etablering på utlädskamarknader
* nätverkssynsätt
* alternativa tillvägagångsätt att etablera sig på utländska marknader

Kurslitteratur:
Jobber, Principles and Practise of Marketing, McGraw-Hill, 1995
Kotler, Marketing Management, Prentice-Hall, 1994
Czinkota, Ronkainen, International Marketing, Dryden
Terpstra, Sarathy, International Marketing, Dryden, 1991
Kotivuori, Selin, Viejän EU-tietoa, Yrityksen Tietokirjat, 1995
Fintra, Ulkomaankaupan erikoistermit, 1992
Fintra, Vientiopas, 1992

291484 English for International Business 2 credit units

Objective:
To provide students with knowledge and skills in business communication practices to operate efficiently in various business situations by using modern information technology to convey messages. Special focuses will be on presentations, meetings and negotiations in an international business context.

Contents:
* aural, oral and written business communication
* formal and informal meetings, procedure, language and documents
* process of negotiation, strategy, tactics, memos and reports
* intercultural aspects of negotiation
* planning, carrying out, and assessing a meeting and a sales negotiation with relevant documents

Learning material:
Submitted during the sessions.

Learning format:
Contact hours 75 %
Preparation work and assignments 25 %

Assessment:
80 % attendance required.
Active participation in classroom work; thorough preparation and successful completetion of assignments on time.

291485 Professional Reading, Writing and Discussions in English 2 credit units

Objective:
To improve students' ability to read material written for their field of specialization, 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 specialization.

Contents:
* reading assignments
* discussion of articles
* lectures on professional writing skills
* writing assignments

Learning material:
Submitted by the instructor during sessions; students' own choice of articles.

Learning format:
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.

Gemensamma yrkesstudier

292041 Fortsättningskurs i C-programmering 5 p

Kursens mål:
Kursen skall ge kunskaper i att utveckla program i C och förmågan att behärska de flesta grundelement och begrepp inom programmering. Med hjälp av algoritmer konstruera C-program.

Kursinnehåll:
* översikt över C
* variabler och datatyper
* programflödeskontroll
* problemlösning med hjälp av algoritmer.
* funktioner
* modularisering

* matriser, strängar
* standardbibliotek
* styrstrukturer
* rekursion, iteration
* filhantering
* bit-operatorer
* pekare/länkade listor
* EmbeddedSQL/C
* C-programmering i UNIX-miljö

Undervisning:
Föreläsningar 40 %
Övningar 30 %
Laborationer/Inlämningsuppgifter 30 %

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40 %

Kurslitteratur:
Lafore R. TWG C Programming Using Turbo C++, SAMS Publishing, 2nd edition, 1993.
Övningskompendium.

Referenslitteratur:
Kernighan, B.W., Ritchie, D.M.: The C-programming Language, Prentice-Hall

292120 Databaser/SQL 5 p

Kursens mål:
Kursen skall ge kunskaper om databasplanering och betydelse av databaser inom ADB samt ge kunskaper om databashanteringssystem samt uppbyggnad och användning av relationsdatabas.

Kursinnehåll:
* datamodellering
* databasdesign
* normalisering
* embedded SQL/C, SQL
* implementering av databaser

Undervisning:
Föreläsningar 40 %
Övningar 30 %
Laborationer/Inlämningsuppgifter 30 %

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40 %

Kurslitteratur:
Date, C.J.: An Introduction to Databasesystem, Addison-Wesley Publishing Company, 1986.
Elmastri, R., Navathe, S.B.: Fundamentals of Databasesystems, 2nd ed, Addison-Wesley Publishing Company

292241 Datanätoperativsystem 3p

Kursens mål:
***** Kursens mål är att studerande lär sig att installera och använda olika datanätoperativsystem.

Kursinnehåll:
* Windows NT
* Linux, Unix
* Systemmanagers uppgifter
* Dataoperatörens uppgifter
* Datasäkerhet

Övning:
***** Studerande installerar olika operativsystem och övar systemmanagers uppgifter i ett nätverkssystem efter lärarens instruktioner.

