

# Department of Physics and Astronomy: Standards for Tenure and Promotion

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This document spells out standards for tenure and promotion within the Department of Physics and Astronomy (P&A) at the University of New Mexico. It is based on the standards and practices laid out in the Faculty Handbook. Relevant portions of the Faculty Handbook are quoted verbatim in the right-hand column for ease of access by reviewers and reviewees. The particular standards for tenure and promotion formulated here are developed within P&A's Statement of Purpose and Mission Statement, quoted below, which were formulated in the Department's 2004 Long-Range Plan (May 15, 2004) and were repeated and reaffirmed in its 2009 Long-Range Plan and Self-Study (December 23, 2009).

## P&A Statement of Purpose

**The Department of Physics and Astronomy is a science department that (i) teaches a substantial load of introductory undergraduate courses, these mainly serving other constituencies within the University, (ii) offers small, high-quality degree programs for undergraduate majors in physics and astronomy, and (iii) maintains high-visibility research and graduate programs.**

## P&A Mission Statement

**The Department's mission is to perform these three educational and research functions not just well, but in a fashion that is recognized as superior on a national scale, and thus to become and to be recognized as an excellent, highly visible medium-sized physics and astronomy department.**

## I Introduction

Faculty up for (i) mid-probationary review (Sec. II), (ii) tenure and promotion to Associate Professor (Sec. III), and (iii) promotion to Full Professor (Sec. IV) are to be evaluated in four categories: Teaching, Scholarly Work, Service, and Personal Characteristics. Recognition as Regents' Lecturer and Regents' Professor, promotion to Distinguished Professor, and promotion within the Lecturer rank are considered in Secs. V–VII.

The Faculty Handbook distinguishes two kinds of teaching, which we interpret, in the context of teaching in Physics and Astronomy, as *Classroom Teaching* and *Mentoring/Supervision* of undergraduate and graduate students in research settings. Within classroom teaching, P&A recognizes teaching at three levels: introductory courses in physics and astronomy, courses for undergraduate physics and astrophysics majors, and graduate core and specialty courses. Classroom teaching

## Relevant Faculty Handbook sections

### 1.2 Categories for Faculty Performance Evaluations

(a) The categories in which faculty performance will be evaluated are the following:

- (1) Teaching
- (2) Scholarly Work
- (3) Service
- (4) Personal Characteristics

The University's general expectations in each of these categories are set forth below.

(b) In order to earn either tenure or promotion or both, faculty are required to be effective in all four areas. Excellence in either teaching or scholarly work constitutes the chief basis for tenure and promotion. Service and personal characteristics are important but normally round out and complement the faculty member's

includes development of content and equipment for and supervision of multi-section courses, such as introductory laboratory courses, and training of TAs for such courses.

Scholarly Work within physics and astronomy is almost exclusively what the Faculty Handbook calls Research. For physicists and astronomers, the chief evidence of research productivity is publications in peer-reviewed journals.

The impact of publications is increasingly measured in terms of an investigator's citation records. These citation measures, currently available from the Thomson Reuters ISI Web of Science and from Google Scholar, include total number of citations and the various h-indices. The h-indices are defined as follows. Rank-order the publications in terms of the number of citations, and let  $C_r$  be the number of citations of the  $r$ th publication. The index  $h_N$  is defined to be the maximum publication number  $r$  such that  $C_r \geq Nr$ . The h-index corresponds to  $N=1$ , and the w-index to  $N=10$ . An empirical formula that works reasonably well for senior physicists and astronomers,  $h_N = (T/N)^{1/2}/2$ , where  $T$  is the total number of citations, suggests that the h-indices contain little information beyond that already contained in the total number of citations. These citation measures are very much influenced by an investigator's research style, e.g., an individual investigator vs. a participant in large collaborations. The two current sources of data often yield quite divergent results. Moreover, the citation measures are considerably more meaningful for senior researchers, who have had enough time to accumulate a long publication record, than for junior researchers. All this indicates that citation measures must be used with caution and must be calibrated to data source, subdiscipline, and research style. The most meaningful calibration is to use the same source to compare a faculty member's record with prominent peers in the same subdiscipline at roughly the same stage of their careers.

The Faculty Handbook distinguishes several kinds of service. This document considers three types of service: *Internal Service*, within the department or the University; *(External) Disciplinary Service* to physics and astronomy and their subdisciplines; and *Public Outreach*.

