Boston University – College of Engineering ***January 23, 2007***

FACULTY EXPECTATIONS

1. Introduction

The College of Engineering is an academic community of students, faculty, and staff involved in educating the engineers of tomorrow and advancing the frontiers of science and technology through research and discovery. By viewing the engineering profession as a service to humanity, the College helps students become responsible, effective members of society. The primary goals of the College of Engineering are:

- to advance the frontiers of knowledge via engineering science;
- to translate, innovate, and integrate new technologies from the laboratory to society;
- to provide a rigorous education to prepare students to become highly qualified engineers and the society leaders of tomorrow;
- to prepare graduates to lead fulfilling professional lives, participate in lifelong learning, and assume roles as contributing members of society;
- to participate as national and international leaders in all dimensions of science, education and society;

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To this end, faculty are expected to demonstrate excellence and leadership in research and teaching and to carry out the service responsibilities that help to sustain these activities.

2. Teaching

Dissemination of knowledge, and the training of engineers to apply that knowledge for the general welfare, is central to College's mission. All tenure and tenure-track faculty are expected to participate in teaching and to take teaching seriously, to do it well, and to seek to improve teaching through examination of their methodologies, student feedback, mentoring from more experienced faculty members, and accessing College and University resources for improving instruction.

2.1 Teaching Evaluations and Performance

Student evaluations, when adequate statistics are available, are an important measure of classroom teaching performance. Teachers are expected to have good evaluations in both undergraduate and graduate courses. As a general guideline, on a scale of 1-5 with 5 being the best, the top teachers in the College consistently score in the 4-5 range on the general questions such as "I recommend the instructor" or "My evaluation of this instructor's effectiveness is…". Scores in the less than 3.0 range are indications of sub-standard teaching. Scores on the 1-2 range are indicative of poor, ineffective, and unacceptable teaching performance. Of particular concern will be a consistent trend of poor evaluations over several semesters. Also recommended are peer-review of teaching via attendance at lectures by the department chair or other designated appropriate department faculty. Department chairs are expected to meet with faculty who show poor performance and identify a plan of self-improvement. Ultimately, each faculty is

responsible for engaging methods to insure high quality teaching and addressing any concerns with teaching.

2.2 Supervision of Graduate Students

Because training the next generation of researchers and teachers is an important part of the mission of the University, doctoral and/or master's thesis supervision is expected of all research-active faculty. Whenever appropriate, the faculty is expected to guide and advise students to apply for Fellowship opportunities (such as NSF/DOD/DOE/NIH, etc.).

2.3 Academic Advising

Academic advising is another form of teaching, and it is an effective and critical component of our efforts to help undergraduates complete what is without question one of the most challenging curricula in the University. All faculty members, including Chairs, Deans, and Center Directors, are expected to advise undergraduate students.

2.4 Course Development

Where appropriate, faculty members (particularly tenured faculty) are expected to develop courses in their fields, including those at the graduate level. At the undergraduate level, faculty members are expected to review the syllabi and texts for relevance, and to incorporate new material and innovative methods for improving teaching on a continual basis. Textbook writing is considered a valuable contribution to the teaching mission of the College.

2.5 Minimum Teaching Load For All Faculty

All faculty members (both tenured and untenured) are expected to teach at least one course per year. Most faculty will teach at least two courses per year.

3. Research

Research-active faculty are expected to contribute to the knowledge base of our society and to educate graduate students in the process. An additional role of senior faculty is the mentoring of younger colleagues.

All research-active faculty are expected to be principal investigators and develop independent research programs, whether or not they are part of a Center or larger laboratory. At a minimum, this means defining and solving research problems and, when necessary, developing the staff and funds necessary for progress. The overall criterion by which research success will be judged is scientific impact, i.e. opening new directions of research, advancing the state of the art, or altering the direction of ongoing research of others in the field. Among the indicators of impact are i) publications and citations; ii) doctoral theses supervised; iii) honors and awards; iv) editorial, advisory, and leadership positions; v) invited lectures; vi) externally funded research; vii) patents; and viii) transfer of technology to the commercial sector.