292323 Systemkonstruktion 3 p

Kursens mål:
* Kursen mål är att ge en överblick av SSA och SA modeller, metoder, hjälpmedel och styrmedel som man använder i systemering.
* Kursens mål är att ge konkreta konstruktionshjälpmedel för att bygga upp ett system och lära sig hur systemeringprocessen fortsätter och vilka användningsmöjligheter det finns i systemering.

Kursinnehåll:
* SSA -metoden
* SD -metoden
* Metaedit -caseverktyg
* Deft -caseverktyg

Undervisning:
Föreläsningar 40 %
Övningar 30 %
Laborationer/Inlämningsuppgifter 30 %

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40 %

Kurslitteratur:
* Yourdon, E.:Modern Structured Analysis, Yourdon Press / Prentice-Hall, 1989
* Pressman, R.S.:Software engineering, A Practitioner's Approach, 3 rd ed., Mc Graw-Hill, 1992
*Pelkonen ja Pulkkinen: Suunnittelumenetelmien kartoitus, VAPK-kustannus, 1992

292325 Människa - dator interaktion 2 p

Kursens mål:
Kursens mål är att introducera olika systemeringsprinciper för att konstruera människa-dator interaktion och hjälpmedel som man använder för detta ändamål. Målet är att studenten behärskar att hantera skärmbildbibliotek.

Kursinnehåll:
Analys av användarbehov och arbetsuppgifter. Tekniska möjligheter att konstruera interaktion. Kriteria för användbarhet och metod att bedöma interaktion. Interaktions arkitekturer.

Kurslitteratur:

Preece, J., Rogers, Y., Skarp, H., Benyon, D., Holland, S. and Carey, T.: Human - Computer Interaction, Addison Wesley, 1994.

Undervisning:
Föreläsningar 40 %
Övningar 30 %
Laborationer/Inlämningsuppgifter 30 %

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40 %

292403 Ekonomisk analys och budgetering 5 p

Kursens mål:
Kursens mål är att ge kunskaper om hur man med hjälp av bokföring och annan information som underlag gör budget och investeringskalkyler för att främja företagets utveckling och verksamhet.

Kursinnehåll:
* *Räkenskapsanalys*
* Budgetering
* Investeringskalkyler

Kurslitteratur:
* Meddelas senare

Undervisning:
Föreläsningar 40 %
Övningar 30 %
Laborationer/Inlämningsuppgifter 30 %

Examenskrav:
Närvaro 30 %
Skriftlig tenta 30 %
Laboration/Inlämningsuppgifter 40 %

292405 Företagets andra ekonomisystem 2 sv

Kursens innehåll meddelas senare!

Kursens mål:

Kursinnehåll:
* Bokföringens delsystem
* Work Office

Examenskrav:
* Närvaro 30 %
* Skriftlig tenta 30 %
* Eget arbete 40 %

292407 Business Admistration 2 p

Objectives of the course: to provide the students with the idea that employees - ”human capital”- are the most valuable assets of the company. To give mental image of the how important work motivation and commitment to the organizational goals are for the success of business.

Contents:
* firm´s ”human capital”
* to explain why peple work
* career development
* frustration and how to reduce frustration
* informal groups
* formal organization and structural options in oranizational design
* need and process theories of work motivation
* work motivation techniques

Assessment:
Lecture and reading material test 70%
Self supervised work 30 %

Reading material:
Organizational Theory, Gareth R. Jones, 1994,
ISNB 0- 201-53224-7,
Organizational Behaviour, Stephen P. Robbins, ISNB 0-13-228511-8, Business, Pride, et al. p228-292, ISNB 0-395-6412-1, Kinkki - Lehtisalo, Företagsadmistration, Edita 1991

293001 Operativsystem I 3 p

Kursens mål:
Kursens mål är att ge kunskaper om olika typer av operativsystem, dess delar och arbetssätt.