The Faculty Handbook refers to performance in the four categories as being either *excellent* or *effective*. Promotion to Associate Professor with tenure requires effectiveness in all four categories and excellence in either Teaching or Scholarly Work. Full Professors are held to *high standards* in Teaching, Scholarly Work, and Service; we interpret high standards as being equivalent to excellence. Thus this document spells out standards for effectiveness and

strengths in teaching and scholarly work. ...

### 1.2.1 Teaching

(a) Due to the variety of subject matter and student populations at the University, teaching occurs in various settings and via a diversity of forms of instruction, such as didactic lecturing, small group seminars, problem-based learning, and clinical practicums. The term teaching as used here includes, but is not restricted to, regularly scheduled undergraduate, graduate, post-graduate, and professional instruction, and the advising, direction and supervision of individual undergraduate, graduate, post-doctoral, and professional students. ... Faculty supervision or guidance of students in recognized academic pursuits that confer no University credit should also be considered as teaching.

(b) Effective teaching is one of the primary qualifications for promotion and tenure. The educational experience provides a student with an increased knowledge base, an opportunity to develop thinking and reasoning skills, and an appreciation for learning. An effective teacher is best characterized as an individual who successfully promotes these goals. Although individual teachers bring to bear different sets of talents in pursuit of these goals an effective teacher, at a minimum, should:

- Demonstrate effective communication skills.
- Show evidence of strong preparation.
- Present material that reflects the current state of knowledge in the field.
- Demonstrate effective management skills.
- Organize individual topics into a meaningful sequence.
- Demonstrate an ability to interact with students in an encouraging and stimulating manner.
- Demonstrate a commitment to the discipline.

(c) Teaching is evaluated by students and faculty. Evidence to be evaluated for teaching during mid-probationary, tenure, and promotion reviews must include student course evaluations, descriptions of courses taught and developed by the faculty member, and written reports of peer observations of teaching.

### 1.2.2 Scholarly Work

(a) The term Scholarly Work, as used in this Policy, comprises scholarship, research, or creative work. Scholarship embodies the critical and accurate synthesis and dissemination of knowledge. The term research is understood to mean systematic, original investigation directed toward the generation, development, and validation of new knowledge or the solution of

excellence in Teaching, Scholarly Work, and Service.

Generally, we give examples of excellent performance that can be regarded as fulfilling the requirement of excellence. When excellence is not achieved, a lower, but still satisfactory (for tenure and promotion) level of performance is deemed effective. A substandard level of performance is said to be *deficient*.

We do not formulate specific standards for Personal Characteristics. We interpret this category as mainly a question of whether a faculty member is a good departmental citizen, contributing to the department's overall intellectual life and working harmoniously with other faculty to advance the department's and University's missions. This category generally comes into play only in case of deficiencies, in which case those deficiencies must have been documented in previous Annual Performance Reviews.

Annual Performance Reviews and the mentoring of probationary faculty should be integrated into the process of ultimate reviews for the mid-probationary review, tenure and promotion, promotion to Full Professor, and promotion within the Lecturer ranks. Annual Performance Reviews of probationary faculty, Associate Professors, and Lecturers should be cognizant of approaching reviews for promotion and should serve explicitly the purposes of reviewing and assessing progress toward meeting standards for the next promotion and, in the case of Assistant Professors and Lecturers, of discussing ways to achieve those standards. For probationary faculty, the Chair's Advisory Committee should be involved in formulating the Annual Performance Review, and the tenured faculty should be consulted, as appropriate, to ensure that the Review provides timely and candid advice regarding tenure and promotion.

The role of a probationary faculty member's mentor should be to provide advice and counsel to the mentee on all aspects of disciplinary, university, and departmental life. The mentor should provide confidential counsel and constructive criticism regarding the mentee's progress toward meeting the standards for Teaching, Scholarly Work, and Service required for promotion and tenure, but the mentor's role is not limited to advising on tenure and promotion. The mentor should be a person to whom the junior faculty member can turn for advice and counsel without fear that confidential information exchanged with the mentor will become part of the department's evaluation for tenure and promotion. The mentor should provide the mentee with constructive criticism of classroom teaching; the mentor and mentee should jointly provide the Chair a

contemporary problems. Creative work is understood to mean original or imaginative accomplishment in literature, the arts, or the professions.

(b) The faculty member's scholarly work should contribute to the discipline and serve as an indication of professional competence. The criteria for judging the original or imaginative nature of research or creative work must reflect the generally accepted standards prevailing in the applicable discipline or professional area. To qualify as scholarship or creative work, the results of the endeavor must be disseminated and subject to critical peer evaluation in a manner appropriate to the field in question.