3.1 Publications and Citations

Peer-reviewed publications in archival research journals are the most important measure of the significance of any research activity. Since the most prestigious journals tend to have the greatest impact, faculty are strongly encouraged to publish in the best journals in their field that have a high impact and/or where appropriate, in journals such as Science or Proceedings of the IEEE, which reach large audiences. Conference proceedings, book chapters, scholarly books (as distinguished from texts, which are considered part of teaching) and submissions to databases may also be taken into account. Related indicators of impact are citation frequency, invitations to speak at or chair national and international conferences and symposia, and invitations to contribute papers. In general, impact is often increased by both the quality and number of publications. Therefore, although quantity will not by itself be a measure of productivity, it will be important to the extent that influence generally accrues from a sustained and strong publication record. Collaborative research is encouraged. In order to receive full credit for papers with multiple authors, the faculty member should have made a substantial contribution. This need not, however, mean first authorship. If there is a question, it is incumbent on the Department Chair to investigate the involvement of each author to determine if a given publication is worthy of full credit to the individual.

3.2 Doctoral Theses Supervised

The successful completions of doctoral theses by graduate students supervised by a faculty member provide a significant indicator of research, as well teaching, excellence. Further, the ability of doctoral students to find placement in appropriate positions after graduation reflects favorably on a faculty member's overall reputation and impact in his/her field. Faculty are expected to facilitate this process as well.

3.3 Honors and Awards

Items in this category include election to senior status (e.g., "Fellow") in professional societies, awards bestowed by professional societies, and competitive national or international prizes. Certain research grant awards---such as the NSF Career and Sloan Foundation awards, and similar awards from other government and philanthropic agencies—that are attained through rigorous peer review systems also represent significant honors. Awards to students based on their publications and/or posters by professional societies are also considered part of faculty contribution to excellence in teaching, research and mentoring.

3.4 Editorial, Advisory, and Leadership Positions

This category includes invitations to serve on editorial boards, scientific advisory boards, study sections, international committees, boards of directors, as an officer of a technical society, or in any other service activity that would signal recognition of accomplishment by the wider research community.

3.5 Invited Talks

An additional indicator of impact are invitations to deliver keynote/plenary lectures at or chair national/international conferences/symposia, invitations to give seminars at other research institutions, and invitations to contribute papers in the respected and visible proceedings.

3.6 Externally Funded Research

The ability to attract and sustain external funding is typically essential for maintaining an outstanding research program, and hence is expected of an outstanding research-active faculty member. Failure to attract sponsored research often diminishes productivity and the ability to support graduate students. Collaborative funded research is also highly encouraged and is an indication of a much broader effective impact of the research both locally, and throughout the scientific community.

3.7 Technology Transfer

Technology transfer, i.e. the moving of ideas from the laboratory to the world of commerce in a useful form, is an important part of knowledge dissemination and is therefore another indication of success in research. Faculty are highly encouraged to patent and license inventions, to form companies when appropriate, to serve on corporate advisory boards and to otherwise form industrial alliances, provided these activities are free of conflicts of interest. All outside activities that could potentially lead to a conflict of interest or the appearance of a conflict of interest must be disclosed in writing yearly to the College and the University.

4. Service

Service to the Department, College, University, and the Profession is an important part of the mission of the College, and one in which tenured faculty are expected to show leadership. Certain service activities, such as student advising, attending faculty meetings, and the recruiting of students and new faculty members are expected of all faculty. Additional service is also expected, and the opportunities are varied but numerous. Some examples, in addition to those mentioned in Section 2.4, include serving on Department, College and University committees, advising student societies such as IEEE, ASME, SME, SWE, and Tau Beta Pi, participation in recruitment activities such as visits to high schools, Fall open house programs, college outreach and service learning programs, and admissions conversion programs.

5. Allocation of Faculty Time

5.1 Allocation for Research-Active Faculty

Because of the nuances associated with funding sources for different engineering disciplines, the base teaching load for research-active tenured faculty is established at the department level in consultation with and with final approval from the Dean. Typical levels are three or four courses per academic year, depending on the specific department. This course load represents 80-90% of

the faculty member's academic-year obligation. The remaining percentage of the faculty member's time is allocated to service, advising, and administration, To accommodate research, teaching loads may be reduced by the use of buyout (at 20-30% AY salary per course based on consultation with the department chair) from grant funds. Some departments might provide up to a single course release to research-active faculty without first requiring buyout, thus resulting in 2-3 courses as the faculty's course load. Again, the details of the policy are established at the department level. So that departmental teaching requirements can be given due consideration, requests for course buyout are not granted automatically but must be approved by the Department Chair. In some cases, the course load may be reduced without grant buyout at the discretion of the Department Chair, with the equivalent time allocated toward department-supported research, new course development, the running of large laboratories, or course support for other faculty.

5.2 Definition of Research-Active Faculty

Classification of a faculty as research active is determined by the Department Chair and reevaluated on a periodic basis in consultation with the individual faculty member. The following guidelines will apply: Classification as research-active will be based on demonstration of continued scholarly publication of papers of significance in refereed journals, ongoing grant and contract proposal submissions and awards, active participation in multidisciplinary research programs, graduate student supervision, or other tangible evidence of significant research activity.

