



The University of  
**Montana**

**UM UNIT STANDARDS COMMITTEE  
SIGNATURE FORM**

Unit Standards for: Physics and Astronomy  
Year: 2012

1) Department Chair:

Signature

Date

2) Dean:

Signature

Date

3) Chair, UM Unit Standards Committee:

Signature

Date

4) Provost and Vice President for Academic Affairs:

Signature

Date

## **Unit Standards Department of Physics and Astronomy**

The following document contains the Unit Standards of the Department of Physics and Astronomy. This document does not stand alone. It must be read and used in conjunction with the Collective Bargaining Agreement (CBA) between the University Faculty Association of the University of Montana and the Montana University System, the current version being dated from July 1, 2011 through June 30, 2013). The primary provisions of importance to the Unit Standards are as follows:

- 3.100 Recognition
- 6.200 Academic Responsibility
- 9.000 Non-tenurable, Probationary, and Tenured Appointments
- 10.000 Unit Standards and Faculty Evaluation Procedures

### **I Faculty Evaluation Committee (FEC)**

In addition to CBA section 10.200 the following procedures apply to the department.

- A. By consensus of the department, the FEC shall be composed of one non-voting student member appointed under CBA section 10.230 and, to ensure peer review, only tenured faculty members within the department for whom the University Faculty Association is the bargaining representative under CBA section 3.100 except as follows:
  - 1) No visiting or adjunct faculty members shall be members of the FEC.
  - 2) A faculty member will not serve as a member of the FEC for the consideration of his or her own evaluation, but may serve while other faculty members are being reviewed.
- B. The chairperson of the FEC shall be determined in accordance with CBA section 10.230.
- C. The FEC may receive or seek evidence from any source relevant to the evaluation of any faculty member in the academic unit so long as the evidence is relevant to the approved unit standards and the faculty member to whom the evidence pertains is afforded full opportunity to review and respond to the evidence.
- D. Upon request of the faculty member being evaluated, the committee shall afford the faculty member an opportunity to address the FEC personally regarding the FEC evaluation.
- E. The FEC shall meet for discussion with the department chair before unit recommendations are made final, the unit recommendations consisting of the recommendations by the FEC and the recommendations prepared separately by the department chair.

### **II Student Evaluation Committee**

A Student Evaluation Committee shall be formed and shall operate in full compliance with the provisions of the CBA section 10.220.

### **III Documentation**

- A. Each Faculty Member shall document his or her performance as indicated in CBA section 10.210, 10.230, and 10.240.
- B. Each faculty member shall document his or her performance to a degree sufficient to allow the FEC to make a competent judgment of that performance. Quality judgments of teaching, service, and research must be supported by evidence other than the faculty member's own personal opinion.
- C. Should the FEC require additional documentation, it shall so inform the faculty member in writing within 10 days of the date on which the original documentation is received from the faculty

member. The exact nature of the additional documentation shall be specified.

- D. The faculty member shall submit any additional documentation requested within 5 days of receipt of the request as per CBA section 10.210.

## **IV General Criteria**

The Department of Physics and Astronomy of the University of Montana-Missoula sees its mission as having four complementary but distinct parts. First, we provide a sound, complete, and modern education for our undergraduate majors with sufficient preparation for either a career in a technical field or admission to graduate school. Second, we provide quality instruction in physics and in astronomy to undergraduate and graduate non-majors. Third, we provide technical expertise in physics, astronomy, and in computational methods to the University, the community, and the state. Fourth, we contribute to the scientific community at the national and international levels by generating new knowledge through research in physics and astronomy. To achieve each of these missions we rely on a faculty and staff that is dedicated to excellence in teaching, committed to research and scholarly activity, and engaged in service to the University and the community.

The Department of Physics and Astronomy plays a unique role among science departments at the University of Montana. Because the highest degree that we offer is a bachelor's degree, and because our service teaching (i.e., the teaching introductory physics and astronomy courses for non-physics majors) role for other departments and programs is so high, it is understood that the level and degree of research activity may not be as high as other science departments with Masters and PhD degree programs. Nevertheless, evidence of ongoing research activity is expected of all faculty. On the other hand, and for the same reasons, the department's commitment to, and expectations of excellence in teaching for our faculty, are proportionally higher than in other science departments.

General faculty responsibilities in the areas of teaching, service and research are outlined in CBA sections 6.200 and 10.120. The following is intended as an elaboration of those sections. Any evaluation for purposes of promotion, award of tenure, or salary determinations shall include consideration of the following aspects of teaching performance, research activity, and service. The faculty member is not required to show equal performance in each area, but excellence in teaching and appropriate activity in research are required. Strong areas may compensate for weaker areas and it is the overall quality of performance and the value of the individual to the department and the university that shall guide the final decisions. In particular, the ability to work in a considerate and professional manner with administrative staff, technical staff, faculty, students in the department and on the campus in general, in order to help to achieve the goals of the department, is considered an essential quality of an effective faculty member as discussed in section 6.200 of the CBA.