(c) Evidence of scholarship or creative work is determined by the faculty member's publications, exhibits, performances, or media productions and may be supplemented by evidence of integration of the faculty member's scholarly work and teaching. Written evaluations from colleagues and experts in the field, both on campus and at other institutions, may be used at the discretion of the department for the mid-probationary review (Sec. 4.5 and 4.6). Such evaluations must, however, form part of the dossier for both the tenure review and the review for promotion to the senior ranks (Sec. 4.5, 4.7, and 4.8).

### *1.2.3 Service*

(a) There are two broad categories of faculty service: professional and public.

(1) Professional service consists of those activities performed within the academic community that are directly related to the faculty member's discipline or profession. Within the University, it includes both the extraordinary and the routine service necessary for the regular operation of departments and colleges and the University as a whole, including, for example, facilitating the day-to-day operations of academic life, mentoring students and colleagues, and, in the Health Sciences Center, providing patient care. Universities, and their component colleges and departments, rely to a great extent for their operation and advancement on the active participation of faculty members in their administration and governance. Although service is not weighted as heavily as teaching and research or creative works, "service" is an essential element of faculty performance and duties. Faculty members, particularly senior faculty members, have a responsibility to contribute to the government of the University through timely participation on committees and other advisory groups at the department, college,

written summary of these discussions. In order to give timely and effective counsel, the mentor should be apprised, with the mentee's permission, of the results of Annual Performance Reviews. The mentor can be a member, but not the chair, of a mid-probationary or tenure and promotion committee, but otherwise should not be involved in departmental evaluation of the probationary faculty member beyond the participation required of any faculty member. The Department's mentoring policy is attached as an appendix.

There are exceptions to every rule. It is impossible for any document to anticipate all the responsibilities assumed by P&A faculty members and, hence, all the ways of meeting the standards for promotion. A faculty member whose contributions in Teaching, Scholarly Work, or Service lie, even partially, outside the examples laid out in this document should work with the Chair as early as possible within a promotion period to formulate a specific set of goals and standards for promotion. These goals should be discussed with the faculty at higher rank and approved by the Dean of Arts & Sciences, and a written document should be made part of the faculty member's file and ultimate dossier.

Teaching, Scholarly Work, and Service carried out within interdisciplinary degree programs are to be considered as equivalent for purposes of tenure and promotion to work in these categories within the Physics and Astronomy degree programs.

and University levels. Beyond the University, professional service includes service to professional organizations and other groups that engage in or support educational and research activities.

(2) Public service consists of activities that arise from a faculty member's role in the University. These activities normally involve the sharing and application of faculty expertise to issues and needs of the civic community in which the University is located.

(b) Service to the University, to the faculty member's profession and to the local, national, and international communities beyond the University is reviewed in this category. Evidence of performance in this area includes committee work at the University, college and department levels, and participation in professional organizations of the discipline and in the community in the faculty member's professional capacity.

#### *1.2.4 Personal Characteristics*

This category relates to the personal traits that influence an individual's effectiveness as a teacher, a scholar, researcher, or creative artist, and a leader in a professional area. Of primary concern are intellectual breadth, emotional stability or maturity, and a sufficient vitality and forcefulness to constitute effectiveness. There must also be demonstrated collegiality and interactional skills so that an individual can work harmoniously with others while maintaining independence of thought and action. Attention shall also be given to an individual's moral stature and ethical behavior, for they are fundamental to a faculty member's impact on the University. Information used in the objective appraisal of personal traits may be acquired from peer evaluations (e.g., letters of recommendation for new appointees, or written evaluations prepared by colleagues for promotions or for other departmental reviews) and must be handled with great prudence. By necessity, the category of Personal Characteristics requires flexibility in its appraisal.

## *4.2 Annual Review of Probationary Faculty*

### *4.2.1 Purpose*

The purpose of the annual review is to provide the probationary faculty member written information about his or her performance in the department, identifying both strengths and weaknesses. The review entails cumulative evaluation of the faculty member's achievements

and progress toward tenure.

#### **4.2.2 Timetable**

The annual review for each probationary faculty member must be initiated and completed by the department chair during the Spring semester of each academic year of probationary appointment. An annual review will not be conducted during the academic year designated for mid-probationary or tenure review. Faculty members whose appointments begin in the Spring semester will have their first annual reviews during the following Spring semester so that annual reviews of all faculty occur at the same time of year.

