NTNU
Norwegian University of
Science and Technology

ECTS-EUROPEAN CREDIT TRANSFERSYSTEM & INTERNATIONAL STUDENTS GUIDE

FACULTY OG MEDICINE

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Faculty of Medicine
Section for Student and Academic Affairs

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PREFACE

The enclosed ECTS (European Credit Transfer System) Information Bulletin is intended for use by those who wish to enrol as exchange students at the NTNU Faculty of Medicine, and as a reference guide for ECTS co-ordinators at our partner and potential partner institutions. Even for students who are not planning to participate in the ECTS scheme, yet come from abroad and possess foreign educational credentials, prior communication with our ECTS personnel is strongly recommended in advance of enrolment.

The ECTS Information Bulletin allows students to plan and to implement an exchange period at the NTNU Faculty of Medicine. The information has been carefully selected to provide a comprehensive and quick overview and understanding of the medical curriculum. Further, the Bulletin offers numerous references to other sources of information with which students might wish to consult as they proceed to finalise their study plans. Our overarching objective is to offer those who decide to participate the best chance to profit from their studies while here in Trondheim.

We sincerely welcome you to the Faculty of Medicine at NTNU.

I. THE INSTITUTION

A. Name and Address

Norwegian University of Science and Technology (NTNU)
Universitetsadministrasjonen (University Administration)
N - 7491 Trondheim, Norway
Phone: + 47-73 59 50 00
Fax: + 47-73 59 50 03

B. Academic calendar

While the academic year at NTNU consists of two semesters, the length of each at the Faculty of Medicine varies from those in other departments at the university. The autumn semester normally starts mid August and ends around mid January. Christmas break lasts approximately three weeks. Likewise, the spring semester begins mid January and lasts until mid June, by which time students will have completed mandatory examinations and other required evaluations. Spring break, which begins at Easter, lasts a week and a half.

C. The institutional co-ordinator

Mr Wolfgang Laschet, Senior Executive Officer
NTNU
International Office (Gløshaugen campus)
N - 7491 Trondheim, Norway
Phone: + 47-73 59 52 40
Fax: + 47-73 59 42 10
E-mail: wolfgang.laschet@adm.ntnu.no

D. General description of the institution

NTNU - formally the University of Trondheim - underwent a major reorganisation of its structure in the mid 1990s to accentuate its core mission as *the* leading national centre for education and research in the applied and theoretical sciences. Moreover, the charter for establishing NTNU stipulates that the university demonstrate broad social commitment and support a comprehensive curricular approach to the many challenges we face today and will face in the years ahead. Many university faculties - most notably the Faculty of Medicine - have introduced new multi- and interdisciplinary teaching and learning methods which, while highlighting the classical disciplines, also promote forward-looking innovative R&D.

The previous 11 faculties of the old university have been reduced to a more effective and efficient group of 7. Also included at NTNU are the Museum of Natural History and Archaeology, six autonomous centres for advanced work in education, environmental science, technology, women's studies, medieval history and genetics, as well as a University Library with an international collection of over one million volumes and network access to databases world-wide. The Academy of Fine Arts and the Music Conservatory, both in Trondheim, are also an integral part of the new university profile.

As a result of this consolidation, NTNU, with some 20,000 students and a professional teaching staff of nearly 3,500, has become the second largest university in Norway.

For more information, see our international URL at www.ntnu.no/intersek/index-eng.html. In many instances, individual faculties have constructed home pages in English. See www.ntnu.no/faksent. (The home page for the Faculty of Medicine is www.medisin.ntnu.no)

E. Registration procedures

Dates and deadlines for registration and documents to be completed and submitted - Application deadlines
Students wishing to study at NTNU under the ECTS scheme should fill in the standard ECTS application form and submit it to their Departmental Co-ordinator at their home university. The home Co-ordinator will, in turn, send the application form to the Departmental Co-ordinator at NTNU. The application form may be accessed at http://www.intersek.ntnu.no/gjestestudenter/ or requested through the ECTS office at the Faculty of Medicine. (See section IIIA below.)

