

Faculty of Science Academic Plan 2011-2015

The University of Alberta's academic plan, *Dare to Deliver 2011-2015*, provides guidance for an aspiring academic institution as it emerges from a difficult fiscal time. It reaffirms our commitment to preserve and protect an environment where people can pursue scholarly activity in search of "whatsoever things are true" without fear of recrimination, an environment where all scholars – faculty, students, staff and alumni – can ask difficult questions and pursue big ideas. The plan reminds us that the substance and reputation of our institution are defined by the quality of our people. It celebrates our collegial form of governance that facilitates a spirit of consultation and collaboration. It restates our aspiration to "secure a leading place for our University among today's great public universities". These themes are as important to us as a Faculty as they are to the University as a whole.

The objectives we set for ourselves over the next five years are critical to the success of our Faculty and our University. We foresee opportunities for re-investment in the second half of this five year period. In the near-term we will focus our intellect and energy on challenges that rely more on inspiration, creativity, and commitment than dollars and cents.

The Faculty of Science has a long history of building learning communities; of connecting with local, national, and international scholars to drive important discoveries; of integrating research into transformative undergraduate educational experiences; of leadership in Campus Alberta; of outreach to high school science educators; and of supporting talented people at all levels in achieving excellence through a diversity of pathways. We live an evidence-based life with a will to create and solve for the public good. Our research, on one hand, is curiosity driven and focused on fundamental questions of our time. On the other hand, it addresses important societal challenges relevant to industry, government, and indeed society as a whole. Our "research is teaching" philosophy sees students learning from scientists making important discoveries, but also participating in making discoveries themselves. In doing so, talented people from all across our Faculty are engaged in building a vibrant academy that sees the "uplifting of the whole people" as its final goal.

DARE TO DELIVER 2011-2015

Dare to Deliver 2011-2015 represents the implementation plan for *Dare to Discover* over the next five years, emphasizing the four cornerstones of Talented People; Learning, Discovery, and Citizenship; Connecting Communities; and Transformative Organization and Support. The Faculty of Science has been and continues to be committed to these cornerstones. We do so recognizing that a great University arises from the faculty, staff and students who create the intellectual ferment within it. Within such an environment, an academic plan cannot prescribe what each member of our community should or will do. It can, however, provide a framework that allows each member to contribute to a larger whole. In doing so, we enable collective activity that arises from individuals asking if there is a better way. As such we advance our institution and build our reputation.

We need only look to the recent past to validate this approach. Many of our initiatives in the past five years position us to evolve the academy in new ways. These include:

Talented People	Learning, Discovery, and Citizenship	Connecting Communities	Transformative Organization	Academic Initiatives
✓	✓	✓	✓	Establishment of the Mathukumalli Venkata Subbarao Professorship in Number Theory, the Encana Chair in Water Resources Sciences, and the Max Wyman professorships in Mathematical and Statistical Sciences.
✓	✓	✓	✓	Creation of four research centres/institutes on topics of strategic importance: the Institute for Land Use Innovation, the Alberta Centre for Earth Observation Sciences, the Canadian Centre for Isotopic Microanalysis, and the Institute for Space Science, Exploration, and Technology.
✓	✓		✓	Transforming undergraduate science education and pedagogy through innovative programs such as SCI 100: a full year, 27-credit course for first year students which uses an integrated and interdisciplinary approach and employs the expertise of top science professors to deliver material from all seven disciplines in the Faculty of Science.
✓	✓		✓	Establishing an integrated learning community in classrooms and laboratories that engage students, faculty, and staff with hands-on laboratory experiences, second-year for-credit research courses, capstone fourth-year research projects, field schools, and NSERC, AHFMR, and grant-funded summer research programs.
✓	✓	✓	✓	Encouraging student learning beyond the curriculum by participation in community-service learning opportunities, innovative work experience in the Industrial Internship Program, field schools and other learning opportunities outside the classroom.
✓	✓		✓	Experimenting with increased flexibility of our undergraduate programs to enable students to follow a more interdisciplinary path (e.g. Computing and X).
✓	✓		✓	Supporting undergraduate success through the first-year cohort and mentoring programs.
✓	✓		✓	Supporting first year success and retention by tracking midterm performance to identify students at risk of failure and provide them with academic support services. International students identified through this program receive additional intervention through a partnership with International Student Services.
✓	✓	✓	✓	Supporting international graduate student teaching assistants with the innovative INTEL program, which brought students to campus one month early for intensive English language and teaching training.
✓	✓	✓	✓	Creating graduate degrees in service of the external community such as the MSc in Integrated Petroleum Geosciences and the MSc in Internetworking (MINT).
✓	✓	✓	✓	Forming and participating in multi-university institutes such as MITACS, BIRS, and PIMS. For example, the PIMS International Graduate Training Centre in Mathematical Biology with UVic, UBC, Calgary, SFU.
✓	✓	✓	✓	Supporting WISEST and other outreach programs.
✓	✓	✓	✓	Working with the educational community of school teachers and Alberta Education. For example, the thrice-yearly Northern Alberta Physics Teaching Initiative, the annual Physics Teachers Conference, and the collaborations that led to Computing Science becoming a university entrance subject throughout Alberta.
✓	✓		✓	Removing barriers to participating in science programs in recognition that today's student may have competing responsibilities and/or challenges.
✓	✓	✓	✓	The newly completed Centennial Centre for Interdisciplinary Science. This LEED-signature building provides research and learning spaces where students and scholars can gather in an interdisciplinary intellectual environment.
✓	✓		✓	Collaboration with the Writing Initiatives team in the development of courses (e.g. WRS103) and workshops to support scientific writing in our undergraduate and graduate