#### **4.2.3 Procedures**

(a) The annual review is conducted by the department chair, in consultation with at least the tenured members in the department and, where appropriate, with any other faculty who are well acquainted with the probationary member's work.

(b) In preparation for the annual review, the faculty member shall assemble a file including:

- curriculum vitae
- classroom materials, teaching evaluations, and other materials reflecting on teaching performance
- copies of scholarly works completed or submitted during the previous year and other materials reflecting on scholarly work
- statement of self evaluation based upon goals set for the previous year
- statement setting goals for the coming year

(c) As part of the review, the chair shall review the faculty member's assembled file and obtain written evaluations of the member's performance from at least those tenured members of the department who are best acquainted with the probationary faculty member's work. Whether all tenured members of the department will be required to participate in the annual reviews and whether peer evaluations of teaching are to be included in the review shall be matters of consistent departmental policy and not decided on a case-by-case basis (see Sec. 4.4.8). If peer evaluations of teaching are to be included, the chair shall arrange for the faculty member's teaching to be observed. The evaluation of all components (teaching, scholarly work, service, and personal characteristics) shall be summarized by the chair in the written annual review provided to the probationary faculty member. If earlier reviews have identified specific deficiencies, special attention should be paid to the progress made toward remedying

them. The chair shall discuss each annual review report with the probationary member before the end of the Spring semester. The probationary member shall acknowledge receipt of the report and may provide a written response. This report and any response shall be filed with the department and college/school.

## II Mid-probationary review

The purpose of the mid-probationary review is to assess a probationary faculty member's progress toward meeting the standards for tenure and promotion to Associate Professor and to advise the faculty member candidly regarding this assessment and any steps that are required to meet the standards for promotion. There are no separate standards specifically for the mid-probationary review; rather, it is a process of review, assessment, and advice relative to the standards for tenure and promotion. Deficient performance relative to progress towards meeting the standards for promotion, with little or no prospect of sufficient improvement before the end of the probationary period, is the only grounds for recommending termination after the mid-probationary review.

The roles of Annual Performance Reviews leading up to the mid-probationary review and of mentoring of a probationary faculty member are discussed in Sec. I.

### 2.2.1 Assistant Professor

Individuals who are demonstrably competent in the subject matter of the courses to be taught and who have indicated a serious commitment to a faculty career may be considered for this faculty rank. This appointment is typical for most faculty who are beginning their probationary service. While it is not expected that persons appointed at this rank shall have acquired an extensive reputation in their field, it is expected that they will continue to increase their knowledge, to improve their teaching ability and to present the results of their scholarly work in ways appropriate to their field.

### 4.6 Specific Provisions for Mid-Probationary Review

#### 4.6.1 Purpose and Standards

(a) The purpose of the mid-probationary review is to enable the department to evaluate progress towards tenure, to inform the probationary faculty member of his or her strengths and weaknesses, and to decide whether or not to continue the faculty member's appointment. The review entails evaluation of the faculty member's achievements in the four categories of teaching, scholarly work, service, and personal characteristics, according to the standards specified in this Policy and the criteria of the academic unit.

(b) The mid-probationary review requires identification of the specific areas of strength and weakness demonstrated by the faculty member and the evidence supporting conclusions to that effect. The aim of the required identification of areas of strength and weakness is to give the faculty member a clear picture of the performance levels by which he or she is to be judged and offer the opportunity to correct any noted deficiencies prior to subsequent reviews. The existence of some identified deficiencies in this

review are considered normal, as it is not anticipated that the probationary member will have fully attained the standards required for the award of tenure by the time of the mid-probationary review.

(c) For a positive mid-probationary review there should be demonstration of, or at least clear progress toward, the competence or effectiveness in all four evaluation categories expected of tenured faculty, as well as promise of excellence in either teaching or scholarly work. If the University concludes that insufficient progress towards tenure has been made and that deficiencies are unlikely to be corrected in the time remaining before the tenure decision, then a negative mid-probationary decision is both appropriate and necessary.

### III Tenure and promotion to Associate Professor

Promotion of a faculty member to Associate Professor with tenure requires effectiveness in the three categories of Teaching, Scholarly Work, and Service and excellence in either Teaching or Scholarly Work. The roles of Annual Performance Reviews leading up to the review for tenure and promotion and of mentoring of probationary faculty members are discussed in Sec. I.

#### Teaching

Excellence in Teaching is attained by excellent performance in both teaching categories below, but it can also be achieved by truly outstanding performance in one coupled with effectiveness in the other. Effectiveness is attained by effective performance in both categories.