Application deadlines - Faculty of Medicine:
15th of May - autumn (Aug. - Dec.) and spring (Jan. - Jun.)
15th of October - spring

Nota bene: To be admitted at NTNU, the student must submit along with his or her ECTS application certified transcripts with course titles, grades achieved and degrees earned, if any, which sufficiently document the necessary educational background and the concomitant academic ability to pursue the proposed programme of study.
After arrival in Norway, the ECTS student must register with the Institutional Co-ordinator at the International Office. (See section IC above.)
Please use standard NTNU application form for exchange students:
http://www.intersek.ntnu.no/gjestestudenter/default.htm

Linguistic requirements
Allmost all courses at the Faculty of Medicine are conducted in Norwegian. Therefore, although there exists no formal Norwegian language requirements for acceptance under ECTS, it stands to reason that students must possess an adequate level of listening comprehension sufficient to follow lectures. See also information on the limited English terms (p. 12) The Faculty professional staff, as well as most younger patients, will be able to communicate in English. Swedish and Danish, which are closely akin to Norwegian, are largely mutually intelligible; hence, students with a background in either enjoy a decided advantage.
We also have no formal English language requirements for ECTS students; however, a high level of reading comprehension is essential, as most required medical literature is written in English.

To meet the obvious demands for fluency in the Norwegian language, NTNU organises a four-week intensive language course designed especially for exchange students. The programme, which takes place in the month of August before courses

commence, runs five hours per day. Experience has shown that those with fluency in a closely related Germanic tongue (e.g., German or Dutch) have been able to participate in normal university academic activities following the successful completion of the course. Because of the course's intensity, it is essential that participants take part from the outset and not miss any of the sessions.

The application deadline for the August course is July 1st. For more information, see our URL at www.ntnu.no/intersek/ects/sprakkurs.htm or call/fax the numbers listed in section II.

Tuition, health matters and costs of living
Tuition for all Norwegian universities and colleges is free (NTNU's Faculty of Medicine included), irrespective of a student's exchange status (e.g., ECTS grant recipient, etc.). Depending on individual arrangements, students may be required to pay tuition to his/her home institution.

At the beginning of each semester, students pay a compulsory fee to the Student Welfare Organisation ("studentsamskipnaden"), at present NOK 400, which entitles them to free medical benefits under the Norwegian National Health Insurance Scheme. EU/EEA nationals must bring along standard form "E111" to verify insurance coverage.

Norway is an expensive country. Most students will find prices quite steep in comparison with home. The State Educational Loan Fund estimates (conservatively) average expenses for students at NOK 6,410 per month. Because of this high cost of living, it is vital that all financial matters be well planned before students arrive in Norway. Although expenses will vary from person to person, the Loan Fund estimate is expected to cover room and board (at the Moholt Student Village between ca. NOK 1,725 and 2,030 per month), clothing, transport, university fees and other amenities. For the purchase of books, students should be prepared to budget between NOK 3,000 and 5,000 per semester, depending on the field of study.

Residence permits and visa regulations
All foreigners who intend to stay in Norway for more than three months, regardless of purpose, must request a residence permit from the Norwegian Immigration Directorate ("utlendingsdirektoratet"). As a general rule, those who do not possess citizenship from one of the EU/EEA countries - even if they legally reside in the EU/EEA - must apply for a visa to enter Norway via the local Norwegian Embassy or Consulate before leaving. EU/EEA citizens can apply for the permit once in Norway.

In addition to an approved course of study, one key element in any application for a visa and residence permit will be submission of evidence that the individual student has sufficient funds equivalent to the sum noted above, NOK 6,410 per month, for the duration of his or her stay in Norway.

II. General practical information

Information on host-country formalities, such as student residence permits and visas, how to get to Trondheim, further details on the cost of living, student accommodations and health insurance matters are addressed in the NTNU brochure, "Guidelines for Exchange Students", written by the staff of the International Office. This brochure also includes a number of other useful tips, everything from cultural "do's" and "don't's", insight into Norwegian customs and habits, reciprocity arrangements for validation of driver's licences, where to find the best entertainment spots on and off campus, as well as recommendations for recreational opportunities - in winter, where to ski; during the summer months, where to hike, golf, swim. If the "Guidelines" have not enclosed with this bulletin, please contact:

NTNU International Office
Gløshaugen Campus
Norwegian University of Science and Technology
N - 7491 Trondheim, Norway
Tel. +47-73 59 57 00
Fax. +47-73 59 52 10
or access our URL: **http://www.ntnu.no/intersek/**

