

External Peer Review Group:

Final Report

Faculty of Science
University of Iceland

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1 Summary of findings

The main findings of the external peer review group (PRG) are highlighted as recommendations to the Ministry of Education, University of Iceland (UI) authorities and to the UI Faculty of Science. More detailed summaries of PRG conclusions and recommendations are to be found at the end of each chapter of the report.

- It is the view of the PRG that the quality of the education provided at the Faculty is overall good. The Faculty shows a good degree of efficiency in keeping average BS study periods short and bringing students to graduation on time. Students are generally happy with the quality of teaching and graduates appear to enjoy good career prospects after graduation, both professionally outside academia and in terms of continuing their studies at respected international universities (although no concrete evidence of this was provided).
- The PRG also saw good practice in the Faculty bringing staff together for a day to discuss the Faculty's Strategic Plan 2006-2011 and would encourage a continuation of using staff away days to debate strategy and policy.
- The students met by the PRG feel that Faculty teachers are accessible, enthusiastic and well qualified.
- Study structures at the Faculty are in line with the goals of the Bologna process.
- International exchange of students is vibrant (e.g. Erasmus, Nordplus, US year abroad programmes) and the Faculty (the Department of Geography and Geology in particular) has been able to attract a considerable number of foreign exchange students.

Recommendations to the Ministry of Education, Science and Culture

- One of the main challenges faced by the Faculty of Science is to find financial means to meet the increase in student numbers and study programmes, and to develop into a postgraduate¹ research Faculty with an international profile, without compromising the quality of its teaching. Resources are presently stretched, with the Faculty heavily reliant on temporary staff, on dispersed accommodation and on equipment that frequently does not meet the required modern standards. The Ministry, in collaboration with the University authorities, is urged to give a serious consideration to the financial need of the Faculty of Science, within the context of the wider university funding framework.
- The Ministry is encouraged to consider prioritising more (e.g. between research and teaching) in their higher education funding policy to avoid spreading resources out too thinly, and to work more closely with the UI to ensure better

¹ Postgraduate is used in this report to refer to post-BS level programmes, i.e. Masters and PhD programmes.

consistency between strategy and resources. As an example, the PRG sees an urgent need to increase the number of permanent teaching staff as the required teaching load for current permanent staff is too high for a research-based university.

- For the purpose of future evaluations it is important to ensure that the self-evaluation teams receive better guidance and preparation so that the process of self-evaluation becomes more self-critical and analytical and that appropriate data is provided to a PRG.

Recommendations to the University of Iceland authorities

The University should consider:

- Achieving a better consistency between agreed strategy and funding, for instance ensuring that targets are set realistically to reflect the availability of financial and other resources. This does not imply that the UI and the Faculty should not be ambitious in their policy. However, they should seek to avoid overstretch that may lead to denigration in quality.
- Addressing, in collaboration with the Faculty, the serious lack of administrative support within the Faculty.
- Working with the Faculty to find solutions to current facilities problems. At present Faculty buildings are dispersed and some of the departments are using laboratory facilities and equipment that are outdated and very close to compromising safety standards.
- Giving more consideration to creating a flexible learning environment, particularly with regard to private study space, when designing future buildings and facilities.
- Reviewing the research point system so that it rewards staff more fairly and introducing a point system for teaching that will allow staff to abandon overtime teaching.
- Giving due consideration to the fact that the increase in student numbers has not been followed by a corresponding increase in tenured teaching staff. As a result, tenured staff is vastly overworked and the Faculty has to rely too much on sessional teachers.
- Making management positions (Head of Department and Dean) more attractive and prestigious along with increasing the length of tenure for these posts to allow post holders to shape and influence policy. This would strengthen leadership within the Faculty and increase efficiency in management.
- Working closer with the Faculty to ensure that internal quality assurance measures are properly implemented and make more use of the results of student course evaluations by analysing the wealth of data available.

- Reviewing the way that current student drop-out rates are calculated so that the Faculty has confidence in the centrally-produced data.

Recommendations to the Faculty of Science

The Faculty should consider:

- Introducing more short-term measurable targets within its overall strategic policy as a way to gauge progress towards its goals and to avoid overstretch of resources.
- Using quality assurance methods and results to promote enhancement in teaching and learning as well as achieving compliance and adherence to guidelines and regulations.
- Encouraging leadership development to improve the governance of the departments and of the Faculty, e.g. by finding inspiration from how leadership matters are handled at other comparable universities in other countries.
- Ensuring that staff development interviews are carried out more systematically by Heads of Departments. The Dean and departmental authorities could use staff development interviews in a manner that staff sees as constructive.
- Making better use of the results of the student course evaluations.
- Reviewing the course portfolio, with the aim of reducing the number of courses, promoting more shared teaching and having credit rating of courses and units more consistent with study workloads. The course offer at undergraduate level is often too extensive in scope and some of the courses may be more suited to the postgraduate level.
- Introducing the teaching of generic and transferable skills in all the departments and subject areas and making a final advanced independent piece of work (e.g. BS thesis) at undergraduate level mandatory.
- Improving teaching methods, for example by making more use of the UI Teaching Center and by ensuring that tenured staff provides sessional staff with proper training and preparation prior to commencing teaching.
- Improving the collection of student data and analysis of trends.
- Being more strategic in its approach to international exchange and cooperation and making greater use of foreign reference universities.
- Increasing the number of courses taught in English following the example of the successful Earth Sciences course taught in the Department of Geography and Geology.
- Further encouragement of undergraduate students to spend a study period abroad.

- Forging stronger links with industry as a way to better prepare the students for a professional career outside of academia and also to bring in outside funding.

2 Introduction

This is the final report of the external peer review group (PRG) for the higher education external review of the University of Iceland, Faculty of Science. This exercise has followed the guidelines and rules on quality control in higher education nr. 666/2003² and has encompassed all departments within the Faculty. The stated objectives of quality control in higher education are:

- to maintain and raise the quality of teaching in higher education institutions (HEIs).
- to improve the organization of HEIs.
- to promote greater responsibility of HEIs for their own activities.
- to ensure their competitiveness in the international arena.

It should be noted that research is only part of the remit of this evaluation where it has a direct impact on teaching. An examination of the quality of the research at the Faculty was therefore not part of this evaluation.

The PRG was appointed by the Minister of Education, Science and Culture and consisted of the following individuals (see a more detailed description in appendix A.4):

- Dr. Sigríður Valgeirsdóttir, General Manager of Nimblegen Systems of Iceland: Chair of the peer review group.
- Professor Howard Colley PhD, Director of Higher Education Academy, UK.
- Professor Kristín Vala Ragnarsdóttir PhD, Professor of Environmental Sustainability, University of Bristol, UK.
- Professor Bengt E.Y. Svensson PhD, Professor Emeritus in Theoretical Physics, Lund University, Sweden.
- Mr. Ásgeir Runólfsson, student representative, Faculty of Engineering, University of Iceland.