##### *Classroom Teaching*

Excellent performance is evidenced by student evaluations at or above departmental averages or disciplinary norms in two of the three levels of teaching within P&A, supported by anecdotal evidence of superior teaching from student comments and by peer evaluations. Implementation of innovative and demonstrably successful teaching techniques is especially valued.

Effective performance is attained by excellent performance at one level of teaching or by performance just below departmental or disciplinary norms at two of the three levels.

#### 2.2.2 Associate Professor

(a) Individuals who have acquired significant experience beyond the terminal degree are appropriate for this faculty rank. They shall have demonstrated competence as teachers and have shown a conscientious interest in improving their teaching. They shall have demonstrated a basic general understanding of a substantial part of their discipline and have an established reputation within and outside the University in their fields of scholarly work. This implies scholarly work after the terminal degree sufficient to indicate continuing interest and growth in the candidate's professional field.

(b) Appointment at, or promotion to, the rank of associate professor represents a judgment on the part of the department, college, and University that the individual has made and will continue to make sound contributions to teaching, scholarly work, and service. The appointment should be made only after careful investigation of the candidate's accomplishments and promise in teaching, scholarly work, and leadership.

#### 4.8.2 Promotion to Associate Professor

(a) It is the policy of the University that tenure and promotion to the rank of associate professor will normally be granted together. A candidate for tenure who does not already hold the rank of associate professor shall simultaneously be considered for promotion to the associate professor rank. A favorable decision on promotion to associate professor rank shall

### *Mentoring/Supervision*

Excellent performance is evidenced by active supervision as principal supervisor of two or more post-candidacy PhD students, with degrees either completed or in progress. Supervision of PhD students can be substituted by some combination of supervision of completed MS degrees with thesis, supervision of undergraduate honors theses or undergraduate researchers, or (two-year) supervision of postdoctoral fellows. Appropriate weight will be given to co-supervision or partial supervision of student research.

Effective performance requires mentoring/supervision at roughly half the level of excellent performance.

### **Scholarly Work (Research)**

Excellent performance in Scholarly Work is judged mainly by number of papers in peer-reviewed journals since joining UNM and by the evaluations provided by external reviewers. External funding is not itself Scholarly Work, but it is a major plus that is indicative of excellence in Scholarly Work.

The required number of publications is to be normalized relative to sub-discipline norms. Single-author publications, publications with supervisees at UNM, publications in high-impact journals, highly cited publications, and invited papers or reviews are weighted more highly than other publications. For faculty working in large collaborations, the faculty member's particular contributions to the collaborations' overall research output and to the collaborations' multi-author publications must be described by the external reviewers, who must be asked specifically to comment on these contributions. A textbook published by a reputable publisher can substitute for roughly half of the number of papers in peer-reviewed journals. Invited presentations at professional meetings, colloquia at other institutions, and seminars at other institutions provide additional evidence of excellence. Other evidence of excellent performance includes patents and patent applications, setup and development of major experimental facilities and instruments, and editorship of a set of proceedings or of special journal issues.

External reviewers should be prominent figures in the candidate's subdiscipline and typically should be senior in rank to the probationary faculty member. Half of the external reviewers are to be selected by the candidate, and half by the Department. Co-authors and collaborators are often essential for assessing the candidate's contribution to joint research, but no more than half the external reviewers should be co-authors and collaborators. Excellence is

normally be a basic prerequisite for the awarding of tenure. Requests for departures from this policy must be made prior to the initiation of the tenure or promotion review process with the concurrence of the department, the dean, and the Provost/VPHS.

(b) Timetable for promotion to associate professor: The anticipated length of service in the rank of assistant professor is six years, with review for promotion to the rank of associate professor occurring in the sixth year. The review process for advancement to associate professor is normally conducted at the same time as the review for tenure (i.e., Fall semester of the final academic year of the probationary period). Recommendations for promotion in less time are to be carefully weighed and justified. Notification of the outcome of the review shall be made during the Spring semester no later than June 30 of that year.

evidenced by letters that provide uniformly positive descriptions of major contributions to and impact within the candidate's subdiscipline and of potential for leadership within the subdiscipline.

External funding is important for supporting scientific research and, especially, for providing financial support for graduate and undergraduate researchers and postdocs. Securing external funding, as a PI, co-PI, or participant in a multi-investigator project, is a major plus for tenure and promotion, indicative of the candidate's scholarly presence in the subdiscipline. In-kind funding, such as telescope observing time or participating in a user facility, is to be recognized as a type of external funding.