III. The Faculty of Medicine at NTNU

A. General description

Names and Addresses

Institution

NTNU
Faculty of Medicine
Medical Technical Research Centre
N - 7489 Trondheim, Norway
Tel. + 47-73 59 88 59
Fax. + 47-73 59 88 65
URL **http://www.medisin.ntnu.no**

ECTS personnel/Administrative assistant
We ask that initial contact with the Faculty take place through our administrative assistant, Mrs Jannicke Eriksen , who will co-ordinate and facilitate subsequent action on behalf of the exchange students.

Name: Mrs Jannicke Eriksen, Senior Executive Officer
Address: NTNU
Faculty of Medicine
Medical Technical Research Centre
N - 7489 Trondheim, Norway
Phone: + 47-73 59 87 55
Fax: + 47-73 59 88 65
E-mail: jannicke.eriksen@medisin.ntnu.no

The departmental organisation at Faculty of medicine
In addition to administrative staff, the Faculty of Medicine consists of the following five departments:

Department of circulation and imaging
Department of laboratory medicine, children's and women's health
Department of neuroscience
Department of cancer research and molecular medicine
Department of community medicine and general practice

University Hospital of Trondheim
The University Hospital of Trondheim ("St. Olav's hospital") is the primary teaching facility for the Faculty of Medicine. Key data (2001):

Total beds: 939
Total in-patient: 44.349
Total out-patient: 270.142

The University Hospital encompasses 34 departments. The clinical departments have their own in- and out-patient wards. In 2002, the medical staff consisted of 510 doctors and 1690 nurses. The Hospital - centrally located and conveniently accessible by public transport - is the primary health care centre for the 255,000 residents of Trondheim and the surrounding county of Sør-Trøndelag. It also serves as a regional hospital for the three counties of Møre og Romsdal, Sør-Trøndelag and Nord-Trøndelag with a total population of 625,000. (The University Hospital is one of four major regional hospitals in all of Norway.)

The University Hospital is currently undergoing major construction work; a new hospital is built. The construction of new buildings has begun, with a modern hospital scheduled for completion by the year 2014. The new hospital will also house many of the faculty departments. For medical students, neither their hospital routines nor teaching schedules will be disrupted or suffer in terms of quality.

Students
At the beginning of 2004, there were approximately 610 medical students enrolled at the Faculty of Medicine. 120 new medical students are admitted each year.

The Faculty of Medicine at Øya
The hospital area, plus two teaching facilities, each housed in separate buildings, are situated at Øya. The hospital area includes the clinical departments, teaching facilities, the Medical Library and Information Centre (MBIS), locker and wash facilities and a cafeteria. The two teaching facilities are the Medical Technical Research Centre (MTFS) and "Undervisningsbygget" (UVB).

MTFS houses the administrative offices, many of the Faculty departments, a cafeteria, study and lecture halls, laboratories and computer facilities. At the UVB there are additional study and lecture halls, rooms to conduct the skills labs, study halls and computers.

The medical school programme, new in Norway and modelled after the innovative "Problem-Based Learning" (PBL) concept, uses small groups composed of fellow students as the most important teaching mechanism. Topics are not taught separately or in isolation; instead, in the pursuit of "subject integration", students, as part of a learning continuum, are challenged with theory, medical case histories and clinical practice in close contact with actual patients. In light of a particular case, students might pursue a wide range of possible solutions based biochemistry, physiology and anatomy to understand how the body is functioning and what might be the cause of an illness. Likewise, pathology is fully integrated when teaching the different organ blocks, to include microscopic sessions and organ demonstrations.
Instead of being bound to pre-set syllabi (course literature), each semester has a specific set of learning objectives that "guide" the students in their approach to the subject matter. To achieve these objectives, students are divided into working groups, each assisted by a faculty advisor or facilitator. These learning objectives constitute the overarching educational framework during the six years of medical education. In the event students need to consult the core medical literature, references will be easily accessible each semester.

With the increasing emphasis on self-directed learning within a group context, a high level of mutual trust and confidence has developed between students and the Faculty members. Such an atmosphere has direct benefits for all concerned, most importantly the patient who deserves nothing less the best medicine can offer. As result of this shift in learning responsibility to the student, most of the course components are not compulsory, even though they constitute, on paper, an integral part of the curriculum.