				programs.
Talented People	Learning, Discovery, and Citizenship	Connecting Communities	Transformative Organization	
				Academic Initiatives (cont'd)
✓	✓		✓	Changing our academic standing (e.g. First-class standing) rules to ensure that students participating in formal exchange or Industrial Internship opportunities are not disadvantaged.
✓	✓	✓	✓	Collaboration with UAI to foster student interest in Study Abroad and international internship opportunities.
	✓		✓	Improving undergraduate science education by expanding the use of advanced microscopy and enhancing experiential and collaborative learning in Alberta's physical science education with state of the art spectroscopy.
✓	✓	✓		Building international partnerships with universities, like The University of Science & Technology Beijing (USTB), to offer international students the opportunity to complete a Faculty of Science Bachelor of Science degree.
✓	✓		✓	Creating research opportunities for undergraduate and high school students.
✓			✓	Increasing scholarship opportunities (in 2009/10, students in the Faculty of Science received over \$2.9 M in scholarships, awards and bursaries).
✓	✓			Creating innovative teaching in science through the University's and the Faculty's Teaching and Learning Enhancement Fund.
✓	✓	✓	✓	Building partnerships with industry both nationally and internationally to support research collaborations.
✓	✓			Action taken to increase the diversity, including gender diversity, of our faculty to further strengthen the culture of creativity and innovation in the Faculty of Science.
✓	✓	✓	✓	Introduction of the CanoRock rocket launch training program.
		✓		Implementation of the ALTA cosmic ray project enabling high school students to carry out extended experiments on cosmic ray incidence.
✓				Recruitment of 63 world-class professors including one Canada Excellence Research Chair and the University's first Centennial Professor.
✓	✓	✓		Increase in the number of publications in the world's most prestigious, high-impact journals (Science, Nature, Proceedings of the National Academy of Sciences) by more than four-fold since 2002.

Over the next five years, the Faculty of Science will undertake a series of academic initiatives that respond to the vision put forward in *Dare to Deliver 2011-2015*. Like the examples given above, these initiatives will transcend the four cornerstones outlined in both *Dare to Deliver 2011-2015* and *Dare to Discover*. For ease of presentation, we present these initiatives under the cornerstone that provides the best alignment.

Talented People

The reputation of an academic institution, whether it be for teaching, for research, for knowledge transfer, for public service, or for any other worthy goal, rests on the reputations and ultimately on the talent, creativity, and commitment of its people. The collective institutional reputation may be greater than the sum of its parts, but talented, hard-working individuals are the key to success. Moreover, talented people of many different kinds – faculty, technical and instructional support staff, administrators, sessional and contractual staff, adjunct professors, postdoctoral fellows, graduate students, and undergraduate students – all contribute to this success. The Faculty of Science is blessed with talented people who work together to create a powerful and highly successful unit. We count our alumni and community partners among the talented people who participate in and contribute to our success, but will discuss them under the Connecting Communities cornerstone.

The recruitment, retention, and succession planning challenges for each type of person are different. In this section we focus on just three categories: professors, graduate students, and undergraduate students.