Effective performance consists of scholarly activity at roughly two-thirds the level of excellent performance.

## **Service**

### *Internal Service.*

Effectiveness consists of participating in the governance and administration of the department or University through multi-year active service as a member of a departmental or University committee. An evaluation of the candidate's service on such committees should be a part of previous Annual Performance Reviews. This service requirement is not meant to burden a probationary faculty member in a way prejudicial to performance in Teaching and Scholarly Work. The major service load within the department and the University is borne by Associate and Full Professors. This requirement is meant to provide evidence that the candidate is ready to begin contributing a fair share to that load as an Associate Professor.

### *Disciplinary Service*

Effectiveness is evidenced by reviewing papers and proposals within the candidate's subdiscipline. Organizing scientific meetings, serving on editorial boards and disciplinary committees, or serving on the management committee of a national or multi-institutional scientific collaboration is *prima facie* evidence of excellence in Disciplinary Service, but is not required for effectiveness.

### *Public Outreach*

Active participation in a public-outreach effort, though not required, is encouraged and can substitute for effectiveness in Internal Service or Disciplinary Service.

Supervision of an education and training program, such

as NSF's Research Experience for Undergraduates (REU), Integrative Graduate Education and Research Traineeship (IGERT) Program, or Broadening Participation Research Initiation Grants in Engineering (BRIGE), has potential impact in all three categories of faculty performance, Teaching Scholarly Work, and Service, and should be considered in terms of the contributions to each of the three categories.

## **IV Promotion to Full Professor**

Promotion of a faculty member to Full Professor requires achievement of high standards, which we are interpreting as excellent performance, in the three categories of Teaching, Scholarly Work, and Service. The role of Annual Performance Reviews leading up to promotion to Full Professor is discussed in Sec. I.

### **Teaching**

Excellence in Teaching is attained by excellent performance in both teaching categories below, but it can also be achieved by outstanding performance in one coupled with effectiveness in the other.

#### *Classroom Teaching*

Excellent performance is evidenced by student evaluations consistently at or above departmental averages or disciplinary norms in two of the three levels of teaching within P&A, supported by anecdotal evidence of superior teaching from student comments and by peer evaluations. Implementation of innovative and demonstrably successful teaching techniques is especially valued.

#### *Mentoring/Supervision*

Excellent performance is evidenced by active supervision as principal supervisor of three or more PhD dissertations. Supervision of PhD students can be substituted by some combination of supervision of MS degrees with thesis, supervision of undergraduate honors theses or undergraduate researchers, or (two-year) supervision of postdoctoral fellows. Appropriate weight will be given to co-supervision or partial supervision of student research. In this accounting, a completed MS degree with thesis or an undergraduate honors thesis counts as roughly one-third of a PhD dissertation, and two-year supervision of a postdoctoral fellow counts as roughly one-half.

#### *2.2.3 Professor*

(a) Individuals who have attained high standards in teaching and who have made significant contributions to their disciplines may be considered for this faculty rank. They shall also have developed expertise and interest in the general problems of university education and their social implications, and have shown the ability to make constructive judgments and decisions. It is expected that the professor will continue to develop and mature with regard to teaching, scholarly work, and the other qualities that contributed to earlier appointments.

(b) Appointment or promotion to Professor represents a judgment on the part of the department, college/school, and University that the individual has made significant, nationally recognized scholarly or creative contributions to his or her field and an expectation that the individual will continue to do so.

(c) Professors are the most enduring group of faculty, and it is they who give leadership and set the tone for the entire University. Thus, appointment or promotion should be made only after careful investigation of the candidate's accomplishments in teaching, scholarly work, and leadership.

#### *4.8.2 Promotion to Professor*

(a) Qualifications for promotion to the rank of professor include attainment of high standards in teaching, scholarly work, and service to the University or profession. Promotion indicates that the faculty member is of comparable stature with others in his or her field at the same rank in comparable universities. Service in a given rank for any number of years is not in itself a sufficient reason for promotion to professor.

(b) Timetable for promotion to professor: The anticipated length of service in the rank of associate professor prior to consideration for promotion to the rank of professor is at least five years. Recommendations for promotion in less

### **Scholarly Work (Research)**

Excellent performance is judged mainly by number of papers in peer-reviewed journals during the candidate's career and by the evaluations provided by external reviewers. Sustained external funding, though itself not Scholarly Work, is essentially a guarantee of a candidate's high stature within the subdiscipline.