Problem-Based Learning (mandatory)
"PBL"
Students are divided into working groups of six to eight, each assisted by a faculty advisor or facilitator. As a basis for discussion, each meeting starts with patient case histories. Following a review of relevant questions (which serve, too, as a "guide"), students decide upon their own learning objectives for the group’s next meeting, what information needs to sought, evaluated and then discussed. Group interaction ensures that the medical literature, relevant research and case details are analysed critically. As a cornerstone of the medical training at NTNU, training in group dynamics is

considered fundamental for success in a medical career, since decisions should be reached on a consensus basis between doctor and patient.
Note that during Stage I there are two PBL sessions per week, each session lasting two hours; during Stage II, PBL sessions are reduced to one per week.

Lectures
Having reduced the number of lectures, the remaining ones provide broad overviews emphasising complicated medical topics within a larger scientific and social framework. There are approximately eight hours of lecture per week, a figure that will vary depending upon the other teaching that occurs in the same period. (In no case should there be more than 16 hours of scheduled teaching in any one week. However, this total hour amount does not include lecture hours assigned in conjunction with mandatory internships.)

Individual studies
Lectures have been reduced to enable students to prepare for PBL sessions. Self-directed learning takes place in the context of group work and via focused reading, library and database research. In addition to designated advisors or facilitators, the highly qualified library staff is always available to answer questions.

Doctor-Patient Tutorial (mandatory)
During Stage I, the Doctor-Patient Tutorial takes place in two different "arenas", using both experienced generalist physicians (GPs) and the skills labs.
GPs supervise actual, not simulated, doctor-patient consultations. The consultations are taped, allowing students and GPs to evaluate the critique together afterwards. This type of hands-on training stimulates reflective self-analysis: Students are required to explain and justify their decisions and reactions towards the patient, while acknowledging the individual’s reaction to both the illness itself and the dynamics of the consultative process.

Instruction in clinical examination techniques takes place in the "skills laboratories" (five hours/week), a feature of the programme scheduled for the second half of the Doctor-Patient Tutorial. In small groups, students role-play with each other and with mock patients. Facilitators are always GPs or residential faculty from the pre-clinical and clinical portions. To ensure the right balance, students alternate skills-lab instruction with exposure to actual patients in GP office settings.

Skills laboratory (Skills lab)
During Stages II and III, the skills lab is used as the primary means to develop examination techniques, with sessions on Clinics pharmacology and intensive care also included. The frequency of the meetings for the skills labs varies from semester to semester.

Clinics are practice sessions, at which time students interview and examine patients. Based on the results of the student-patient contact - plus any research into the illness conducted beforehand - students give a presentation to a doctor specialising in the field. The specialist, in turn, will critique and/or answer relevant questions.

Practice sessions
Individual practice sessions, of which there may be more than one per week, normally last three hours or less. During Stage I, dissection, histology and related laboratory work constitute the bulk of the practice sessions. During Stage II, the core focus shifts to histopathology, diseased organ demonstrations, plus related laboratory work, and sessions on clinical decision-making.

Clinical clerkship
Clinical clerkship employ the same PBL groups for in- and out-patient hospital visits. Students accompany doctors on their daily rounds of patient consultations, thus gaining insight into normal hospital routine. The total time for clerkship varies with each department that supervises a particular ward. However, there should be a minimum of four scheduled hours per week. In addition, the students are free to join a doctor on call.

Within any given semester the groups will rotate freely among the various hospital departments; thus, the lectures in one particular week will not correspond to those given to others in the clinical phase of their internships.

Students undergo two clerkships of 16 weeks in a local hospital (in the fifth year) and 6 weeks in a primary health care centre (autumn of the sixth year). These clerkships give students the opportunity to observe a greater variety of illness than might be the case while working in the more specialised Trondheim University Hospital. Students apply what they have learned, acquire new clinical skills, knowledge, as well as a deeper understanding of medical practice. This experience will better equip the student to profit from the post-graduation internship.