Recruiting and Retaining Professors.

The Faculty of Science anticipates modest faculty recruiting activity over the next five years. We also anticipate that a depressed worldwide market will make some outstanding candidates available to us. Those will be the target of our recruiting efforts. Our worldwide reputation for excellence means our professors are a prime target for poaching. When economies rebound and Science faculties around the world begin to recruit, our resolve to retain our very best people and our creativity in addressing individual circumstances will both be tested. Key elements of our retention strategy are to maintain competitive teaching loads, world class research infrastructure, cohesive, collegial research groups, and strong levels of graduate student support, to reward excellence of all kinds via the merit increment system, and to recognize excellence through internal awards and nominations for external awards.

Recruiting and Retaining Graduate Students.

With little growth anticipated in our professoriate and graduate enrollment targets currently calling for no growth, the Faculty of Science does not anticipate a large increase in the number of graduate students over the next five years. Notwithstanding these limitations, we will continue to explore opportunities for expansion of our graduate enrollment. We would welcome an increase in our ratio of graduate students to faculty (currently 4.3) and a decrease in our undergraduate to graduate student ratio (currently 5.2). Given that international students currently comprise 53% of our graduate student body, we are not planning to increase the percentage of international graduate students. Nevertheless, we will invest in recruiting efforts to increase the quality of our graduate students and, to some extent, the diversity of their nations of origin. Expansion of our German graduate student population is expected to occur through the Helmholtz Initiative and other planned Germany-focused initiatives. As a Faculty, we have also targeted India, China, and Brazil for recruitment of graduate students. We believe that the recruiting of graduate students is best done at the department level and Science departments are developing their own plans and priorities, with the Dean's office playing a facilitating role. Although we believe scientific reputation is the main driving force in top graduate students selecting an institution, two other key factors are affordability and the uniqueness/richness of the graduate educational experience. The Faculty of Science is committed to continuing a strong level of financial support for graduate students, finding ways to fund CREATE-like proposals in the event they are not funded by NSERC, and further developing and strengthening inter- and intra-university initiatives for enhanced graduate training.

Recruiting and Retaining Undergraduate Students.

Current targets require us to reduce our undergraduate enrollment from our current and all time high of almost 6,500 students. Our aim in working towards this goal is to increase the quality of our students and to increase the number and proportion of international students. Non-Canadian students currently account for 12.5% of our undergraduate enrollment, putting us within striking distance of the University's goal of 15%. We will build on our experience with the Super Science High School from Japan, offering similar science summer camp programs to other international high schools. We will actively seek to establish "2+2" degrees and similar arrangements with top international universities and will continue to work with the Registrar to simplify and streamline the processing of admissions from students of all geographic origins. We will also work to increase our competitiveness for top students by increasing the value of the scholarships we offer. We will enhance the richness of the undergraduate experience in many ways (see the Learning, Discovery and Citizenship cornerstone) adding to the attractiveness of our programs and their ability to compete effectively with programs elsewhere. The Faculty will continue its engagement in programs aimed at increasing the participation of under-represented groups including its strong support of WISEST and its outreach efforts to First Nations students and rural Albertans. We are putting into place a variety of mechanisms and communication strategies aimed specifically at improving retention of undergraduate students including a "boot camp" for entry-level Mathematics, methods for identifying "at risk" first-year students, identification and possible redesign of courses that create barriers to student success, increased counseling for targeted student groups, and increased access to individual or small-group help sessions for technical topics taught in a large classroom setting. A priority target for improving retention will be students in the B.Sc. General program. We recognize that this will involve rethinking the structure of the General program and the associated advising services; this "rethink" has already begun. We will conduct a program review of our Industrial Internship Program, reviewing the length of placements offered and the potential of expanding it to include B.Sc. General students.

Learning, Discovery, and Citizenship

Learning and discovery are the core activities of the majority of the talented people who make up the Faculty of Science, and the rest play essential roles in supporting these activities. As a leading research-intensive Faculty of Science, learning and discovery span the full range of activities from traditional forms of undergraduate learning to discoveries arising from the most sophisticated forms of modern research. Improving the quality of our learning and discovery outcomes is our highest priority and the goal towards which almost all our energy and resources are devoted.