### **IV.1 Teaching**

Performance of instructional duties is expected to reflect acceptable instructional loads as determined by the chair in consultation with each faculty member, effective pedagogical skills, and, where appropriate, participation in General Education courses. The department recognizes that excellence in teaching is not easily quantified, and that approaches to teaching may differ significantly among faculty and from course to course. Nevertheless, we feel that there are traits and practices that are common to all excellent university level teachers, and constitute the minimum expectations for normal performance in our department.

- A. Traits and practices of excellent university teachers include but are not limited to:

- 1) A level of rigor and academic expectations which is appropriate for the course.
- 2) Appropriate choice of topics and main issues which adequately prepare students for later courses and/or entrance to advanced degree programs.
- 3) Systematic organization and currency of course material (where appropriate).
- 4) Thorough preparation for lectures and laboratories sufficient to communicate the material effectively and coherently, and to anticipate student questions and problems.

- 5) Willingness and ability to facilitate student learning in and out of the classroom or laboratory.
- 6) Judicious experimentation with pedagogical methods.
- 7) Thoroughness, fairness, and prompt return of examinations and other graded materials (even in the case where graders and/or teaching assistants are involved, ultimate responsibility lies with the faculty member). The faculty member will carefully ensure equal application of class standards and requirements to all students.
- 8) A deep and continuing interest in student progress and welfare, and the ability to inspire students to perform, even in very challenging courses.
- 9) Willingness and ability to cooperate with other faculty in the department who teach concurrent sections of courses, or who have taught those sections previously, to ensure consistent coverage, rigor and difficulty of exams and course requirements, and consistency in the awarding of final grades. This is especially important for service and general education courses.

B. Evaluation of teaching performance will include but not be limited to:

- 1) Qualified student opinion including course evaluations, recommendations of the Student Evaluation Committee, etc.
- 2) Receipt of honors, awards, special recognition or citations related to teaching activities.
- 3) Evaluation by colleagues in the department.
- 4) Any other information deemed pertinent by the FEC.

C. Note that standards for retention of non-tenure track teaching faculty are the same as those for tenure-track faculty.

## **IV.2 Research**

It is expected that faculty members will be actively engaged in research or scholarly activity of such a scope and quality that they can contribute to the mission of our department. In the list below, the significance attached to each item will be judged by the extent and quality of the peer review that it reflects. For example, publications in refereed journals will normally weigh more heavily than publications in non-refereed journals. Papers presented at national or international meetings weigh more heavily than local or regional meetings. And although the dollar amount of research grants, and the number of grants and contracts awarded are indicative of a productive program, a sustained effort to acquire extramural funding will also be viewed as a positive indicator of research productivity.

A. Research activity will be evaluated by:

- 1) Publication of articles in refereed and/or peer-reviewed scientific or technical journals.
- 2) Presentation of papers at scientific meetings.
- 3) Publication or contributions toward the publication of books.
- 4) Seminars, colloquia, or invited talks at universities or scientific meetings.
- 5) Direction of student research activities, and the degree to which students can be involved in faculty research projects.
- 6) Efforts related to securing grants and/or contracts related to research activities.
- 7) Receipt of special honors awards.
- 8) Other evidence of research activity.

## **IV.3 Professional Service**

Each faculty member has the obligation and responsibility to assist in the proper administration of departmental and University affairs compatible with his/her teaching, research, and other commitments.

- A. Evaluation of Service activities will include, but not be limited to, active participation in:
- 1) Service to the department. Examples include:
    - a. Participation in department meetings and committees.
    - b. Participation in advising of majors.
    - c. Participation in the development of lecture demonstrations and laboratory exercises.
    - d. Participation in the recruitment of potential majors.
    - e. Teaching of summer and/or continuing ed. courses.
  - 2) Service to the university. Examples include:
    - a. Participation in university administrative committees.
    - b. Participation in graduate committees for other departments.
    - c. Participation in faculty governance.
  - 3) Service to the community. Examples include:
    - a. Participation and/or judging in the state science fair.
    - b. Outreach to local schools (k-12).
    - c. Consultation or lectures to off-campus organizations.
    - d. Other relevant service to the community.
  - 4) Professional Service. Examples include:
    - a. Service on editorial boards of professional journals.
    - b. Participation in peer review of journals or grant proposals.
    - c. Participation in planning or hosting of professional conferences.
    - d. Service to appropriate professional organizations.
- B. The degree and type of professional service expectations for probationary (i.e., pre-tenured) faculty members will be less demanding than for tenured faculty members.

## **V Specific Criteria**

The following are intended as an elaboration of CBA section 10.110. In addition to consideration of acceptable performance as outlined in Section III, the following specific criteria are to be satisfied regarding each particular type of advancement or salary increment.