Secretaries to the group were Mr. Unnar Hermannsson and Mr. Sveinbjörn Hannesson.

The PRG held numerous meetings before, during and following the site-visit to the Faculty of Science. The site-visit encompassed meetings with university senior management, the Faculty self-evaluation group, Faculty management representatives, teaching staff and heads of all departments, current and graduated

² The guidelines and rules are available at the website of the Ministry of Education, Culture and Science (<http://eng.menntamalaraduneyti.is/publications/>)

students, alumni and external stakeholders (a number of whom were also alumni) in addition to a guided tour of Faculty facilities (see site-visit agenda in appendix A.2).

The PRG appreciates the effort involved in writing the self-evaluation report but feels that it was too general in parts in its approach and vague in conclusions and did not do justice to the Faculty's commitment to maintaining high standards and quality in teaching and learning. The PRG would have preferred to see more self-critical and analytical comments, for example, building on the statements about 'issues', as well as more statistical data to support statements and arguments. However, the PRG recognizes that this is to some extent caused by the lack of administrative staffing and resources at Faculty level.

The PRG would like to note that time constraints and the wide scope of the project, encompassing every department within the Faculty of Science, meant that thorough examination of the quality of study materials and syllabi within each department was not possible.

It is the sincere hope of the PRG that this report may assist the Faculty and University authorities in its future work to improve the status of the UI. To this end the PRG has deliberately attempted to produce a report that is as concise as possible, drawing attention to strengths and weaknesses of the Faculty as well as offering some suggestions regarding further developments. It is in the nature of an evaluation report like this to focus more on what can be improved than on what is already in good order. The PRG is also aware that some of its recommendations may strain the already limited resources of the Faculty.

The PRG would like to thank all relevant actors for their co-operation during this exercise, which was very enjoyable. Special thanks are extended to the Faculty self-evaluation group, the Faculty Dean as well as to the University senior management, for their hospitality and positive approach towards this evaluation.

2.1 The financial situation of the Faculty

The acute financial situation of the Faculty is a constant feature in the Faculty self-evaluation report and was repeatedly mentioned during the site visit of the PRG. It will also repeatedly appear in what follows in this report. But the PRG wants already from the outset to make some remarks.

There is a consensus among staff that the Faculty is seriously underfunded.³ Although the PRG was not in a position to independently evaluate the Faculty

³ The Faculty receives a higher amount per student from the UI internal distribution model than assigned to it by the Ministry of Education (MoE) funding model. (The UI is not obliged to follow the MoE model in its internal distribution.) The main reason for receiving higher amounts is that the Faculty of Science provides courses for students from other faculties, mainly from the Faculty of Engineering.

finances, the general agreement after having inspected facilities and interviewed staff and students is that the Faculty is actually facing a dire lack of funding. This applies to shortage of permanent staff, as well as to facilities and equipment.⁴ In its effort to make ends meet, the Faculty is also facing an ongoing deficit.

The PRG fears that lack of funding will prevent the Faculty from achieving its ambitious goals of becoming a fully-fledged research and postgraduate Faculty with an international profile. Moreover, Faculty policy of increasing student numbers by 50% seems unrealistic without an increase in staff, facilities and more funding in general.

The Faculty faces a big challenge in meeting higher costs related to increased student numbers and demands for more emphasis on postgraduate studies and research, without compromising the quality of its teaching.

The PRG notes that the description of the funding difficulties in the self-evaluation report is open and critical. The Faculty makes a strong case for more funding but it could approach the issue by putting it more into the context of the wider university resource picture. The Faculty should also consider making better use of existing resource, for example, by reducing teaching contact time. It should, however, not be solely up to university authorities to sort out the lack of funding. The university authorities, and more importantly, national authorities, need to take the initiative in finding ways to secure appropriate funding. One way to ease the financial situation could also be to forge stronger links with industry to bring in external funding.

It is also important that the Faculty shows that it is able to work within the given financial framework. Indeed, the PRG is surprised that a financial situation of running on a deficit has been allowed to occur. Even if the PRG was presented with arguments to the effect that the Faculty, under prevailing conditions, could not have done otherwise, the PRG is concerned that the Faculty and the University would not be able to demonstrate to the government that sufficient attention was given to tackling the year-on-year deficit.

2.2 Conclusions and recommendations

Conclusions

- The PRG takes the view that the Faculty is underfunded and that it faces a big challenge in meeting its policy objectives given the current financial situation.

⁴ The relative underfunding of the University of Iceland compared to similar universities in neighbouring countries is well documented in *University of Iceland: A Performance Audit*, Icelandic National Audit Office, 2005.

Recommendations

- Faculty and university authorities should review in common the wider financial situation.
- The Faculty generally needs stronger links with industry to bring in external funding.

3 Faculty policy and objectives

The Faculty has set a clear strategic plan for the years 2006-2011, which the PRG views as very thorough, giving a positive trajectory for the Faculty. It is obvious that considerable effort has been put into this work. The PRG urges the Faculty to introduce measurable targets (annual or for an appropriate medium-term period) for the implementation and achievement of objectives within the strategic plan. To this end, the PRG believes the Faculty must strengthen its ability to collect necessary data to measure progress towards targets. This approach would also provide a powerful demonstration to the university authorities and other stakeholders that the Faculty is clearly moving towards its stated aims. A consequence of this approach would be the need for added administrative resources (as discussed in section 11).

The PRG observed a clear general sentiment among Faculty members that the strengthening of postgraduate level programmes should be a policy priority. The PRG supports such an ambitious programme, but sees a need for the Faculty to be more realistic regarding what it intends to achieve in the coming years given the potentially limited resources available (financial and other).

In view of resource limitations, prioritisation is needed. Which programmes are to be initiated and to meet what academic needs? What are the resource implications of such developments? Clearly the Faculty does not have the capacity under current conditions to develop in many different directions. For instance, the Faculty intends to strengthen its research profile and increase the number of graduate students in 2006-2011 but does not plan to reduce quantity or quality of undergraduate teaching. The Faculty needs to consider whether they are offering programmes that are not financially viable. Departments with low student numbers need to lower the number of optional courses offered in order to make the teaching programme financially viable.

The PRG was pleased to learn that all departments gather at Faculty level to discuss both strengths and weaknesses in Faculty policy. The PRG sees the importance of regular review meetings (for example in both fall and spring semester), to keep policy up-to-date, engage staff and to be responsive to changing circumstances.

Study structures in line with the goals of the Bologna process are in place which is regarded as very positive by the PRG. The Faculty is urged to maintain a focus on international developments and make sure that all necessary actions are taken to continue to play an active part in international exchange of knowledge and best practice in coming years. Playing a full international role will not come at the expense of the University's national role; rather it will serve to clarify that national role and the distinctiveness of Icelandic culture.