The required number of publications is to be normalized relative to sub-discipline norms. Single-author publications, publications with supervisees, publications in high-impact journals, highly cited publications, and invited papers or reviews are weighted more highly than other publications. Citation measures can provide powerful evidence of the impact of publications, but to be useful, they must be calibrated as discussed in Sec. I. For faculty working in large collaborations, the faculty member's particular contributions to the collaborations' overall research output and to the collaborations' multi-author publications must be described by the external reviewers, who should be asked specifically to comment on these contributions. A textbook published by a reputable publisher can substitute for roughly a quarter of the number of papers in peer-reviewed journals. Invited presentations at professional meetings, colloquia at other institutions, and seminars at other institutions provide additional evidence of excellence. Other evidence of excellent performance includes patents and patent applications, setup and development of major experimental facilities and instruments, and editorship of a set of proceedings or of special journal issues.

External reviewers should be prominent figures in the faculty member's subdiscipline and typically should be at the same rank as or senior in rank to the faculty member under review. Half of the external reviewers are to be selected by the candidate, and half by the department. Co-authors and collaborators are often essential for assessing the candidate's contribution to joint research, but no more than a third of the external reviewers should be recent (since tenure and promotion) co-authors and collaborators. Excellence is evidenced by letters that provide uniformly positive descriptions of major contributions to and impact within the candidate's subdiscipline and of the candidate's leadership and national and international stature within the subdiscipline.

External funding is important for supporting scientific research and, especially, for providing financial support for graduate and undergraduate researchers and postdocs. Sustained external funding, as a PI, co-PI, or participant in a

time must be carefully weighed and justified. The review for advancement in rank to that of professor is initiated during the Fall semester. Notification of the outcome of the review is made during the Spring no later than June 30 of that year.

multi-investigator project, though not itself Scholarly Work, is essentially a guarantee of the candidate's high stature within the subdiscipline, provided this evidence is not contradicted by the publication record or the external reviewers. In-kind funding, such as telescope observing time or participating in a user facility, is to be recognized as a type of external funding.

## **Service**

### *Internal Service*

Excellence is evidenced by active participation in the governance and administration of the department and/or University through multi-year service on departmental and/or University committees as an active member or as Chair. Excellence requires a leadership role in at least one of these activities.

### *Disciplinary Service*

Excellence requires an active role in reviewing papers and proposals within the candidate's subdiscipline and, in addition, some leadership activity in the candidate's discipline, such as organizing scientific meetings, service on editorial boards and disciplinary committees, or service on the management committee of a national or multi-institutional scientific collaboration.

### *Public Outreach*

Leadership of a public-outreach effort is not required, but is encouraged and can substitute for excellence in Internal Service or Disciplinary Service.

Supervision of an education and training program, such as NSF's Research Experience for Undergraduates (REU), Integrative Graduate Education and Research Traineeship (IGERT) Program, or Broadening Participation Research Initiation Grants in Engineering (BRIGE), has potential impact in all three categories of faculty performance, Teaching, Scholarly Work, and Service, and should be considered in terms of the contributions to each of the three categories.

## **V Recognition as Regents' Lecturer or Regents' Professor**

The honorific titles of Regent's Lecturer and Regents' Professor are awarded to Associate Professors (Regents' Lecturer) and Full Professors (Regents' Professor) as

### *2.2.4. Regents' Professor and Regents' Lecturer*

Criteria for these honorific titles are established at the college level with nominations forwarded by the dean to the Provost/VPHS. The

recognition of outstanding performance in Teaching, Scholarly Work, and Service. Outstanding performance is a cut above the excellence expected of all Associate and Full Professors. Especially important is evidence of Scholarly Work (Research) that has national and international impact and visibility and of leadership within the department and University and within the candidate's research discipline.

Nominations for Regents' Lecturer and Regents' Professor should go forward only with enthusiastic support of the Department's faculty.

term of appointment is three years. Individuals may be named more than once for Regents' appointments, although appointments may not be made for successive terms. The title "Regents' Professor" may be retained during the balance of an awardee's career. Awards may not be given to administrators, but will not be withdrawn from faculty members who become administrators.

## **VI Promotion to Distinguished Professor**

Promotion to Distinguished Professor is primarily a recognition of exceptional performance in Scholarly Work (Research) and of high stature and leadership within the relevant community of physics and/or astronomy researchers worldwide. Promotion to Distinguished Professor also requires outstanding performance in Teaching and the Department's endorsement that the candidate is an outstanding departmental citizen.