Citizenship is selfless service – the commitment of one’s resources, skills, and knowledge for the benefit of a group (for example, a Department, Faculty, University, scientific community, or society at large). The Faculty of Science is fortunate to have many dedicated citizens among its faculty, staff, and students. The service and citizenship of our faculty are carefully considered each year by Science’s Faculty Evaluation Committee, and we facilitate citizenship in our students through administrative and financial support of our student groups.

The remainder of this section will focus on three different categories of learner/discoverer – the researcher, the graduate student, and the undergraduate student – and describe the Faculty’s plan to enhance the learning/discovering experience of each of these learners.

The Research Experience.

The Faculty of Science has an outstanding record of achievement in research and will make every effort to facilitate and reward excellence, leadership, and productivity in our researchers. Above all else, the Faculty values excellence and the freedom of a scholar to choose a subject and method of scientific inquiry. We are excited about the richness of potential returns from interdisciplinary science - our new building is dedicated to this pursuit. But we also fully recognize the importance of profound expertise in a single discipline. We accept our responsibility to apply our scientific skills, knowledge, and know-how to society’s urgent problems (e.g. clean energy, climate change, human health, water, wildlife conservation, environmental monitoring, sustainable land use) and current opportunities for economic growth (e.g. nanotechnology, resource exploration, space science, artificial intelligence), but also recognize our responsibility to apply our talents with equal vigour to advance our understanding of the most profound scientific questions of the day (e.g. the origin and fate of the universe, the development of life on Earth, the mechanistic basis of thought). In the coming years, the Faculty of Science aims to provide additional incentives and rewards, and perhaps training mechanisms, for further increasing the leadership activities of our researchers. A key activity in the next few years will be to work together with Alberta Innovates to ensure it creates the programs and the support network necessary to keep the flagship of Alberta research operating at full capacity. We would like to see a strong program of funding for postdoctoral researchers and graduate students, as they are the lifeblood of the research enterprise. Provincial matching funding is needed for all CFI grants in order to ensure that our researchers have the state-of-the-art equipment required to continue to perform world-class research. We understand the Province’s rationale for focusing some of its resources on research with near-term, commercial, or societal impact, but will speak out about the need for basic research in a broad array of disciplines. Curiosity-driven research is inextricably interwoven into the intellectual fabric of our academic culture. Our record of achievement in discovery contributes to our international reputation and such research provides the keys to solving societal problems or creating commercial blockbusters in the unforeseeable future. The Faculty, University, and Province need to be nimble in reacting to new opportunities that require unanticipated investment, as each did, for example, with the Helmholtz Initiative.

The Graduate Student Experience.

With over 96% of our graduate students enrolled in research-intensive, thesis-based programs of study, the quality of the graduate student experience in the Faculty of Science directly follows from the quality of the professors, postdoctoral fellows, and research staff who guide and interact with them, the worldwide network of elite research partnerships in which they work, and the state-of-the-art research facilities to which they have access. We plan to enrich the graduate experience in the next five years by enhancing student mobility, options for multidisciplinary thesis research (both within the Faculty of Science and with other Faculties on campus), and engagement with external partners. These elements can all be found, for example, in the educational component of the Helmholtz Initiative and in the CREATE proposals that are regularly arising from our professors and our Canadian university partners. We will actively seek ways of funding such innovative graduate programs. We will also aim to increase the professional development opportunities for our graduate students so that we may better prepare them to be leaders of tomorrow. A key aspect of graduate student professional development is preparation for classroom engagement. We will seek funding to resume our INTEL program for training newly-arrived international graduate students in the skills needed to be effective teaching assistants in our undergraduate courses.

The Undergraduate Student Experience.

As a complex, multifaceted enterprise serving a large and highly heterogeneous population, the Faculty of Science's undergraduate programs present the most challenges but also the most opportunities for enrichment. While we will strive to improve all aspects of the undergraduate experience over the next five years, in this section we will describe our plans for certain key aspects.