3.1 Conclusions and recommendations

Conclusions

- Faculty strategy and policy is in place for 2006-2011, but PRG would like to see more measurable targets (e.g. annual or periodic). The Faculty should be more realistic in its strategy, especially taking into account the limited resources available (financial and other).
- Commendable Faculty practice includes the gathering of departments to discuss weaknesses and strengths and the PRG urges that this practice is undertaken at regular intervals.
- Study structures in line with the goals of the Bologna process are in place which is regarded as very positive by the PRG.

Recommendations

- The PRG urges the Faculty to ensure that progress towards policy objectives is measured regularly and presented to relevant stakeholders.
- Regarding measurable targets, the Faculty is encouraged by the PRG to seek more funding from the UI and the Ministry of Education for new staff with the aim of reducing substantially the proportion of sessional teachers by 2011. Progress towards this goal could be measured on annual basis. Similarly reduction in required teaching loads from 50% of duties could be measured. It is worth noting that in research universities in the UK teaching loads account for less than 20% of staff time.
- The Faculty should seriously consider the connection between policy targets and resources.

4 Internal quality assurance of the Faculty

It is the perception of the PRG that the organization of internal quality evaluation continues to be under development in the Faculty. Student course evaluation is well established whereas peer-review and staff development interviews are at a more embryonic stage and require further improvement. Student course evaluations can provide a valuable feedback for instructors to improve the presentation of the teaching material but these are more limited in evaluating the quality of the education provided.

The PRG sees the benefit in more analysis of student evaluations both at Faculty and University level. This would help to identify areas for development in teaching and learning and provide strong evidence to support requests for more resources. At present the limited follow-up seen by the PRG does not appear to translate into actions at Department or Faculty level. The low rate (approx. 50%) of student participation in the evaluations is also a cause for concern and could be a direct result from the perception that students are in fact disillusioned by the apparent lack of action from evaluation results. This could possibly be countered by making participation mandatory and by holding regular staff-student consultative meetings with students, informing the students what actions are being taken based on their evaluations. The Faculty is also urged to consider changing the timing of student evaluations, as students met by the PRG regarded the current timing to be inconvenient. A more appropriate timing could be the last week of teaching for each course.

An important element in any quality assurance system is to apply resources for the gathering, analyzing and disseminating of statistics on relevant aspects of Faculty activity. It seems that the Faculty is under-resourced in this regard and therefore an integral prerequisite for the effective application of quality assurance is missing. The PRG recommends that the Faculty and University consider how resources can be made available to provide an evidence base to support quality assurance. For instance the Faculty could compare its results, in a more detailed manner, with results from course evaluations of other Faculties. The PRG was informed that there may be difficulties created by the confidentiality of the evaluations. The formulation of a Teaching Director at faculty level could be one way of solving that issue.

The PRG would like to suggest that the number of BS degrees conferred annually by each Department, drop-out rates, and career destinations become more relevant as key indicators of quality for the Faculty.

The PRG would like to encourage the Faculty to introduce a larger element of peer-review into the quality assurance process. In case of small Departments, two departments could work together (e.g. Physics and Maths; Geology and Biology).

This has been used at other universities, especially within the English-speaking world. Such peer review of teaching should be designed to facilitate improvement, and develop collegiality and not act as a disciplinary device. The introduction of annual staff development interviews is seen as an important aspect of quality enhancement by the PRG. Faculty management is encouraged to make these formal staff interviews an integral part of the Faculty quality processes, drawing upon student course evaluations, proposed self-evaluation reports, peer reviews, in addition to an annual research report and a record of service.

Increased formal communication within the Faculty is seen as particularly desirable as the PRG observed some signs of insufficient contact between sessional teachers and relevant tenured staff and/or Department Heads. Added emphasis should also be put on presenting official Faculty policy to staff, especially guidance material and formal contact procedures for sessional teachers.

The PRG encourages the Faculty to promote international standards in its quality assurance, especially with regard to the Bologna Process where quality assurance, qualification frameworks, learning outcomes and proper use of ECTS are among the cornerstones of the process.

4.1 Conclusions and recommendations

Conclusions

- Organization of internal quality assurance continues to be under development in the Faculty. Student course evaluation is well established but not fully used to promote enhancement of teaching and learning.
- Staff development interviews should become an integral part of the Faculty quality assurance system. These should be conducted on regular basis and valued by staff.
- Insufficient resources are available for gathering, analyzing and disseminating statistics on relevant aspects of Faculty activity.
- The Faculty should look to improve the well established student course evaluation by demonstrating actions that follow from evaluation; this could help to counter the low participation rate of students.
- Faculty members and students are aware of the importance of effective quality processes but need encouragement to become more engaged with the processes.

Recommendations

- Make quality assurance procedures within the Faculty more valued, transparent and effective.
- Introduce a greater element of peer review among staff in Departments.
- Improve the Faculty induction, guidance and support for sessional and new teachers.
- Increase administrative resources, through negotiation with the University, for data gathering capacity and analytic ability.
- Improve the feedback to students of actions taken by the Faculty based on student surveys.

5 Structure and content of study programs

The PRG noted the recent growth of new postgraduate programmes in a time of continuing funding constraints. Given this fact the PRG sees the need for Faculty authorities to prioritize their programme offering to counter the threat of spreading limited Faculty resources too thinly and jeopardizing established Faculty programmes. The PRG also sees an opportunity for Departments to consider sharing particular courses; indeed, particular courses might be explicitly designed with that end in mind.

The teaching of generic, transferable skills plays an ever increasing role in university curricula world-wide and the PRG recommends a consistent and transparent approach to transferable skills teaching within the Faculty. Teaching of communications skills, project management (e.g. through thesis work), employability skills and sustainable development should become an integral part of the curricula. The Faculty is urged to use the results of the EU Tuning-project on education structures for guidance. It should be mentioned in this context that the external stakeholders met by the PRG were very positive about the quality of students from the Faculty employed on summer work and after graduation. They were especially impressed with their theoretical knowledge, although some of them expressed the view that the students sometimes lacked work-related (hands-on/laboratory) skills. In this context, the PRG wants to point out that forging closer links with industry to secure better funding, could also improve students' preparation for a professional career outside of academia.

In addition to consolidation of courses, the PRG also found opportunities for Departments to reduce the offering of courses in particular undergraduate programmes. Whilst considering withdrawal of courses that are at the limits of academic and financial viability, the Faculty should consider transferring more advanced courses currently taught at the undergraduate level up to the postgraduate level. This would achieve, without significantly increasing costs, two aims: to strengthen rather limited course offering at postgraduate level and to maintain important exposure of expertise within the particular Department. The PRG's interviews with postgraduate students clearly indicated that they feel there are not enough distinct MS postgraduate level courses on offer. The Faculty should consider applying for funding from the European Commission in joining existing or setting up new "European Masters" courses which allows students to transfer between three or more institutions.