Kursinnehåll:
* Grunderna om de vanligaste operativsystem: filsystem, skivoperationer, minneshantering.
* Fleranvändarsystem: användarrättigheter, processer, datasäkerhet

* Nätverk: användargränsnitt, protokoll, användarrättigheter, användarprofil, datasäkerhet, administration av gemensamma resurser

Kurslitteratur:
* Dietel, H.M.: Operating Systems, Addison-Wesley, 2 nd ed., 1990
Referenslitteratur: Johansson, S.: Operativsystemets grunder, Studentlitteratur, 1989

293240 Operativsystem II 2 p

Kursens mål:
Kursens mål är att ge kunskaper om olika typer av operativsystem, dess delar och arbetssätt.

Kursinnehåll:
* Grunderna om de vanligaste operativsystem: filsystem, skivoperationer, minneshantering.
* Fleranvändarsystem: användarrättigheter, processer, datasäkerhet
* Nätverk: användargränsnitt, protokoll, användarrättigheter, användarprofil, datasäkerhet, administration av gemensamma resurser

Kurslitteratur:
* Dietel, H.M.: Operating Systems, Addison-Wesley, 2 nd ed., 1990
Referenslitteratur:
Johansson, S.: Operativsystemets grunder, Studentlitteratur, 1989

293201 Lotus Notes programmering 3p

Kursens mål:
***** Kursens mål är att studerande lär sig att använda LotusNotes-program och databasverktyg och kan konstruera LotusNotes program.

Kursinnehåll:
* LotusNotes E-mail
* Objektdatabasprincip och *ad hoc* databehov
* LotusNotes programmering
* WWW-koppling

Övning:
***** Studerande gör en fungerande tillämpning och dokumenterar sitt arbete.

294202 Toolbook -programmering 2 p

Kursens mål:
***** Kursens mål är att studerande lär sig att programmera multimedia presentationer.

Kursinnehåll:
* Planering av multimediaprogram
* Toolbook -program
* Toolbook -programmering

Övning:
***** Studerande gör en fungerande Toolbook-program.

293404 Law II (Business law) 2 p

Objectives:
To provide students with an introduction to the company law: who can establish a company and how it should be done, organs and their decision making systems, right of representation and liabilities.
To give students a basic understanding of regulation of marketing.

Content:
* Right to establish a company
* Company forms
* Regulation of marketing
* Consumer protection

Assessment:
Lecture and reading material test 60 %
Self supervised work 40 %

Hours:
Lectures 40 hours, assignments 40 hours

Indicative reading:
Will be submitted at the beginning of the course.

293162 ADB inom redovisning 2 p

Kursens mål:
* Studenten skall få en överblick och användarerfarenhet av olika tillämpningar som används inom redovisning samt deras samband och utnyttjande i praktiken.

Kursinnehåll:
* ADB-bokföring
* Reskontra
* Fakturering
* Andra tillämpningar

Kurslitteratur:
* Manualer
* Stenciler

293200 Windowsprogrammering/C++ 3 p

Kursens mål:
* Kursens mål är att studerande kan modellera verkligheten som objekter och han eller hon kan konstruera en objektorieterad model och implementera modellen som ett objektorienterad program med objektorienterad språk.

Kursinnehåll:
* Objektmodellering
* C++ programmeringsspråk
* OOA/OOD

Övning:
* Modellering av en praktisk tillämpning (trafikljus, hiss, passerkontroll osv.) och implementering med C++ språk ett objektorienterad program.

Kurslitteratur:
* Weiskamp K., Heiny L., Flaming B.: Object-Oriented Programming With Turbo C++, Wiley, 1991
* Wiener R., Pimson L.: The C++ workbok, Addison&Wesley, 1990
* Fagerström J.: Objectorienterad Systemutveckling - En Introduktion, studentlitteratur, 1993

293320 Matematik och statistik 5 p (1. och 2. året)

Kursens mål:
* Målet för kursen är att ge ökande insikter i matematiska begrepp och metoder för att med matematiska modeller kunna lösa problem inom olika områden. Syftet är att ge studerandet insikter i hur en statistisk undersökning görs och värderas. Studerandet skall i ett mindre projektarbete utveckla sitt förmåga att under eget ansvar arbeta med en problemställning.