- **Program Planning** – Every Science department and the Dean's office itself has professional advisors who provide formal advice on matters such as degree requirements, academic standing, and so on. We will seek ways to make the formal advising as efficient and effective as possible, but there is also a need for two other kinds of advising: one that assists students in constructing a plan of study matched to their career and life goals and one that assists students in coping with the stresses of undergraduate life. We envisage a suite of activities and services aimed at these needs involving graduate students, senior undergraduate students, peers, alumni, industrial partners, and other interested members of the local community. We will also review the General B.Sc. program and make changes to ensure that the wide variety of students who choose this program route have just the right balance between flexibility and structure so that they graduate with the skills and knowledge they need to succeed in their chosen careers.
- **Exposure to Research** – One of the most significant and enduring benefits of the undergraduate experience in the Faculty of Science is the constant exposure to world-class researchers and their culture of excellence and uncompromising critical analysis: such are the professors our undergraduates meet in the classroom and the graduate students they meet as teaching assistants. The opening of CCIS has increased this subtle, but powerful exposure to research. Its vision of transparency allows students to literally see leading-edge research as they walk through the building. All are implicit ways of infusing the undergraduate experience with a culture of research excellence. In the years ahead, the Faculty of Science aims to increase the direct experience of our undergraduates in research by creating additional undergraduate courses with an explicit research component and by increasing the number of summer research internships for undergraduate students. We will also review our laboratory and field courses to identify innovative ways to place a

greater emphasis on “discovery” while continuing to teach the detailed technical skills and knowledge that are best learned in a hands-on manner.

- **Teaching Innovation** – The Faculty of Science will continue to recognize and reward effective teaching and teaching innovation through academic awards and our merit increment system. We will strongly support proposals for teaching innovation submitted to TLEF and other funding programs that aim to enhance the undergraduate learning and discovery experience. We will strongly encourage and support our departments to continue to take a leadership role within Campus Alberta in securing funding from the Provincial Access to the Future Fund when it resumes. We will encourage and support efforts to create a multidisciplinary experience for undergraduates. This may take the form of certificates (for example, in Northern Studies) recognizing achievement in a multidisciplinary subject, or of multidisciplinary elements being introduced into individual courses (perhaps using the lessons learned from Science 100) or programs of study (for example, by increasing the flexibility of the Honours and Specialization programs, or by adding courses from other departments or Faculties as electives in a program of study).
- **The First Year Experience** – The consultation process that led to this academic plan spawned numerous proposals for enhancing the quality of the first-year experience. A recurring theme was to give first-year students an overview of science, the disciplines within it and how they relate to one another, the general philosophies that unite all scientists, its role in society, and the careers to which it leads. A second theme was to explore innovative approaches for tailoring first-year courses to specific audiences, for example, discipline-specific mathematics and computing courses. We will pursue both these themes in the coming years.

Connecting Communities

Engagement with external communities, whether they be local, provincial, national, or international, is of tremendous benefit to the Faculty of Science. Such engagement produces ideas and opportunities that would not otherwise be available, it enriches the experiences of our talented people in all their activities, and it gives an outlet through which our activities have impact. The nurturing and enhancement of existing partnerships, and the strategic creation of new ones, serve to create opportunities to improve ourselves and affect the world around us. In an effort to promote engagement, we will strive to increase our efforts to champion and celebrate our accomplishments through media and other methods of building external awareness (for example, a public lecture series). Some of the key communities with whom the Faculty of Science will most actively engage in the coming years are outlined below.

Alumni and friends.

Our greatest impact on society is through our alumni, each of whom is applying the skills and knowledge learned in our programs to the benefit of society. Our alumni are an enormous source of resources that can greatly benefit our Faculty. They provide us with wisdom, entrepreneurial skills, advanced technical skills, employment opportunities for our graduates and students, applied research opportunities for our students and researchers, career advice, connections to the world at large, and financial support through their philanthropy and other forms of investment. To tap into these resources more fully, the Faculty of Science will increase our engagement of alumni. We will strive to track their activities more effectively to more fully understand our impact. We will also engage alumni in our recruitment and student engagement activities, both locally and internationally, connecting those who have used their degrees to launch successful careers with those who are just starting out. As part of the effort to reach more alumni in more meaningful ways, we will strategically provide for greater participation of departments and individual researchers in these activities, and we will work to ensure that such participation is properly recognized. To guide our efforts to more fully engage with our alumni and other external friends, we will create a Dean's Advisory Council consisting of key science-business leaders from the community and work more closely with the Alumni Office. Although alumni are a natural starting point for such activities, we will expand our activities to engage a wider population. Many non-alumni understand the value of science and a science-literate population to their business or society at large, and would eagerly contribute the same kinds of resources as alumni to help the Faculty of Science extend its reach further into society.

Alberta Partners.