Undergraduate student research
One of the cornerstone teaching elements in the present curriculum is a *mandatory* student research project. Thus in the 5th year, 16 weeks are exclusively reserved for research and submission of a thesis. However, students start preparing their work at least one year before that when they must select a study subject, identify a tutor among the faculty staff, write a scientific protocol, plan data collection, and seek approval from the research ethics committee if it is deemed necessary.
The aims of the undergraduate project are to give the student competence in all aspects of medical research conduct, including ethical and legal considerations, literature search strategies, definition and hypothesis formulation, choice of methods, data collection and analysis, and interpretation and dissemination of results.
As the objectives of the student thesis are training in critical thinking, scientific methods and search for information, the study subject must be relevant for medical theory or practice, but in a wide sense. Their research may build on a review of the scientific literature, existing (patient) data, or own original observations. The format, extent, and level of the thesis must comply with the requirements of a scientific journal paper in the field of their chosen subject or method. Each thesis may have one or two student authors.

Students may do their research outside the Trondheim area and several have done so. A condition is nevertheless that one of our faculty academics takes responsibility as a ”home” mentor in addition to any supervisor at their chosen study site. A *Student's Day of Research* is held each year following the approval of the student theses.

Assessments
Examinations are conducted by the Faculty of Medicine according to the standard regulations promulgated by the University Senate. Namely, students must attend at least 85 % of the PBL sessions to qualify to take an examination. If a student subsequently fails an examination, he/she has the right to appeal (within a specified date). They may also opt to re-take the examination at the beginning of the following semester.

Examinations are comprehensive and designed to integrate all medical topics when testing students. The examinations normally consist of written and oral (skills lab) portions. The written examinations last between five and six hours and consist of modified essay questions (MEQ). The oral examination is a clinical examination with tree stations.

During Stages I and II, examinations are only held at the end of the spring semester. In addition, at the end of the each autumn semester, a compulsory examination is given in some of the terms consisting of multiple choice questions (MCQ) covering the semester curriculum. The results of the MCQ do not influence the student's progression in the programme: As part of the self-directed learning, the test is a way for the students to assess for themselves strength and weakness, as well as a statistical mechanism for the individual departments to gauge the impact of their teaching.

Grading philosophy
The grading scale is exclusively pass/fail. This ensures that students do not become preoccupied with the course syllabi simply to achieve the best grades. The grading philosophy, we believe, commits the student to medical science as a true social endeavour, as well as allowing the individual the freedom to choose a learning method that best fits his/her particular objectives and personal preferences.

Practical organisation

Semester co-ordinator
The semester co-ordinator is responsible for the academic content of each semester. Further, this individual, in those semesters that require testing, is also responsible for co-ordinating the design of examinations.

The weekly schedule
Each semester, students are given a detailed weekly/daily teaching schedule with the course titles, locations and hours. This schedule - subject to minor changes throughout the semester - ensures optimal time management, flexibility and, depending on individual interests, the "interdisciplinary" pursuit of academic components from different semesters. Clinical internships are left out of the weekly schedule, as the hours vary from hospital department to department.

B. Degree structure

Qualifications

The Faculty of Medicine offers one degree programme in medicine lasting six years and leading to the *Candidatus/a Medicinae* (M.D.) degree, abbreviated in Norwegian *cand. med*. Conferral of the degree is then followed by a qualifying internship of one and a half years. Thereafter, one can apply for a licence to practice medicine. In ECTS coding terminology, the six-year period of study corresponds to a workload of 6 X 60 = 360 credits.

Course structure
From 1975 until 1993, when the Faculty of Medicine did not offer a pre-clinical portion, those who had passed the first half of their medical programme at the University of Bergen were allowed to transfer to Trondheim to complete their *cand. med.* degree. When the Faculty inaugurated the six-year medical school in 1993, it also adopted a new and innovative curriculum.

The pedagogical pillar of the curriculum is called “spiral learning” or “the helix of learning”. Students are challenged repeatedly throughout the programme at a progressively more advanced, clinical level as they endeavour to master the various disciplines: The functioning organ systems, and the individual and community contexts in which everything takes place. The new programme is not characterised by singleton course units taught in isolation; rather, the curriculum is divided into three integrated stages, each lasting two years. The four semesters in each stage are entitled A, B, C and D, thus becoming the new “holistic” course units. (This flexible administrative structure, as noted earlier, is designed to heighten student accessibility to the learning components taught in different semesters.)