Kursinnehåll:
* Funktionslära: växande, avtagande, kontinuitet
* Integraler: areaberäkningar, primitivfunktion, integraler
* Sannolikhetslära och statistik: statistiska undersökningar, medelvärden, median, standardavvikelse, diagram, den klassiska sannolikhetsdefinitionen, beräkningsmetoder/modeller för sannolikhet, kombinatorik, normalfördelning
* Numeriska metoder med hjälp av dator: funktionsvärden, ekvationslösning, Newton-Raphsons metod, Integraler, medelvärde och standardavvikelse, simulering av slumpmässiga försök

293042 Visual Basic programmering 2 p

Kursens mål:
***** Kursens mål är att ge kunskaper och faktum till studerande om hur man konstruerar ett standardiserat användargränssnitt med ett visualt programmeringsverktyg och behärskar både programmeringsteknik och programmeringsspråket.

Kursinnehåll:
* Layout design
* Visual objekter, metoder, egenskaper
* Visual programmering

Övning:
* Studerande konstruerear ett fungerande visual basic program.

293080 Datanätkonstruktion 2p

Kursens mål:
***** Kursens mål är att studerande lär sig att planera och bygga ett PC-datanät och samt testa och dimensionera datanätet efter användarens specifikationer.

Kursinnehåll:
* Datanätstrukturer
* Datanätplanering
* Installation och utbyggnad av datanät
* Datanätsunderhåll och datasäkerhet

Övning:
***** Studerande planerar och implementerar ett Windows NT 4.0 datanät i PC-laboration efter lärarens instruktioner.

293121 Databasprogrammering (Delphi) 2 p

Kursens mål:
***** Kursens mål är att ge kunskaper och faktum till studerande om hur man modellerar och skapar en databas och hur man lagrar, uppdaterar, underhåller och gör datan tillgänglig för användarna och program inom datanätomgivning.

Kursinnehåll:
* Relationdatabas
* Normalisering
* Databasoptimering
* Delphi programmering

Övning:
* Studerande konstruerar ett fungerande nätverksdatabassystem.

Kurslitteratur: * Calvert Charles: Delphi Unleashed, SAMS 1995

294044 Cobol 2 p

Kursens mål:
Efter studiekursen kan studerande lösa problem enligt givna specificationer och kan planera en algoritmisk lösning för problemet. Han/hon kan implementera ett Cobol-program med hjälp av den definierade strukturen. Han/hon känner Cobol-språkets och översättarens special drag. Studerande kan analysera och underhålla Cobol-program och kan testa deras funktioner. Han/hon kan dokumentera programmet.

Tid: 2 - 4 år

Kursinnehåll:
Cobol-översättare, Cobol-språk, programtest och dokumentering.
Undervisning: Kontaktundervisning 32 t, egetarbete 48 t

Examnskrav: Inlämningsuppgift i form av ett fungerande Cobol-program.

295521 Vetenskaplig skrivning 3 p

Kursens mål:
***** Kursens mål är att ge kunskaper och färdigheter att framställa vetenskapliga skrifter och bekanta studerande med fackpublikationer.

Kursinnehåll:
* vetenskaplig terminologi inom ADB
* processkrivning och formulering av skrifter
* vetenskapliga kriterier
* fackpublikationer
* utformining av examensarbete

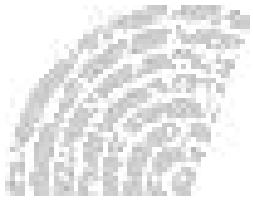
Övning:
***** En kort vetenskaplig skrift, som förutsätter att använda tidningsartiklar, litteratur och övriga källor för att producera egena skrifter på basis av dessa material.

295522 Forskningens grunder 2 p

Kursens mål:
***** Kursens mål är att studerande blir bekant med forskningens olika typer och metoder, handledning och praktiskt arbete.