5.3 Teaching Faculty

The course load for teaching faculty is six courses per academic year. Teaching faculty are often so designated at the time of their appointment and represent a separate employment track. Under certain circumstances, tenured-faculty can have their status changed to that of "teaching-faculty" or vice-versa depending on their research activity (see 5.5). Teaching faculty are allowed to engage in research or in the supervision of graduate students, but are primarily responsible for the high standards of teaching and education performance in all of their course assignments. Teaching faculty that are unable to sustain quality teaching will be subject to review and/or dismissal.

5.4 New Tenure-Track Assistant Professors

New assistant professors normally teach a reduced course load during their first two years. Typically this is no more than two courses per year for two years without requiring course buyout from research funding. Thereafter, these faculty are subject to the department's policy outlined in section 5.1 above and at the discretion of the chair. As is the case for tenured faculty, the number of courses taught per year even during year 1 can be reduced through the use of buyout. Initial teaching requirements for newly-appointed, but more senior, faculty members will be negotiated between the Department Chair and the candidate but will typically not be less than the teaching requirements for new assistant professors and may require buyout from existing funding to attain this course load level.

5.5 Change in Faculty Designation

A research-active faculty member who fails to sustain a vigorous research program may be changed to teaching faculty status by the Department Chair. Such a change will be accompanied by a commensurate increase in teaching responsibility. A faculty member in disagreement with such a decision has the option of appealing in writing to the Dean within 30 days of notification of the decision. A research-active faculty member can voluntarily change to teaching faculty status by notifying the Chair. Teaching faculty that are unable to provide quality teaching will be subject to review and/or dismissal.

A teaching-track faculty member wishing to change to research-active status should submit to the Chair a proposal by which research progress can be measured. The proposal will be reviewed by the Chair and the Executive Committee and then submitted to the Dean for a final decision.

6. Promotion and Tenure

6.1 Promotion to Tenured Status

Tenure-track faculty are expected to demonstrate excellence in research and teaching and to carry out the service responsibilities that help to sustain these activities, including appropriate service to the field. At the time of application for tenure, the record of these activities will be reviewed independently by the faculty of the Department, its chair, the College Tenure and Promotion committee, and the Dean of the College.

A tenure-track faculty member must apply for tenure no later than the spring of the fifth year following initial appointment. A schedule describing the sequence of events following the application is updated annually and is available from the Dean's office.

Tenure track faculty should be familiar with the University's "Guidelines for Preparation of Tenure Dossier and Review Schedule," which can be obtained from their departments. The preparation of the supporting materials described in the guidelines is crucial to the preparation of a tenure dossier. All relevant materials such as course syllabi, homework, quizzes, and examinations should be retained and catalogued in preparation of the tenure review.

6.2 Promotion to Full Professor Status

To merit promotion to Full Professor status, faculty are expected to demonstrate continued excellence in research, teaching, and service, as judged by the measures mentioned in previous sections, and to be active in the training of graduate students and post-doctoral fellows. Faculty must show a clear record of enhanced accomplishments in these areas since their most recent promotion to Associate Professor. While no formal time span is required before consideration for promotion, as a general guideline, 6 years past the promotion to tenured associate professor is typical. Consistent with University guidelines, promotion to Full Professor status in the College of Engineering also requires that the candidate be nationally and internationally recognized as a scholar of note in his/her field. Some indicators of international recognition included invited

talks at international meetings, editorships of high-quality journals, fellowships in and highly visible awards from professional societies or honorary organizations, service on boards of directors and review panels, office positions in technical organizations, sustained records of high-impact publication, and external support from competitive, peer-reviewed funding sources. Outstanding, nationally recognized contributions to teaching and education are also indicators that a candidate merits Full Professor status.

No formal schedule for promotion to Full Professor status exists. An application for promotion is initiated by the Department Chair after discussions with the faculty member. Tenured Associate Professors should expect periodic oral or written reviews by the Chair in which the subject of promotion is discussed. External candidates hired at the rank of Full Professor are expected to have met the above standards before being hired at Boston University.

7. Review

This administrative policy will be reviewed periodically and revised when deemed necessary by the Executive Committee of the College of Engineering. To minimize confusion with existing faculty expectations documents, this and subsequent versions will be identified by the published date located in the top right corner. This document will be available on the college web site and used by chairs, the academic promotions and tenure committee, and dean when evaluating performance, merit, and promotion. It will also be provided to new faculty.