During Stage I (first and second years), students are taught the core pre-clinical subjects (human biology) on the basis of clinical problems. PBL methodology is especially used in this initial learning stage. The Doctor-Patient Tutorial and hospital sessions, where students have the chance to interact with patients, ensure that psychiatric (behavioural) and clinical aspects are addressed.

Stage II (third and fourth years) emphasises clinical problem-solving. It also represents a new “twist” in the spiral learning concept. Students resume their study of the human organ systems, this time focusing on the various disease mechanisms. Also, for each organ, surgery session will be added. PBL methods are still important, but complemented with group-based clinical internships.

The final “twist” in the program's spiral learning curve comes with Stage III (fifth and sixth years). This stage consists of an elective thesis/research project, the two internships, as well as a separate course in social and community medicine. This is the stage in which students acquire a more profound and integrated appreciation and understanding of the knowledge, attitudes and skills demanded of a modern physician.

Curriculum

Autumn August - January **Spring** January - June

PHASE I: 1st and 2nd year

Year	Term IA	Ex	Term IB	Ex
1	THE HUMAN BODY «Health & Disease»	Exam. philosoph.	Mini organ blocks: Locomotion Peripheral Nervous syst; Heart and Lung Blood; Nutrition, Digestion Metabolism	1.integrated exam
	Doctor-Patient courses / Skillslab.		*Doctor-Patient courses / Skillslab.*	
	Term IC		**Term ID**	**Ex**
2	Mini-organ blocks: CNS Sense organs, Psychiatry; Gynecology, Obstetrics, Paediatrics		Functional-blocks: Hormonal mechanisms, Renal system; Environment Pharm./ Tox.; Infection, Immune syst.	2.integrated exam
	Doctor-Patient courses / Skillslab.		*Doctor-Patient courses / Skillslab.*	

PHASE II: 3rd and 4th year

	Term IIA	Term IIB	Ex
3	Organ blocks	Organ blocks	3.integrated exam
	CNS, Back, Peripher Nerves, Ofthalmology, Oto-rhino-laryngology	Heart and circulation, Haematology, Respiration, Gastroenterology	
	Clinical clerkship / Skillslab.	*Clinical clerkship / Skillslab.*	
	Term IIC	**Term IID**	**Ex**
4	Organ blocks	Organ blocks	4.integrated exam
	Renal system, Endocrinology, Dematology, Psychiatry	Gyneacology, Obstetrics, Paediatrics, Orthopeadics	
	Clinical clerkship / Skillslab.	*Clinical clerkship / Skillslab.*	

PHASE III: 5th and 6th year

	Term IIIA	Term IIIB	
5	Undergraduate research project	Selected subject, Preparation for clerkship; 16-weeks clerkship in local hospitals	
	Term IIIC	**Term IIID**	**Ex**
6	Environmental and community medicine: Community health and general practice; 6-weeks clerkship in primary health care; Behavioural, international- and women's health	Summary term; Lectures, seminars	5.integrated exam / **Final exam**

*IMPORTANT: During terms IIA/IIB, IIC/IID and IIIA/IIIB the class is divided into groups A and B. Group A attends semester IIA during the autumn, followed by semester IIB in the spring; Group B attends IIA and IIB in reverse order. The system is the same for IIC/IID and IIIA/IIIB. As a result, units IIA through IIIB are taught in both the autumn and spring.)

What courses are open to exchange students?
According to SOCRATES rules, students must have completed at least one year of accredited university study at their home institution before undertaking an Erasmus student exchange. Having fulfilled this prerequisite, students are free to enrol in any of the semesters (or take components/electives thereof), as long as the resultant programme of study has been approved by both the home and NTNU ECTS co-ordinators.

Limited English terms
Within terms IIA and IIB the faculty can offer PBL, clinical rounds at the University hospital and some general lectures in English, as long as we have several exchange students that would prefer such an arrangement. The students following these terms have one PBL meeting each week and clinical rounds at the hospital two times a week.

Since these terms are not full English terms, we still require foreign exchange students to follow the language course at the beginning of their stay in Norway. The students would need to know some Norwegian in order to have full benefit of their stay here.

