Policy
Faculty of Pharmacy
University of Iceland
2006–2011
Address from the Dean

The role of the Faculty of Pharmacy is to engage in research, teaching, service and educative work. While Faculty activities aim to address these four aspects, the main emphasis lies on research and teaching. The Faculty trains pharmacists, with the goal of a university education in pharmacy being to qualify students who have completed their studies for practising all types of general pharmaceutical work, including jobs in research, in the pharmaceutical industry, in distribution, and in hospitals. Research training in pharmacy studies is applicable not only to traditional pharmaceutical research, but also within the framework of a more general research context in the healthcare sector, where different fields each support the whole. Through growing cooperation and collaboration in the medical and empirical sciences, it is becoming possible to address and accomplish more complicated and comprehensive projects than would otherwise be possible.

Pharmacy instruction was first offered at the University in Iceland in 1957. Initially, the programme consisted of three years of theoretical study (a 90-credit B.S. programme leading to an Examinatus Pharmaciae). In 1987, the University of Iceland awarded its first candidatus pharmaciae degrees. While organising its cand. pharm. programme, the Faculty took note of how university-level pharmacy studies were organised in the other Nordic countries, as well as of European Union requirements on pharmacist education, so that the degree will provide graduates with a right to work in EU member countries. Besides the theoretical studies involved in this programme, emphasis was placed on practical training in laboratories. This development in teaching and research quickly led to a major boom in pharmaceutical manufacturing companies in Iceland – a boom that has all prospects of continuing. In the next five years, the Faculty of Pharmacy intends to build on its success, strengthening both its undergraduate programme and its research-oriented graduate programme, as well as reinforcing the theoretical and practical research conducted in the Faculty. Faculty Policy is described in greater detail in the following Policy Document. It was drawn up by the Dean's Policy Group, comprising Elin Soffia Ólafsdóttir, Már Másson, Sesselja Sigurborg Ómarsdóttir, Sveinbjörn Gízurarson, and Þórdís Kristmundsdóttir, in addition to the Dean. The Faculty Policy was approved at a general meeting of the Faculty of Pharmacy on 3 May 2006.

Þorsteinn Loftsson
Dean, Faculty of Pharmacy
University of Iceland
Overview of the Faculty of Pharmacy

The Pharmacy programme consists of a B.S. portion (90 credits) and an M.S. portion (60 credits), which together constitute a *candidatus pharmaciae*, in compliance with the Bologna Process. The programme covers every aspect of drugs and their usage, including the source of active substances and excipients; their preparation in administrable forms (tablets, capsules, injectables, etc.); the use of drugs in treating illnesses; the effect of drugs on the human body; and the absorption, dispersion, biotransformation, and excretion of drugs from the body. Social factors are also discussed, such as ethics, the use of drugs by patients, and means of disseminating information. Altogether, the programme (B.S. and M.S.) includes 43 courses, amounting to a total lesson time of about 3500 hours. Sixty per cent of lesson time is devoted to lectures and demonstrations, while the remaining 40% is spent in practical work. The Faculty of Pharmacy also offers a 60-credit M.S. programme in Pharmaceutical Sciences for those who have completed their B.S. degree in chemistry, organic chemistry, biology, pharmacy or related disciplines. This programme emphasises independent research, although students also engage in theoretical study. After completion of the M.S. programme, the Faculty of Pharmacy offers a three-year Ph.D. programme of 90 credits. In 2005, the Faculty had 148 registered students, of whom 9 were involved in research-oriented graduate study. Teaching positions within the department numbered 7.67, not counting numerous part-time lecturers from the professional world. Since 1997, five students have completed doctoral degrees with the Faculty.

The Faculty of Pharmacy hosts research in various fields of pharmaceutical sciences. All lecturers are extremely active in research, publishing their results regularly in international peer-reviewed journals. Although the Faculty is one of the smallest at the University of Iceland, it is among the most active in terms of research. Moreover, Faculty lecturers are actively involved in interdisciplinary research with their colleagues in the Medicine, Odontology, and Science Faculties, among others, while also collaborating with numerous scientists at foreign universities and institutes in a variety of countries. About 7% of all articles published in international journals in the name of the University of Iceland between 1994 and 2005 were authored by lecturers in the Faculty of Pharmacy, even though the Faculty receives only about 2% of the total funding extended to University faculties. Another measure of research strength, which is used by the Salaries Committee, is research points. As of 1 January 2005, lecturers in the Faculty of Pharmacy were on average not only the youngest in the University as a whole, but also had more overall research points. At that time, the total research points for lecturers in the Faculty of Pharmacy averaged 669, while their age averaged 45.9. In the University as a whole, the average number of research points per lecturer was 446, while the average age was 52.2.