Kursinnehåll:
* empirisk forskningprocess
* forskningsmetoder
* ADB hjälpmedel inom forskning

Övning:
***** Statistisk behandling av forskningsmaterial och utformning av en rapport.



7. NON-DEGREE PROGRAMMES

7.1 EURO ARCTIC TOURISM

Timing 1 September to 19 December

Duration 20 credits, 30 ECTS units

Applying **A**pplications forms to the schooling unit by 25 May

Description Euro Arctic Tourism is an English schooling programme on polytechnic level for both Finnish and foreign students.

Goal Students will become acquainted with the special features of tourism in the northern areas (Finland, Sweden, Norway, Russia). Emphasis will be laid on the culture and economic life and the protection of the environment. Students will be able to utilize their expert knowledge in their international working surroundings. Their activities will also support environment-friendly development and of industries in their areas. Students can choose the modular schooling structure entireties expanding or deepening their own studies. The program also includes training in the use of advanced information and communication technologies in tourism

Methods Studying will take place in English. The structure is modular based on different themes: cultures, economic structures such as tourism, industries of secondary importance. The observations will have an environmental viewpoint e.g. ecological tourism. Teaching personnel consists of the Polytechnic's own teachers and experts from working partners and representatives of the industries and commerce of the regions. The studying will take place in class and in the form of project works realized together with the local industrial and commercial life. We also will focus on the new age of tourism , tourism towards the information society.

Results People working in Europe acquainted with the special characteristics of northern areas. Their expert knowledge will be their strenght in their work. They will support the development and strengthening of the industrial and commercial life in northern areas. They respect the nature of the regions and contribute with their activities to its protection. They can use the modern technology as a tool in development of their own work

The students participating in the training program will get to the industries and commercial life of northern regions which makes them the best experts on our industries and commercial life in Finland and Europe. They will have personal experience and knowledge of northern regions. They will act as excellent export agents of our region, their products and services in their own working surroundings.

Further information

Office of the schooling unit, tel +358-16-258 210, fax +358 16 258 297

EURO ARCTIC TOURISM, MODULES AND THEIR OBJECTIVES

1. INTRODUCTION TO EURO ARCTIC REGION, 4 CU´S (6 ECTS CU´S)

Aim The student masters the special characteristics of the northern region of Scandinavia. He/she is able to form a general impression of Lapland and Barents Region as a coherent and cooperational economic area. The student will be acquainted with environmental questions in tourism. Protection of the environment, its utilization and bearing capacity will be studied.

Content Orientation 1 cu
Europe North Studies and Scandinavian Business Context 1 cu
Tourism and Environment 2 cu

2. INTERCULTURAL COMMUNICATION AND TOURISM IN EURO ARCTIC REGION, 4 CU´S (6 ECTS CU´S)

Aim The student will be acquainted with the relationship of culture and tourism through artes, litterature and intercultural communication.

Content Finnish Language (for foreign students)
Russian or Swedish Language
Tourism from Cultural viewpoint
Culture and Tourism in Euro Arctic Region/Lapland

3. INFORMATION AND DESTINATION MANAGEMENT, 6 CU´S (9 ECTS CU´S)

Aim Training of students in the use of advanced information and communication technologies in tourism. Market investigations concerning tourists needs and expectations in Euro Arctic Region.

Content Using Information Technology in Tourism 2 cu´s
Meeting of Tourism and the Demand for Services in Euro Arctic Region 2 cu´s
Marketing Research 2 cu´s

4. MARKETING NEW PRODUCTS – MY FACTORS OF SUCCESS, 6 CU´S (9 ECTS CU´S)

Aim The student utilizes his/her knowledge of the Euro Arctic Region, its culture and environment in developing the future of tourism in the area. The student produces and develops new products and services for clients in the area e.g. in nature tourism. Trough development work he/she supports the netting of tradespeople in Barents region to produce and to market services. At the same time the student becomes an expert in this area which he/she can utilize in his/her own working surroundings.