We ask exchange students that want to follow terms IIA and IIB to write on the application form that they would prefer to have PBL and so on in English.

ECTS credits
Each year equates to 60 ECTS credits. Each term equates to 30 ECTS credits.

C. Course Units

Description of the course units

STAGE I

Term IA The whole human being (18 weeks) 30 credits
An Introduction to the Human Being: organ systems, cell biology, biochemistry, anatomy, psychology.
"Examen Philosophicum": preparatory course common to all students enrolled at NTNU that incorporates ethics, social science, psychological anthropology and psychology.

Term IB Mini-organ blocks (21 weeks) 30 credits
Locomotion and Peripheral Nervous Systems (7w)
Heart, Circulation and Blood (5w)
Lungs (1w)
Environmental Medicine (1w)
Nutrition, Digestion, Metabolism (4w)

Examination, written and oral (3w)

Term IC Mini-organ blocks (18 weeks) 30 credits
Central Nervous System (4w)

Sensory Organs (2w)
Behaviour (2w)
Genetics (2w)
Reproductive biology (3w)
Growth, Development and Ageing (4w)
Ethics (1w).

Term ID Functional blocks (21 weeks) 30 credits
Hormonal Mechanisms (4w)
Renal System (4w)
Environmental Medicine (2w)
General Pharmacology and Toxicology (3w)
Infection and Immune System (5w)

Examination, written and oral (3w).
(Note: Topics in IB and ID are listed in the chronological order in which they are taught.)

STAGE II

Term IIA Organ blocks (19 weeks) 30 credits
Clinical Examination (1w)
Ophthalmology (3w)
Ear, Nose and Throat (2w)
Neurology (5w)
Elective (1w)
Cerebrovascular Disease (1w)
Columna (1w)
Pain (1w)
Diagnostic Imaging (1w)
Epidemiology (1w)
Geriatrics (1w)

Term IIB Organ blocks (21 weeks) 30 credits
Heart and Circulation (4.5w)
Haematology (3.5w)
Respiration (4w)
Gastroenterology (5w)
General Surgery (1w)
Cancer + molecular biology (1w)

Examination, written and oral (3w)

Term IIC Organ blocks (19 weeks) 30 credits
Kidneys and Urinary Systems (4w)
Endocrinology (3w)
Dermatology (3w)
Psychiatry (5w)
Elective (1w)

Genetics (1w)
Diagnostic Imaging (1w)
Review (1w)
(Note: Teaching for each organ in blocks IIB and IIC is dispersed throughout the semester to fit the rotation schedule of the various internships.)

Term IID Organ Blocks (21 weeks) 30 credits
Introduction (1w)
Gynaecology and Obstetrics (5w)
Paediatrics (3w)
Child Psychiatry (2w)
Rheumatic Diseases (1w)
Emergency Medicine (1w)
Orthopaedics (3w)
Diagnostic Imaging (1w)
Review (1w)

Examination, written and oral (3w)

(Note: The topics are listed in the chronological order in which they are taught.)

STAGE III

Term IIIA Undergraduate Research Project (18 weeks) 30 credits
The students are introduced to research by doing a project in one of the research groups of the different departments. Information about the research areas, specific projects and financing is available from the faculty office. Foreign students are encouraged to do their projects in Trondheim and local students should consider to do projects abroad.

Term IIIB Preparation and Clinical Internships (22w) 30 credits
Elective Clinical Internship (2w)
Preparation for Clinical Internship (4w)
Clinical Internship (local hospitals) (16w)

Term IIIC Environmenal- and community medicine (18 weeks) 30 credits
General practice and Primary care (2w)
Public health (1w)
Social medicine (1w)
Work- and environmental medicine (1w)
Geriatrics (1w)
Women's health (1w)
International health (1w)
Apprenticeship in general practice (community primary health care centre) (6w)
Reviews, evaluations and assessment from the various internships (2w)

Examination, written and oral (2w)

Term IIID Review (23 weeks) 30 credits

The final semester consists of an overall evaluation and assessment of previously taught subjects. To that end, students take part in a series of highly interactive problem-oriented seminars. The semester ends with a comprehensive examination in either internal medicine or surgery, to include a clinical examination in one of the ancillary areas (for example, in paediatrics, gynaecology/obstetrics, neurology, ENT, etc.).