The PRG believes too many contact hours are currently required between staff and students within the Faculty. A good deal of time seems to be spent on lectures, while other aspects of learning, such as group study, discussion classes and self-study, are used sparingly. Reducing the formal contact teaching could free valuable

staff resources, and by introducing more student-led activities, a more diverse, vibrant, and participatory study atmosphere could be created. At the same time student independence would increase and team-work skills improve.

The PRG urges the Faculty to consider increasing the course offering taught in English, both at undergraduate and postgraduate level. This could help to raise the international profile and attractiveness of the Faculty.

The PRG found the BS thesis to be a matter of some concern to most of the groups with whom it spoke. The PRG recommends that the Faculty develops a unified policy for some form of final advanced independent work (e.g. thesis) at undergraduate level. Such a project should be mandatory in all Departments, but its scope could vary between individual Departments. The structure of the advanced independent work should be a natural culmination of progressive training rather than a major and self-standing hurdle at the end. In particular, the thesis need not be based on independent research but take the form of literature review of a certain topic of interest to the student. A further example of good practice would be to offer a methodological course that includes training specifically for writing the BS thesis.

5.1 Conclusions and recommendations

Conclusions

- The PRG welcomes the development of new courses in line with needs for the 21st century but raises awareness of the continued spreading of limited Faculty resources.
- There are opportunities for Departments to reduce the offering of courses in particular undergraduate programmes.
- Interviews with students indicated that there are not enough postgraduate level courses on offer.
- The PRG believes too many contact hours are currently required between staff and students within the Faculty.

Recommendations

- Teaching requirements of tenured staff need to be reduced from the current high level to a more reasonable one in order to achieve the goal of establishing an international research university.
- In programme areas which have a large number of courses the Faculty should consider 'upgrading' a number of undergraduate courses to graduate level.
- A consistent and transparent approach to transferable skills is advised. This develops important skills such as team work.

- The PRG suggests that the Faculty consider making advanced independent work (e.g. BS thesis) mandatory in all Departments in such a way that the independent work appears as a natural culmination of progressive training.

6 Teaching and teaching methods

It is the general perception of the PRG that teaching and teaching methods are in line with standard practice at similar universities, with teaching performed mostly through lectures and laboratory work, supplemented with class-discussions. In addition, class-related discussions take place on the Internet and study material is disseminated via the UGLA-system. This is an efficient use of technology (e.g. internet connections and wireless networks) for increasing students' access to instructors as well as encouraging active independent learning. It is the impression of the PRG that learning is fairly active. The students interviewed by the PRG were engaged, reflective and independent minded.

According to teachers, results of regular student course surveys on teaching methods are broadly favourable within the Faculty and, hence, do not indicate any Faculty-wide problems. Students generally expressed their satisfaction with the quality of teaching and teaching methods. Especially noticeable was the ease of access to teachers which students rated as being very important. However, both students and teachers expressed concerns that teaching did suffer from lack of equipment and good facility, especially in those courses that require laboratory work.

The PRG suggests that the Faculty consider putting increased emphasis on modern teaching methods, most notably increasing the variety of teaching from the lecture format. The University Teaching Center could be used as a vehicle for change in this regard. The PRG is somewhat uncertain of the role of the Teaching Center within the University but stresses the importance of such a unit to support and assist teachers in an ever changing environment. It appears to the PRG member that the status and funding of the Teaching Center could be improved. One way to raise the status would be to second Faculty teachers to the Center to increase the teaching expertise and encourage a more inclusive working relationship.

6.1 Conclusions and recommendations

Conclusions

- Teaching and teaching methods are generally in line with standard practice at similar universities.
- Lack of equipments and good facility is a limiting factor, especially in laboratory based courses.
- Indications are that the University Teaching Center is not used much by Faculty members.

Recommendations

- The PRG suggests the Faculty put increased emphasis on the use of new teaching methods, most notably increasing the variety of teaching from the lecture format.
- The PRG urges Faculty to make more use of the services provided by the University Teaching Center.
- The Teaching Center should work more to satisfy the particular needs of the Science Faculty, e.g. by using teachers from the Faculty.

7 Student assessment

Tenured staff bears overall responsibility for student assessment in all courses within the Faculty. The PRG encourages tenured staff to maintain active oversight of student assessment measures in courses taught by non-tenured teachers under their supervision. Similarly the PRG recommends that the Faculty consider some sort of quality monitoring for tenured and non-tenured teachers and the assessment methods. A formal review system of exam papers and their contents could be considered by Faculty management.

Student access to old exams is commendable. However, student comments about recycling of exam questions were worrying to the PRG. The Faculty must make sure that students cannot, through studying older exams, anticipate certain exam questions year after year. Teaching staff must adjust to this reality when preparing exams. The Faculty might also consider introducing oral examinations more systematically at postgraduate levels.

There is a general agreement among the students met by the PRG that credit allowance per course is often too small given the expected workload. The students also stated that science students are expected to do more to gain the credit, than students from other Faculties.

The PRG was impressed with the web-based access for students to examination results and it strongly recommends that this access be maintained and that time-limits for publication of results be adhered to by staff.

7.1 Conclusions and recommendations

Conclusions

- Tenured staff bears overall responsibility for student assessment in all courses within the Faculty.
- Student access to old exams is commendable, but indications of year on year recycling of exam questions were worrying to the PRG.
- Based on student comments, the PRG noted inconsistency of credit allowance both within and between Departments and other Faculties.

Recommendations

- The PRG encourages tenured staff to maintain active oversight of assessment methods in courses taught by non-tenured teachers under their supervision.

- The Faculty should consider introducing a more rigorous discussion of assessment methods and examination papers.
- The Faculty should consider a broader approach to assessment at undergraduate and postgraduate level, for example, the use of oral examinations, writing of web pages, oral presentations, essay writing and team based presentations.

8 Students

According to the student data provided in the self-evaluation report the Faculty has experienced a significant increase in the number of new entrants in recent years (23% increase between 2000/01 and 2004/05). Although the Faculty may see problems with higher numbers without a comparable increase in resources, the PRG is of the view that the student recruitment situation compares favourably with trends in neighbouring countries where interest in science studies has been waning. The PRG is also impressed by the fact that there seem to be no conceived degradation in the skills and knowledge of first-year students over the years. The PRG also notes that the active students seem to have a high total workload, typically 50 to 60 hours a week.

The ratio of graduates to enrolled students in the Faculty is relatively high and average study time is at a minimum (3-4 years on average for a 3 year undergraduate programme), indicating that the Faculty is showing a good degree of efficiency given the limited resources. But despite these positive trends, the high drop-out rate amongst first-year students is at first glance a striking and worrying feature. The drop-out rate can partly be explained by the UI open-access policy, although entrance requirements at the Faculty of Science are normally stricter.⁵ Another reason is the way the data is collected. Drop-out is measured as a ratio of students that register at the very beginning of the semester, before they have paid the registration fee or commenced studies. As a result the drop-out rate becomes unreasonably inflated by those students who actually do not commence study of a science degree.