Exceptional performance is judged mainly by a career-long record of publications that have had a national and international impact within the candidate's subdiscipline. This impact must be attested to by independent external reviewers. Citation measures can provide powerful evidence of the impact of publications, but to be useful, they must be calibrated as discussed in Sec. I. Mentoring of PhD students and postdocs, who have gone on to positions of responsibility within the scientific community, provides compelling evidence of exceptional performance. Sustained external funding is an additional factor indicating the required level of national and international impact. Other evidence includes recognition as a Fellow of a major scientific society and awards and prizes from such societies.

External reviewers should be figures of the highest rank within the scientific community. Their letters should testify to the candidate's national and international impact and visibility within the relevant scientific community and to the candidate's leadership role within the community. External reviewers should not be recent collaborators or co-authors with the candidate.

Nominations for Distinguished Professor should go forward only with enthusiastic support of the Department's faculty.

### *2.2.5. Distinguished Professor*

(a) Individuals who have demonstrated outstanding achievements and are nationally and internationally renowned as scholars may be considered for this faculty rank. This is the highest faculty title the University bestows and is used only for a few of its most prominent faculty members.

(b) The Nomination Procedure originates at the department level and must have the recommendation of the departmental and/or college faculty with which the candidate is now or would be affiliated. Upon receiving a recommendation, the Provost shall, in consultation with the Faculty Senate Operations Committee, appoint a University-wide committee of no fewer than five non-administrative senior faculty who shall review the nominee's dossier and make appropriate recommendations to the Provost who makes the appointment. The position of Distinguished Professor is not proprietary with a department or college. Upon termination of employment of a distinguished professor, the title may not be passed on to another individual unless the procedure described herein has been followed.

## VII Promotion within the Lecturer ranks

Lecturers can hold one of three ranks: Lecturer, Senior Lecturer, and Principal Lecturer. Promotion to Senior Lecturer or Principal Lecturer is based on performance in Classroom Teaching and in Internal Service or Public Outreach. Mentoring/Supervision of students, Scholarly Work, and Disciplinary Service can provide additional evidence for promotion, but are not required. Promotion to Senior Lecturer requires excellent performance in Classroom Teaching and effective performance in Internal Service or Public Outreach. Promotion to Principal Lecturer requires excellence in both.

Annual Performance Reviews of Lecturers should be integrated into the process of ultimate reviews for promotion. Annual Performance Reviews should be cognizant of approaching reviews for promotion and should serve explicitly the purposes of reviewing and assessing progress toward meeting standards for the next promotion and of setting goals to meet those standards. The Chair can choose to involve the Chair's Advisory Committee in formulating Annual Performance Reviews for Lecturers, but such consultation is left to the discretion of the Chair.

Excellent performance in Classroom Teaching is evidenced by student evaluations at or above departmental averages or disciplinary norms in introductory physics and/or astronomy courses, supported by anecdotal evidence of superior teaching from student comments and by peer evaluations, and/or by major contributions to the Department's teaching mission in supervision of multi-section introductory courses. Excellent performance in courses for physics majors can provide additional evidence, but is not required. Implementation of innovative and demonstrably successful teaching techniques is especially valued.

Effectiveness in Internal Service or Public Outreach consists of participating in the governance and administration of the department or University through multi-year active service as a member of a departmental or University committee, especially those that administer the Department's introductory courses, or in a public-outreach effort. Excellence requires a leadership role in one or more of these activities.

### 2.3.2 Lecturer

Faculty may be appointed to the position of Lecturer I, II, or III. These appointments are for professionals with appropriate academic qualifications, who are demonstrably competent in the relevant areas of their disciplines. While not eligible for tenure, lecturers in each numerical class may hold the rank of Lecturer, Senior Lecturer, or Principal Lecturer.

(a) Lecturer I—The title used for individuals who have qualifications equivalent to teaching assistants or graduate students and who are not currently graduate students at the University in the same department as their academic appointment.

(b) Lecturer II—The title used for qualified professionals who have completed all requirements except the dissertation for the terminal degree (or equivalent) in their fields of study and who are not currently graduate students at the University in the same department as their academic appointment. It may also be used for professionals who have the terminal degree but only limited experience in teaching or scholarly work, or for professionals who do not have the terminal degree but have extensive experience.

(c) Lecturer III—The title used for qualified professionals who hold the terminal degree (or equivalent) in their fields of study and who have additional experience in teaching and scholarly work.

### 4.10 Annual Review of Continuing Non-Tenure-Track Faculty

Continuing non-tenure-track faculty (lecturers and clinician educators) shall be reviewed annually following procedures adopted by each department.