Content Products and Creation of Products 2 cu´s
International Networking Marketing 2 cu´s
Project Work 2 cu

7.2 GATEWAY EDUCATION

The Unit of Technical Education in Kemi prepares technological experts for both domestic and international assignments. The school is situated in the Technology Village and surrounded by hi-tech companies with expertise in various fields of technology. Number of students in engineering is about 800.

Gateway Education is given in English and it will orientate to work and make business in multicultural environments. Education is aimed for students and professionals from the EU-countries, other European countries, Russia and also from Finland. Qualifications are minimum of two years studies in college- or polytech-level and English. Accommodation for the students is arranged by the unit.

Gateway prepares to work in cross-cultural environment by giving basics of making business between East and West. The person who has passed the programme is familiar with the possibilities which Finland offers for Eastern trade. Education starts with supporting studies and other courses from
9th February till May.

Education consists of:
Supporting studies: *Computer studies, Marketing. Supporting studies 2nd -13th February.*
Working in cross-cultural environment: *Meetings and negotiations, Team Work, Organization Development*
Languages: *Finnish and living in Finland, English/Russian, Finnish (optional)*
International business studies: *Foreign trade, International economics, Entrepreneurship and internatonal organisations, Logistics*
Excursion to North-West Russia 22-26 March 1999, Expert Lectures and Excursions, Project Work

Methods: Lectures, written exams, reports, excursions, project work
Application deadline: 1st November 1998
Time: 2nd February 1999 - 28th May 1999
Credits: 18 credits/ 27 ECTS credits
Fees: No fees are charged

Use the attached application form when applying to Gateway.

Contact:
Kemi-Tornio Polytechnic
The Unit of Technical Education
Programme Coordinator Mr Raimo Pyyny
Kiveliönkatu 36
FIN -94600 KEMI
tel.+ 358 - 16-258 809 mobile. + 358-40-555 80 65
fax:+358 -16- 258 800
www://http.tokem.ketol.fi
e-mail: raimo.pyyny@tokem.fi

Cross Cultural Management 2 credits

Contents Cross Cultural Management is a Course in which Five Underlying Value Dimensions in Cultures are Studied; According to the Hofstede Model Power Distance, Collectivism, Uncertainly, Avoidance, Masculinity and Confucian Dynamism. Students Analyse these value Dimensions and Describe and Consequences for Intercultural Business Relations and Management, i.e. Human Relationships, Time and Nature Perception and Communication.

Lectures 30 hours

Assessments

Group Report on the Culture of a Country and a Personal Report on Working and Studying in an International Group.

How to Work in Team 1 credit

Contents

- Differences between teams and working groups
- Team basics: size, skills, approach, accountability and commitment to common purpose and performance goals
- Team work skill requirements
- Communication skills, observing, listening, nonverbal communication
- Problem-solving discussion in a team
- Team performance development
- Leading a team

Lectures

20 hours

Assesments

Participation in Classroom Activities

Meetings and Negotiations 1 credit

Contents

Negotiations

Examines the strategic and tactical issues of how to prepare and conduct negotiations. Special focus on the fundamental negotiating techniques including communication skills; body language, listening skills, the use of props, analyzing your opponents strengths and weaknesses, as well as your own, and how to negotiate to win.

Meetings

Directed towards the goal improving our skills of how to conduct meetings so as to ensure full and effective participation. Special focus on how to prepare for meetings, take minutes, chair meetings, qualities of a minute taker, leadership qualities,

listening skills, tips on dealing with difficult people, handling tough situations and making meetings more interesting,

Lectures 20 hours

Assessment Final Examination

Finnish and Living in Finland 1 credit

Contents

- Basic Facts on Finland and Finnish
- Finland - a part of Europe, Education System, Industry, Products from Finland, Culture
- Social policy and Health care
- Phrases in Social Situation: Greetings, Introductions, etc

Lectures 20 hours

Assignments
20 hours

Assessments Written and Oral test
Participation in Classroom Work

Russian in English 2 credits

Contents

- Greetings, Saying Good-Bye, Requests, getting Acquainted
- Giving and Asking for Personal Information
- Customs, Airport
- Checing In at a Hotel, Seeking Information about Hotel Services
- At the Restaurant
- Working Day, Telephone Conversations