The Faculty of Science will continue to work in partnership with local governments, professional organizations, and businesses. The recently approved B.Sc./B.A. program in Planning (jointly offered by Science, Extension, and Arts) enjoys very strong local support and formal partnerships will emerge as the program's implementation unfolds. On other fronts, we will continue to work closely with the educational community, school teachers, and Alberta Education on matters of mutual interest, such as the training of science teachers, the new high school mathematics curriculum and general science education issues at the high school level. As an example of the first point, we are currently working with the Faculty of Education to extend the existing B.Sc./B.Ed. to include a major in Computing Science. Our interactions with schools and teachers within the province is part of a rich suite of outreach activities undertaken by the Faculty of Science to increase public participation in, and understanding of, science in general and science activities in our Faculty. We envisage an increase in such activities over the next five years.

International Partners.

The Faculty of Science benefits from numerous international education and research partnerships, ranging from individual research collaborators in every corner of the globe through to formalized institutional relationships such as the Helmholtz Initiative. Our plan for the next five years is to expand and enhance the existing partnerships and add new ones of strategic importance. Two countries of special interest are Germany and Brazil. Student exchange programs of various types will be a high priority. For example, the Faculty of Science has recently signed an agreement with the University of Science and Technology Beijing that will see some of their senior undergraduates spend one year as Visiting Students in the Computing Science program with the long term goal to recruit some of those students into our graduate program. As well, the Faculty of Science Student Services Office will collaborate with University of Alberta International to increase the mobility of our own students through enhanced communication of study abroad and international research opportunities for Science students. Part of this initiative will include an expansion of our international transfer credit database so that students will know in advance how the courses they choose will apply to their Science degree program. We will continue to base our thinking about international transfer credits on equivalency of experience rather than identity of content, thus providing students with a greater opportunity to study abroad without compromising their times to completion.

Transformative Organization and Support

The efficiency and effectiveness with which individuals in the Faculty of Science can execute the activities and achieve the goals set out in previous sections of our plan is often affected by the organizational structure and infrastructure, policies and procedures, and administrative will and support of both the Faculty of Science and the University of Alberta. In this section we discuss four key organizational challenges that will occupy our thinking in the coming years.

Fund-raising.

To the extent that our planned activities and vision for the future require funding beyond what can be expected from traditional funding sources, there is a need to raise funds externally. In recent years we have witnessed significant growth in our fundraising success. We are committed to further increasing our capacity in the coming years. To energize our success, we will work to connect our development office more closely with our departments and their researchers. A key element in our planning is to re-interpret our goals and aspirations in the context of important societal goals that motivate individual donors. We will also continue to foster a close and synergistic working relationship with the university's central alumni and development offices, along with all university leaders.

Streamlining the Organization.

The modern business, political, and academic world is fast-paced. Every organization, and especially one as large and complex as the University of Alberta, needs to continuously review its policies, procedures, organizational structure, and internal services in order to identify and eliminate barriers or impediments to its efficient and effective operation. The Faculty of Science and its departments are constantly striving to eliminate internal inefficiencies and will welcome every opportunity to cooperate with other units on campus to identify and eliminate inefficiencies that involve interactions between us and them.

Information Technology.

There is a great deal of innovation taking place in information technologies, including mobile computing (access to any information, anytime, anywhere, from any kind of device), social networking, cloud computing, the ubiquity of the web, and tendencies towards centralized, possibly outsourced services. If used prudently, our institutional goals could greatly benefit from these innovations but the potential benefits must be balanced against the costs and risks associated with adopting a new technology. The Faculty of Science is currently reviewing its information technology services with the aim of identifying those services that might benefit from being offered in a more centralized manner. The changes we identify will be implemented over the next five years. We are also aware that ITIL compliance will be required in the coming years and have begun strategic planning for that as part of our launch of the Centennial Centre for Interdisciplinary Science.

Work-life Balance.

This academic plan replaces “Time to Think, Time to Invest”, our previous plan which enshrined the issue of work-life balance in its very title. We fear that many will conclude that we have not made much progress in addressing this issue over the past five years. For many, the downsizing of our Departments and our Faculty through early retirements and layoffs in recent times, without a corresponding decline in expectations, is evidence that we are approaching a crisis. By participating in an annual administrative process that reports on a variety of academic measures, we hope not only to measure our progress towards stated institutional goals, but also to report on measures, such as the ratio of undergraduate students to professors, that reflect the larger issue of workload and work-life balance. We also commit

ourselves to using our decision making – whether it be required to implement investment or reduction – to protect our core activities in teaching, research and service.