Several Icelandic start-up companies, including Lyfjaþróun, Lífhlaup and Oculis, grew out of the research involvement of Faculty lecturers. The current growth in pharmaceutical companies in Iceland may in part be attributed to the decision made by the University of Iceland some 20 years ago to initiate a five-year pharmacy programme. The Faculty works to build cooperative relationships with new pharmaceutical research and development companies. Currently, the pharmaceutical company Invent Farma is preparing to establish a research and development department in Hagi, the Faculty premises, located on Hofsvallagata street in Reykjavik.
**Future vision of the Faculty of Pharmacy**

**The Faculty of Pharmacy at the University of Iceland may be small by comparison with the world's foremost pharmacy faculties and pharmaceutical universities, but nonetheless it has had a significant impact on the development of Iceland's pharmaceutical industry, and the Faculty plans further improvements in the years to come. The following is a description of the Faculty as it pictures itself in 2011.**

The Faculty of Pharmacy will have formidable research teams conducting research in select fields of pharmacy. Efforts to increase research grants will have proved highly fruitful, so that the faculty will preside over high-quality research facilities and be able to offer a positive, incentive-inducing working environment, leading among other things to an increase in published articles, more systematic utilisation of research results, and the establishment of start-up companies. Along with technicians in the laboratory staff, one or two postdoctoral staff and 10-15 doctoral candidates will be employed. The Faculty will be engaged in substantial international cooperation, with private companies showing an eagerness to collaborate.

The Faculty will be awarding 30 M.S. degrees and 3 to 4 Ph.D.s annually. It will have quality teaching facilities, and be a highly desirable option for both students and teachers. A variety of teaching methods will be offered in the programme, all of which will be monitored for quality.

An effective Faculty management will be bolstered by a strong Faculty Office and centralised administration. A more positive and ambitious working environment will have been cultivated. The Faculty will operate on the basis of democratic procedures, academic personnel being guaranteed equal access to decision-making; there will be streamlined communication channels and a user-friendly bookkeeping system; and Faculty income that will have increased considerably since 2006, corresponding to increased expenditures.

Research and education in the Faculty will be well publicised both in Iceland and abroad. The Faculty of Pharmacy will participate in interdisciplinary cooperation in the healthcare sector and international cooperation will have undergone an upswing in regard to teaching, studying, and retraining.
Core Values of the Faculty of Pharmacy
The goal of the Faculty of Pharmacy at the University of Iceland is to further knowledge in pharmaceutical sciences in Iceland, through quality education and research on par with the best found among Western universities offering pharmacy and pharmaceutical sciences.

Impressive research
The Faculty of Pharmacy seeks to satisfy international research standards, to create a positive, encouraging research environment, and to maintain and expand domestic and international research partnerships. Furthermore, the Faculty offers an outstanding, sought-after graduate programme, both at the M.S. and Ph.D. level. Emphasis is placed on interdisciplinary research, while dynamic investigations result in growing knowledge, an increase in the publication of academic papers, innovation and practical applications.

Effective instruction
Although a University of Iceland pharmacy education shall continuously fulfil international quality standards and rank with the best in Iceland’s neighbouring countries, it shall also undergo constant review. High demands are to be placed on both students and lecturers. A pharmacy course is wide ranging, and it is important that students receive practical training and achieve independence in working procedures. The research programme is and will remain a key part of Faculty operations.

Democratic procedures
Administration of the Faculty shall be conducted according to democratic ideals. Along with setting clear goals for itself, the Faculty will adopt efficient management methods and ensure proper communication, noting the importance of contributing to a positive, encouraging working environment. The Faculty of Pharmacy should demonstrate ambitiousness on behalf of both its personnel and its students.

Fruitful relationships
The Faculty of Pharmacy seeks to maintain strong, productive connections with the University administration and other University of Iceland faculties. It is also important for the Faculty to maintain active connections with collaborating institutes and companies, as well as establishing partnerships with additional bodies. Finally, it is important to promote the Faculty and its activities.

Integrity and respect
In all operations of the Faculty of Pharmacy at the University of Iceland, emphasis is placed on ethical practice, and on the Faculty evoking respect in society.
Goals and action plan, 2006-2011

The Faculty of Pharmacy is a dynamic educational institution which serves as a centre for pharmacy and pharmaceutical sciences in Iceland. Besides its outstanding teaching, it is a trailblazer in certain pharmaceutical research fields. In teaching, emphasis is placed on practical, solution-oriented studies in which students are trained to gain knowledge independently and to nurture a critical perspective on pharmaceutical literature. To achieve these goals, the Faculty has formulated the action plan below.

1. RESEARCH

The Faculty of Pharmacy intends to bolster research in the Faculty, improving both quality and available facilities. For this purpose, the Faculty will:

- Increase the number of doctoral students and postdoctoral fellows in the Faculty. Ideally, from 2011 an average of 3 to 4 doctoral candidates will graduate from the Faculty each year.
- Increase the number of articles published in peer-reviewed journals, so that each lecturer will publish no fewer than two articles per year in international peer-reviewed journals.
- Increase the practical application of the Faculty's intellectual contributions, so that by 2011 the Faculty will achieve on average at least one patent application per year and at least one new start-up company will be operating with the Faculty.
- Increase the number of funding applications, so that by 2011 grants will equal 50% of Faculty appropriations.
- Strengthen domestic and international research collaboration, whereby around 30% of publications will be written in conjunction with parties outside the Faculty.
- Establish a quality control system (standard operating procedures) for research equipment.
- Replace equipment regularly, with an outlay of at least ISK 5 million per year.
- Renovate Faculty premises, setting up an acceptable chemical storage facility before 2011, and possibly establishing facilities for animal testing.
- Increase the number of laboratory assistants.
- Ensure that the Faculty laboratory acquires GLP certification before 2010.