Lectures 40 hours

Assignments 18 hours

Assessments Written Assigment, Attendance and Participation in Classroom Work

Foreign Trade 3 credits

Contents

- Facts about Finland´s Foreign Trade
- Reasons for going international
- Forms of internationalization
- Foreign Trade Documents
- Terms of Delivery
- Terms of Payment

Lecutures 40 lectures

Assessments Written test (open books)

International Economics 1 credits

Contents Project Work (3 students in a group) includes:
Written paper (10-15 pages)
Oral Presentation (30 minutes)

Topics of the Project Works

Finland - the Political and Economic Situation
The European Monetary Union
Unemployment in Europe - A Permanent Problem ?
Enlargement of the European Union
Asian Crisis and its Impact on Europe
Russian in Transition
Trade Between Russia and the European Union

Lectures 20 hours

Assessments Written Test
Oral Presentation
Team Work Skills

Logistics 3 credit

Contents

- Forces of Change in the Role of Logistics and Purchasing
- Framework of Logistics
- Purchasing Process
- Achieving an Integrated Supply Chain
- Identification of Core Business and Outsourcing Strategy
- Levels in Purchasing; Vendor Management, Supply Chain Management and Relationship Management
- Purchase Portfolio
- Inventory Control and ABC analysis
- Transport Mode Selection
- Logistics and Competitive Strategy
- Economic Geography and Structure of Barens Region
- Explanation of Logistic Exercise
- Border Crossing Between East and West
- Railroad Transportation
- Water Transportation
- Road Transportation
- Air Transportation and Energy
- Telecommunication
- Environmental Problems

- City Transportation
- How Does the Business Work in NW of Russia
- Exporting Finland
    - Lines of Business Which Service Northern Europe in Finland
- Gateway Finland
    - Transit Traffic in Finland
    - Finland as a Marketing Centre of Northern Europe
- Case
    - Gelore Consulting Oy
    - Barents Corridor Terminal Ltd

Lectures 50 hours

Assesments Assignments
Written Tests
Final Exam

Market Research 1 credit

Contents

Fieldwork and Excursions to Local Companies In Murmansk and Kirovsk (Russia, Murmansk Region) in a Combined Group with Russian Students. Group Project and a Group Report on Working and Studying in an International Group.

Assessment 18 hours, Project

Computer Studies, voluntary 1 credit

Contents

- Word Processing
- Speadsheets
- Information Searching and Retrieval
- Communication via E-mail, Usenet News and IRC

Lectures 22 hours

Assignments 18 hours

Assessments Test with Computer
Assignments with Computer

Marketing, voluntary 1 credit

Contents

- The Contents and Purpose of Marketing
- Products, Services and Benefits
- The Marketing Environment
- The Competitive Environment
- Buyer Behaviour

- Customers and Market Segmentation
- Product Offering.

Lectures

20 hours

Assessment Exercises
Written test

English in English, voluntary 2 credits

Contents

- Communication skills, written and oral
- English Language as a business tool and cultural bridge
- Developmental skills exercises for students of English as a second language
- Vocabulary development and comprehension

Lectures

42 hours of classroom lectures and student participation.

- Additional out-of-class assignments (grammar worksheets, essays, corporate communication skills exercises).
- 2hr final exam.

Assignments

40 hours of classroom assignments and communication exercises.

Assessments

Students are assessed based on their willingness to participate in classroom activities, attendance and overall enthusiasm; completion of homework, assignments, while actual progress is determined by students' individual levels of achievement and ability.

Finnish in English, voluntary 2 credits

Contents

- The Finnish Way of Life
- Characteristics of the Finnish Language
- Phrases in Social Situations
- Service Encounters; Shopping, Eating Out, Banking
- Communication; Travelling, Speking on the Phone
- Grammar; Present Tense, Past Tense, the Most Used Cases, Questions and Answers, Singular and Plural in the Finnish Language

Lectures 42 hours

Assignments 40 hours

Assessments

- Written test
- Participation in Classroom Work