The PRG welcomes the student data provided in the self-evaluation report but regrets the lack of a more substantial set of data and analysis, especially with regard to measuring longer term trends in student progression and achievement.

Female students are in majority within the Faculty (59% in 2005/06). However, the gender balance varies considerable between departments. Male students outnumber females in Mathematics (74%) and Physics (73%) while women are a majority in the Departments of Biology, Geography and Geology, and Food Science and Nutrition.

Some of the students interviewed expressed disappointment with the UI Student Counselling Service (SCS). They felt the SCS was of limited help as it lacked in-depth knowledge of science studies. The PRG suggests that the division of

⁵ Upon entry, applicants in all Faculty of Science departments except some degree courses in Geography and Geology (for degree studies of Geography and Tourism), are required to have completed a minimum amount of science credits at upper secondary school.

responsibility between Faculty and the SCS be reconsidered. Staff at the SCS could either be provided with subject-specific training or a counsellor could be employed at Faculty level, for example in cooperation with the Faculty of Engineering.

Students have formal representation on all the main governing bodies at Departmental, Faculty and University level and have opportunities to make their 'voice' be heard. Students have on occasions contributed to discussion of the composition and offer of study courses. But the overall impression of the PRG is that students are fairly passive and show a lack of interest in Faculty governance. The view of the PRG is that teachers and staff could do more to encourage active student participation in Faculty matters.

During interviews, students generally expressed satisfaction with the quality of teaching and supervision. Despite concerns about lack of facilities and equipment, students feel that Faculty teachers are in general accessible, enthusiastic and well qualified. This applies both to the undergraduate and to the postgraduate level, where the low student-teacher ratio (due to low number of postgraduate students) creates a climate of closeness and access.

Students expressed concerns about the study timetable, which recently has been revised. It appears that teachers in the Faculty of Science are using lunch breaks, within an already congested timetable, to teach. The PRG urges the Faculty to ensure that the timetable is respected and students provided with proper breaks.

According to the Faculty, students have excellent progression prospects after graduation both with regard to employment and further studies abroad. The PRG regrets that the Faculty was not able to provide statistical data to back up their statements, in particular with regard to progression to further studies at reputed universities on both sites of the Atlantic. Such data should be available at the Icelandic Student Loan Fund and could be analysed by the Faculty.

8.1 Conclusions and recommendations

Conclusions

- Numbers of new entrants to the Faculty, and their qualification, are satisfactory and the Faculty shows a good degree of efficiency in keeping study duration to a minimum and bringing students to graduation on time.
- Students work hard and have a positive attitude towards teachers and the quality of their teaching. Postgraduate students in particular have an easy access to teachers.
- Students have formal opportunities to influence Faculty and departmental policy but appear not to be very active.

- Faculty claims students are progressing well after graduation but little data to back it up was provided.

Recommendations

- Make student drop-out data more reliable by using payment of registration fee or commencing of studies as a reference point.
- Improve student data collection and analysis of trends. Data on study progression of former graduates should be available at the Icelandic Student Loan Fund.
- The Faculty and staff should encourage active student participation in Faculty and departmental governing bodies.
- Improve study counselling by increasing science study knowledge of counsellors or by employing a counsellor within the Faculty.
- The Dean should ensure that teachers respect study timetables.

9 Staff and human resources management

The PRG is of the view that there are insufficient permanent (tenured) teaching staff within the Faculty and as a consequence such staff is vastly overloaded with work. In all the departmental meetings there was reference to high teaching loads, and overtime teaching on top of normal loads appears to be the norm. There has been little or no increase in permanent teaching posts in recent years while student numbers have increased considerably. A central UI budget committee approves all new permanent posts but the Faculty has had little success in obtaining funds for these posts, according to Faculty staff.

As a result, the Faculty relies heavily on temporary (sessional) teachers. The number of sessional teachers in fact has risen significantly in recent years⁶, mainly because they are less expensive to employ and require fewer facilities (e.g. research equipment) than tenured staff.

Qualifications of permanent staff are generally good. A PhD degree is – and should be - the norm and many have solid research experience. The same applies to sessional teachers, many of whom are research fellows at Faculty or at the Faculty research institutes. The PRG felt, after meeting with students, that more measures to support sessional teachers in their tuition role may be needed (i.e. that they should receive some form of prior training or preparation as well as receiving constructive criticism during their work). The PRG is aware that supervision of sessional teachers would increase even further the current work load of permanent staff.

Research is at the core of the UI career promotion system and there is a strong consensus among staff that heavy teaching workload limits their ability to spend time on research. For the PRG, it seems important that teaching be valued more in the promotion system and that ways be found to decrease overtime teaching and teaching loads, so that more time can be devoted to research. Staff should not have to rely on overtime teaching to boost their salaries. This is a crucial issue since the Faculty and the UI have the vision of raising their international research profile.

Regarding the staff gender balance, it is evident that there is an imbalance in favour of male teachers within all the departments (especially among senior staff), except in the Department of Food Science and Nutrition. Staff seems keen on bringing in more women teachers but refer to a lack of applications. Despite the goodwill

⁶ The number of sessional teachers increased by 64% during the period of 2000-05 in the Faculty of Science. The number of sessional teachers (FTEs) at the UI increased by 43,7% during 1994-2003, while permanent teaching staff increased by only 11,7%. See *University of Iceland: A Performance Audit*, Icelandic National Audit Office, 2005.

observed, the PRG recommends that more effort be made to create a working environment that is more appealing to women (e.g. less workload) and to encourage well-qualified candidates to apply.⁷ It is also important for the Faculty to be proactive and create career paths (e.g. “tenure tracks”) for young female researchers. It is furthermore important to have career tracks for women to senior posts within the departments and within the Faculty.

The view of PRG is that the current recruitment policy of the UI is cumbersome and time-consuming. However, due to lack of time the PRG was not able to examine in detail the recruitment procedures in detail but it welcomes the announcement by university management that procedures are under review.

The UI quality assurance policy stipulates that Faculty Deans are responsible for evaluating and interviewing teaching staff on an annual basis. The PRG learned that the Dean has delegated responsibility for staff interviews to the Heads of Departments and that the procedure has stalled in many departments, with interviews often not being carried out. The only departments that seem to conduct systematic interviewing are the Departments of Biology and of Physics. In general, staff appears to see no outcome of interviews and are cynical about the procedure.

Staff interviews are also a venue for discussing results of course evaluations by students. If staff interviews are not carried out, that may contribute to the feeling among students that their course evaluation has no impact upon staff evaluation. The PRG takes the view that Faculty authorities need to show leadership in adopting a more positive and strategic approach to staff evaluation and interviews, instead of the current seemingly *ad hoc* approach, where heads of departments appear to be left to determine whether interviews are carried out or not.