2. TEACHING

The Faculty of Pharmacy plans to enhance teaching, both in the foundational programme and the research-oriented programme, and ensure that instruction always remains innovative and outstanding. For this purpose, the Faculty will:

- Improve teaching facilities. Provide at least ISK 1.5 million per year for purchasing equipment to use in practical training.
- Attract promising students to the Faculty.
- Increase the number of students. From 2009 onwards, the goal is for 30 students to graduate each year with an M.S. degree in Pharmacy or Pharmaceutical Sciences, and that 3 to 4 students per year will complete their Ph.D.
- Increase the number of elective courses offered by the Faculty of Pharmacy, resulting by the end of the period in an average of at least two per year. Proposals call for doing this in cooperation with other faculties at the
University of Iceland and in cooperation with foreign universities, via teleconferencing.
- Expand international cooperation, so that by the end of the period the Faculty will host at least one visiting lecturer yearly, and approximately 5% of students will be foreign exchange students.
- Increase the number of tenured lecturers by at least two during the next five years.
- Entrust Ph.D. students with some of the teaching, including practical training and demonstrations.
- Increase the amount of project work, so that by 2011 at least 30% of student evaluation will be based on such work. At the same time as project work is increased, the frequency of lectures is to decrease.
- Establish linked positions for lecturers, so that at least one Faculty lecturer will be employed at the National University Hospital in accordance with the contract between the hospital and the University. Moreover, discussions are to be conducted with businesses and other bodies regarding further linked positions.
- Expand the use of computers and the Internet in teaching (molecular modelling, NMR, and interaction through the Internet).
- Conduct a survey in the winter of 2006-7 on relationships between the progress of a student at the Faculty (i.e. dropout or study achievements) and that student’s upper-secondary-school leaving certificate (i.e. school, overall grade and subject choice).

3. ADMINISTRATION AND OUTSIDE CONNECTIONS

The Faculty of Pharmacy plans to increase administrative efficacy and create a positive and ambitious working environment. It intends to increase international cooperation in the fields of research and education, and strengthen Faculty links with private enterprise. For this purpose, the Faculty plans to:

- Strengthen the Faculty Office and compose documents defining working practices and regulations. This is to be completed in stages, from 2006 to 2009.
- Improve Faculty standing regarding safety matters; workshops are to be held regularly and, in 2007, a Safety Committee is to review laboratory safety.
- Safeguard academic freedom for lecturers.
- Create a conducive, effective working environment, partly by establishing an Entertainment Committee. Also, establish a quality control system in stages from 2006 to 2007. A Quality Committee is to be established and activated by August 2006, and an Entertainment Committee by the autumn of the same year.
- By the end of 2008, install teleconferencing equipment to facilitate collaboration with foreign groups.
- Upgrade the Faculty website and increase its visibility, accomplishing this by the end of 2007.
- Promote annual presentations on research, and work towards making Ph.D. dissertations accessible online.

EXECUTION AND FOLLOW-UP

The Dean of the Faculty and the Faculty Council are responsible for executing the plan, and the Dean is to provide regular updates on progress, doing so at general
meetings of the Faculty. Schedules and more detailed explanations of actions shall appear in the Implementation Plan of the Faculty of Pharmacy. The Faculty shall review the Implementation Plan annually and assign representatives from among the staff to particular tasks. The following criteria shall be used to assess Faculty progress:

- The number of articles published by lecturers in international peer-reviewed journals. The number and monetary dimensions of research grants, and the number of students engaged in research-oriented graduate study in the Faculty.
- The number of students graduating from the B.S., M.S., and Ph.D. programmes who fulfil the desires of employers in the sector.
- Links between the Faculty or its lecturers with other universities, research groups, companies and institutions, in Iceland as well as abroad, particularly links which provide access to facilities or specialised knowledge not available at the University of Iceland (this is crucial with respect to the doctoral programme and research in general). The yardstick shall be the number of research and teaching agreements with foreign schools and universities, as well as the number of articles published with outside collaborators at Icelandic or foreign universities and institutions.
- The Faculty's links with businesses in Iceland and abroad, both in terms of research cooperation and continuing education. Yardstick: the number of contracts.
- Faculty visibility, both within Iceland (discussion of topical matters) and abroad (including articles published, papers presented and participation in conferences).
- A survey on the opinions of pharmacy graduates regarding their studies in the Faculty (this survey is to be conducted in cooperation with the Pharmaceutical Society of Iceland and should be completed by 2010).