9.1 Conclusions and recommendations

Conclusions

- There are not enough permanent members of staff for teaching due to the fact that the number of permanent posts has not kept pace with the increase in student numbers and postgraduate study has expanded the duties of teaching staff.
- The Faculty relies too much on sessional teachers and needs to offer better guidance and preparation for these teachers.
- Permanent members of staff are overloaded with teaching and have limited time for research.
- Teaching staff are well qualified academically.

⁷ The UI adopted in 2005 an equal opportunity policy (see www.hi.is/page/jafnrettisaetlun).

- Male teachers are in large majority within the Faculty, especially among senior staff.
- Responsibility for staff evaluations and interviews has been delegated to Heads of Departments but as yet in most Departments interviews are not carried out in a regular and systematic manner.

Recommendations

- Explore ways to reduce teaching workload by seeking resources to hire more permanent staff.
- UI should give greater value to teaching skills and achievements in the university promotion system.
- Improve the training and preparation of sessional staff.
- Take a more proactive approach in order to attract women to apply for posts, for example by making working hours and conditions more suitable to women.
- Explore ways to use staff evaluations and interviews in a more constructive way and give more consideration to the outcomes of student course evaluation.

10 Facilities

The PRG received a tour of some of the main Faculty buildings: Askja, VR I and VR III and the Science Institute.

The Faculty is dispersed across the university campus. Even individual departments, the Department of Food Science and Nutrition in particular, have staff located in several buildings, often physically far from each other. The concern is that this situation mitigates against Faculty cohesion and team spirit. It should be noted, that the housing has improved in recent years, especially with the recent construction of Askja (Natural Sciences building), which now houses the Departments of Biology and of Geology and Geography.

Both teachers and students expressed reservations about facilities, even of Askja. Although new, the building is already beyond capacity. Its internal design is rigid and not suited for a flexible learning environment. With regard to the general facilities situation, students note a lack of informal learning space and social space and some of the research labs and teaching rooms are crowded (especially in biology) and laboratory equipment is often old (mainly in chemistry and physics). There may be serious deficiencies in the chemistry labs with possible unsafe fume cupboards and experiments taking place outside fume hoods. But there are also examples of good facilities: The Department of Geology and Geography (and the Institute of Earth Science) is relatively well equipped, mainly because of funding from private and public stakeholders. Due to the tectonic and volcanic activity in Iceland as well as wealth of renewable energy sources (hydro and geothermal) it is easier for geology and earth sciences, than for other sciences, to forge links with external stakeholders.

Some of the older equipment in the departments has been renewed recently with funding from the Icelandic Research Council (however, such funding requires a 50% contribution from university or other sources). This has for example led to some improvement in research facilities and support of postgraduate students at the Science Institute. A new center for Nanotechnology has been established within Department of Physics, in collaboration with the Icelandic Research Council.

The Faculty library in Askja is very small and it could be argued that it may be better placed within the main university library (National and University Library) to make room for more study space in Askja. Student computer rooms are often used for classes (therefore not always available to students) but facilities in general have excellent (wireless) internet connections and most students have laptops.

10.1 Conclusions and recommendations

Conclusions

- Faculty buildings are presently too dispersed and hinder Faculty cohesion and team work.
- There is a lack of state of the art laboratory equipment in a number of departments with potential safety hazards in chemistry laboratories.
- Independent study and research space is cramped, especially in Askja.
- Department of Geology and Geography and Institute for Earth Science are well equipped, mainly due to funding from external sources.

Recommendations

- The University and Faculty should give more consideration to creating a flexible learning environment when designing future buildings and facilities.

11 Administration

Four out of six departments have no administrative staff (Department of Biology and Department of Geology and Geography have one administrative post each) and have to rely solely on the Faculty administration office for support, which again has very low staffing.

The lack of administrative staff means that the already overloaded teachers have to take onboard increased administrative duties. There is little manpower to collect and carry out data analysis and surveys. The PRG has pointed out in this report that improved data collection and analysis could strengthen the Faculty in its quest for improvement and increased funding. This is an issue that the Faculty needs to solve in cooperation with university management.

Having said that, the view within the departments is that the current administrative staff is carrying out excellent work considering the scarce resources.

Another issue related more to management than administration is the apparent lack of leadership at departmental level. There is no conscious effort to train heads of departments (HoD) in management skills and their tenure is short (2 years). Being HoD appears to be a chore to be avoided rather than an honour and opportunity to actively develop leadership and management of departments. A two year appointment is too short because by the time the HoD has come to grips with the complexities of the post it is time to make way for the successor. The PRG was informed that staff members have been voted into management positions against their own will. Such conditions are not conducive to the proper running and management of the Faculty.

The PRG strongly recommends that conditions for the position of HoDs and also for the position of Dean be made more attractive, not only in the form of a relief from teaching as currently, but also in terms of appropriate salary enhancement. Tenures should also be increased, for example to a 3 year renewable term in the case of HoDs.

Concerning governance of the Faculty, the PRG advises the Faculty to find inspiration from what is common practice at comparable universities abroad. It is the experience of members of the PRG that such procedures of inter-university exchange of ideas work well between universities in countries with several such institutions. The fact that the Faculty of Science is very much the only faculty of its kind in Iceland only means that it has to look abroad for collaboration.

Procedures for student complaints and appeals over examination results are in place at the Faculty. The PRG was informed, however, that complaints to the

Faculty and subsequent appeals to the central appeals committee are extremely rare. Students similarly make moderate use of their right to observe and receive explanation of their exams results.

11.1 Conclusions and recommendations

Conclusions

- There is a lack of administrative staff at Departmental and Faculty levels.
- The leadership, in particular at the departmental level, is weak, mostly due to the fact that management positions are not attractive to staff and tenure is too short.
- Student appeals over examination results are extremely rare.

Recommendations

- The lack of administrative resources should be addressed by both the Faculty and university management.
- Senior management positions need to be made more attractive and there should be training for staff taking up these posts.
- The Faculty needs to find collaboration and examples of best-practise by making study visits to other faculties at comparable universities.

12 Research and development work

As was mentioned in the *Introduction*, research is only part of the remit of the evaluation where it has a direct impact on teaching.

Research has become background activity for some staff members as they cope with high teaching loads and take on overtime teaching. Overtime teaching is by some considered to be an easier way to boost salary than to obtain research points. The PRG also notes that staff regards the points system as unfair and flawed. For instance, it appears that more points can be obtained for single author work in a merely local journal in the vernacular than as part of an international authorship of a paper in a prestigious journal.

Despite deficiencies and complexities in the research promotion system the quantity of research output and research points gained within the Faculty in general seems to be reasonable. It is, however, not clear how the Faculty and University management plan to take the next step forward to grow research further, given the heavy teaching and administrative duties. University authorities need to re-evaluate the whole promotion system to ensure that it rewards staff sufficiently. Furthermore a points system for teaching needs to be introduced to enable staff to abandon, or at least reduce, overtime teaching. This would, allow teachers who excel in teaching to focus on teaching without sacrificing promotion opportunities.

Staff seems to have in general good research qualifications, both in terms of research experience and supervision of research students. The PRG recognises that the Faculty has the human resource quality to develop further its research component, particularly exemplified by some of the recent appointments of young staff met by the PRG. However, more favourable conditions need to be created for research.

One source of strength of the Faculty is the links and interaction that staff has with the main research institutes of the Faculty. The most established is the Science Institute, which consists of two sub-institutes, the Institute of Physics, Chemistry and Mathematics on the one hand and the Institute of Earth Sciences on the other. In addition there is the Institute of Biology and the Unit for Nutrition research (a joint operation with the University Hospital). Many Faculty staff use research facilities at the institutes and staff of institutes frequently do sessional teaching at the Faculty.

It should be pointed out that the research institutes of the Faculty enjoy very different levels of funding. For historical reasons the Science Institute receives direct funding from the Icelandic Parliament and for that reason it enjoys more generous funding than the other Faculty institutes. This may potentially cause tension and friction within the Faculty and the Institutes.

The PRG did not look in detail into how successful or unsuccessful the Faculty is in winning governmental and external research funding as this was to a large extent beyond the remit of the review. As the self-evaluation report was lacking data in some crucial areas, the PRG was not able to see how the Faculty fares in this matter, for example in comparison with other faculties.⁸ This is another area where the Faculty needs to collect and analyse data in order to back up its arguments for more funding.

12.1 Conclusions and recommendations

Conclusions

- The research point system is seen as unfair and flawed by Faculty staff.
- There is good interaction between the Faculty and the research institutes.
- The large discrepancy in funding between the Science Institute and other Faculty institutes is a potential source of tension within the Faculty and the Institutes.

Recommendations

- The University should review the research point system, with the view of making it fairer and simpler to administer.
- Better data is needed to measure Faculty success in attracting research funding from government and external sources.

⁸ Data for the UI suggests that the university as a whole receives 23% of its total funding from direct governmental research funding, and 7% and 5% from external foreign (e.g. EU funds) and national research grants (e.g. from the Icelandic Research Council), respectively. See *University of Iceland: A Performance Audit*.

13 External relations

The Faculty has developed good links with appropriate governmental and research bodies but cooperation with private businesses is more fragmented. Strengthening of ties with private companies should be sought, for example through research projects, both in order to attract outside funding and to better prepare students for professional life.

Relations with other Icelandic universities do not seem to be strong or frequent, mainly because comparable faculties do not exist in the other Icelandic institutions; the Faculty is the only major higher education provider in science in Iceland. It is noted, however, that the University of Reykjavik now has programmes in Mathematics and Engineering and the University of Akureyri has programmes in Resource Science and Biotechnology.

The PRG agrees with the view of the Faculty that it could make a bigger effort in reaching out to schools to spur interest in science and to improve training of science teachers. The Faculty undertakes occasional promotion of science in schools but such activity could be pursued more regularly. The PRG also favourably notes that the Faculty has recently introduced an M.Paed.degree.

The Bologna structural reforms have been implemented throughout the Faculty and with the enactment of the new university law in 2006 the UI is soon to adopt the ECTS system as its credit system. International exchange of students is vibrant (e.g. Erasmus, Nordplus, US year abroad programmes) and the Faculty has been able to attract a substantial number of foreign exchange students. The main reason for this success is the exemplary one-year Earth Science programme taught in English and geared at third year BS students.

However, the Faculty needs to improve its data collection on student exchange as it is difficult to assess how active different departments are in taking part in international cooperation and providing courses for exchange students. The bulk of foreign students appear to be in the Department of Geology and Geography and the impression is that other departments are much less active. These departments should seriously consider increasing courses taught in English. This is now the norm in many universities in Scandinavia and the Netherlands. Undergraduate teaching in English could also be a way of increasing the student cohort, especially in some of the less populated postgraduate programmes.

The PRG recommends that the Faculty considers a more strategic approach to international exchange and cooperation. As courses are scarce at the postgraduate level the Faculty relies heavily on sending students abroad for one or two semesters. Students appear, however, to receive little guidance and preparation

from the Faculty prior to going abroad. The current practice therefore seems too *laissez-faire* to the PRG.

The PRG also recommends that Faculty be more active in participating in European education projects (e.g. the Tuning project on educational structures) and make more use of foreign reference universities. These may provide important insights and examples for norms of provision in science (e.g. size of laboratories, provision of standard facilities etc.).

13.1 Conclusions and recommendations

Conclusions

- Links with appropriate governmental and research bodies are good.
- The Faculty has taken important steps towards internationalisation of its study programmes, in particular by applying programme structures that are in line with the Bologna Process model.
- The one-year Earth Science programme taught in English is an exemplary way of attracting foreign students.
- At present students appear to receive little guidance and preparation for study abroad.

Recommendations

- The Faculty should work more systematically to promote science in society and to reach out to schools.
- The Faculty should strengthen its relations with private companies in order to better prepare the students for a professional career outside of academia and to seek additional funding.
- The Faculty should consider increasing courses taught in English in all departments, building on the example of Geography and Geology.
- The Faculty should give more encouragement to undergraduates to spend a study period abroad.
- The Faculty should adopt a more strategic approach to international exchange and improve supervision of postgraduate students' study period abroad.
- The Faculty should consider increasing its involvement in European projects and initiatives and make more comparisons with the University's foreign reference universities.

Appendixes

A.1 Number of students and teachers at the Faculty of Science*

Number of students at the Faculty of Science in February 2006

Department of:	Male	Female	Total
Mathematics	65	23	88
	74%	26%	
Physics	64	24	88
	73%	27%	
Chemistry	62	60	122
	51%	49%	
Biology	85	193	278
	31%	69%	
Geology and Geography	124	271	395
	31%	69%	
Food Science and Nutrition	19	37	56
	34%	66%	
Total	419	608	1027
	41%	59%	

Number of teaching staff at the Faculty of Science in 2005⁹

Teaching staff	Male	Female	Total
Professors	40	6	46
	87%	13%	
Docents	18	4	22
	82%	18%	
Lecturers	3	3	6
	50%	50%	
Adjuncts	1	0	1
	100%	0%	
Total	62	13	75
	83%	17%	

Source: University of Iceland

⁹ The number of temporary teachers (sessional) at the Faculty of Science in 2005 was 307.

* More statistical information can be found on the website of the University of Iceland (www.hi.is/page/stadtolur).

A.2 Agenda for PRG visit

Higher Education External Review

Faculty of Science – University of Iceland

October 2nd – 6th 2006

Monday October 2nd 2006:

- 09:00-11:30 **First Meeting of the Peer Review Group**
- 12:00-13:00 **Lunch**
- 13:00-14:45 **Meeting with the Self-Evaluation Group**
University of Iceland (Tæknigarður)
- 14:45-15:30 **Coffee break**
- 15:30-17:00 **First Meeting with the University Authorities**
University of Iceland (Main building)
Kristín Ingólfssdóttir, Rector
Jón Atli Benediktsson, Development Director and Assistant to the Rector
Guðmundur R. Jónsson, Director of Operational and Executive Administration
Halldór Jónsson, Director of Research
Magnús D. Baldursson, Managing Director of the Rector's Office and Head of Quality Administration
Þórður Kristinsson, Director of Academic Affairs
- 17:00-18:00 **Meeting of the Peer Review Group**

Tuesday October 3rd 2006

- 09:00-10:15 **Meeting with the Department of Food Science and Nutrition**
University of Iceland (Tæknigarður)
Sigurjón Arason, Chair
Representatives of the Department
- 10:15-10:30 **Coffee break**

- 10:30-11:45 **Meeting with the Department of Chemistry**
University of Iceland (Tæknigarður)
Ágúst Kvaran, Chair
Representatives of the Department
Representatives of the Department
- 12:00-13:00 **Lunch**
- 13:15-14:30 **Meeting with the Department of Mathematics**
University of Iceland (Tæknigarður)
Robert J. Magnus, Chair
Representatives of the Department
- 14:30-15:45 **Meeting with the Department of Physics**
University of Iceland (Tæknigarður)
Magnús Tumi Guðmundsson, Chair
Representatives of the Department
- 15:45-16:00 **Coffee break**
- 16:00-17:00 **Meeting with External Stakeholders**
University of Iceland (Tæknigarður)
- 17:00-18:00 **Meeting of the Peer Review Group**

Wednesday October 4th 2006

- 09:00-10:15 **Meeting with the Department of Geology and Geography**
University of Iceland (Tæknigarður)
Áslaug Geirsdóttir, Chair
Representatives of the Department
- 10:15-10:30 **Coffee break**
- 10:30-11:45 **Meeting with the Department of Biology**
University of Iceland (Tæknigarður)
Guðni Ágúst Alfreðsson, Chair
Representatives of the Department
- 12:00-13:00 **Lunch with the Rector of the University of Iceland**
- 13:15-14:15 **Meeting with Representatives of the Student Body -**

- Undergraduates**
Nordic House
- 14:15-15:30 **Meeting with Representatives of the Student Body - Postgraduates**
Nordic House
- 15:30-15:45 **Coffee break**
- 15:45-16:45 **Meeting with Representatives of the Student Body - Graduates**
Nordic House
- 16:45-18:00 **Meeting of the Peer Review Group**

Thursday October 5th 2006

- 09:00-10:45 **Meeting of the Peer Review Group**
- 10:45-12:00 **Meeting with the Dean and other Faculty Authorities**
University of Iceland (Tæknigarður)
Hörður Filippusson, Dean
Þóra Ellen Þórhallsdóttir, Vice-Dean
Jón Guðmar Jónsson, Faculty administrator
- 12:00-13:00 **Lunch**
- 13:00-15:00 **Meeting of the Peer Review Group**
- 15:00-17:00 **Looking at the Facilities**
Askja
VR I
VR III
Science Institute

Friday October 6th 2006

- 09:00-10:30 **Final Meeting with the University Authorities**
University of Iceland (Main building)
Kristín Ingólfssdóttir, Rector

Jón Atli Benediktsson, Development Director and Assistant to the Rector

Guðmundur R. Jónsson, Director of Operational and Executive Administration

Halldór Jónsson, Director of Research

Magnús D. Baldursson, Managing Director of the Rector's Office and Head of

Quality Administration

Þórður Kristinsson, Director of Academic Affairs

10:30-12:00 **Final Meeting of the Peer Review Group**

12:00-13:00 **Lunch**

A.3 List of documents received

- Self Evaluation Report, Faculty of Science, University of Iceland, 2006.
- University of Iceland Course Catalogue 2006-07.
- University of Iceland Self Evaluation Report, EUA Institutional Evaluation, February 2005.
- University of Iceland, EUA Evaluation report, September 2005.
- One Year Course for Foreign Students in Earth Sciences (brochure).
- Háskóli Íslands, Stjórnsýsluúttekt, Ríkisendurskoðun, 2005.
- Miscellaneous information material received in meetings with the Faculty of Science.

A.4 Members of the PRG group

Dr. Sigríður Valgeirsdóttir, General Manager of Nimblegen Systems of Iceland: Chair of the peer review group. Dr. Valgeirsdóttir holds a B.Sc. in Biology, with honors, from the University of Iceland and a Ph.D. in Medicine from Uppsala University, Uppsala, Sweden with postdoctoral work at the Ludwig Institute for Cancer Research. Her research field is in signal transduction pathways in cancer cells. Sigríður played a key role in the establishment of Nimblegen Systems of Iceland in year 2002 and works now as VP of Iceland Operations at Nimblegen Systems and General Manager, Nimblegen Systems of Iceland.

Professor Howard Colley PhD, Director of Higher Education Academy, UK.

Professor Kristín Vala Ragnarsdóttir PhD, Professor of Environmental Sustainability, University of Bristol, UK. Kristin Vala is a graduate of the Department of Geology of the University of Iceland and has a MS and PhD in Geological Sciences from Northwestern University in Evanston, Illinois, USA. She has over 25 years of experience in undertaking research and teaching in Earth and Environmental Science in the US, UK, France, Germany and Norway. Kristin Vala has been a member of peer review panels for the European Commission (EC), European Space Agency and the Natural Environment Research Council (NERC) in the UK. Currently she is a member of Scientific Advisory Boards for the Framework 7 Programme of the EC and NERC. She is an executive and associate editor of three international journals. Kristin Vala was elected foreign fellow of the Icelandic Academy of Sciences in 2005.

Professor Bengt E.Y. Svensson PhD, Professor Emeritus in Theoretical Physics, Lund University, Sweden. Prof. Svensson took his PhD at Lund in 1965 and held a chair there in theoretical physics 1971 – 2000; his research field is elementary particle physics. He was dean of the science faculty in Lund 1984 – 1992 and pro-vice-chancellor 1992 – 98 with special responsibility for, i a, quality assurance. He has been engaged by the Swedish National Agency for Higher Education in many evaluation tasks in Sweden. His address is: Department of Theoretical Physics, Lund University, Soelvegatan 14 A, SE-22362 Lund, Sweden, Bengt_E_Y.Svensson@thep.lu.se

Mr. Ásgeir Runólfsson, student representative, Faculty of Engineering, University of Iceland.