- A. Terminal Degree: The terminal degree for the department is defined as the Ph.D. degree.
- B. Promotions (CBA section 10.110.1)
  - 1) To Assistant Professor: Requires possession of the Ph.D. (except in the case of research faculty where a masters degree may be sufficient).
  - 2) To Associate Professor: Requires 4 or more years in the rank as assistant professor and possession of the Ph.D. At least normal performance is required in the areas of teaching, research and service, this performance being indicative of continued professional growth and recognition. Preferably, the candidate for promotion to associate professor will have been recognized (or at least competitive) for meritorious work during the period as assistant professor. Note that normal performance in teaching for our department is equivalent to commitment and dedication to excellence in teaching at the undergraduate level (see section IV.A for details) as well as significant achievement in this area.
  - 3) To Full Professor: Requires 5 or more years in the rank as associate professor and possession of the Ph.D. In addition, at least normal performance is required in the areas of teaching, research and service (as defined in the CBA and this document), this performance being indicative of continued professional growth and recognition. Note that, as outlined in the CBA, no faculty member may be promoted to full professor on the basis of teaching and

service alone.

- C. Award of Tenure: The attention of those faculty members concerned with tenure is directed to CBA sections 9.300 Rights of tenured appointees, 9.310 Eligibility for tenure application, 9.320 The tenure application, 9.330 Limitation on tenure awards, and 9.340 Failure to attain tenure as well as sections in the CBA and this document which pertain to criteria, documentation and procedure.
  - 1) Satisfaction of probationary service requirement as specified in the CBA.
  - 2) Possession of Ph.D.
  - 3) Minimum academic rank of associate professor.
  - 4) Professional growth, activity, and prospects as demonstrated by appropriate teaching, research, and service activities. At least normal performance is required in the areas of teaching, research and service, this performance being indicative of continued professional growth and recognition. Preferably, the candidate for tenure in our department will have been recognized (or at least competitive) for meritorious work during the probationary period.
  - 5) The overall guiding criteria in recommending tenure for a faculty member will be his or her demonstrated ability to carry out the academic responsibilities in the areas of teaching, research, and service as stated in section 6.200 of the CBA and elaborated upon in this document.
- D. Salary determinations
  - 1) Merit award: see CBA section 10.110.3a.
  - 2) Normal increment: see CBA section 10.110.3b.
  - 3) Less-than-Normal increment: see CBA section 10.110.3c.
- E. Retention and non-re-appointment: CBA section 10.230 provides that the FEC shall make a recommendation concerning retention.
  - 1) The documentation submitted by the faculty member in conformance with CBA section 10.210 and this document shall be used by the FEC in consideration of retention and non-re-appointment. As per section 10.210, the FEC may also seek or receive evidence from other sources and may request additional documentation from the faculty member being evaluated.
  - 2) In considering retention and non-re-appointment the faculty member will be judged against the same standards as apply in the consideration of promotion, tenure, and salary determinations. Non-re-appointment will be recommended when the FEC makes a judgment that the performance of the faculty member is unsatisfactory with respect to those standards.
- F. The department chair will be evaluated in compliance with CBA section 16.240 and according to the same standards as those applied to other members of the department faculty, except that a special category of appraisal will be used for the execution of administrative duties as stated in CBA section 16.220.

## **VI Procedures of the FEC**

- A. Consultation
  - 1) The FEC may consult individually with each tenured member of the faculty and may seek an evaluation of other members of the department.
  - 2) The FEC may consult individually with each non-tenured member of the faculty and may seek an evaluation of other non-tenured members of the faculty.
- B. Formulation and recommendation

- 1) The FEC formulates recommendations for all faculty on the basis of the evaluation of the faculty member's performance relative to unit standards and criteria.
- 2) Upon request of a dissenting member of the tenured faculty, the FEC will convene a meeting in order to resolve a difference of opinion, wherein a final majority opinion of the FEC will prevail.

C. Notification

- 1) The chair of the FEC informs each member of the faculty of the results of all evaluations.
- 2) Any non-tenured faculty member who does not concur with the recommendation may submit a written appeal within ten (10) days of the receipt of the recommendation as described in section 10.230 of the CBA.
- 3) The dissenting member who appealed will be informed by the chair of the FEC as to the final decision as described in section 10.230 of the CBA.
- 4) The chair of the FEC submits all recommendations to the chair of the department.

## **VII General Statements**

- A. Probationary faculty should pay particular attention to CBA section 9.000 which covers rights of probationary appointees and other matters such as rank, appointment, re-appointment, non-re-appointment, and credit for probationary service.
- B. Attention of each faculty member is directed to CBA section 10.220 Student Evaluation Committee.
- C. Attention of each faculty member is directed to the fact that the department chair prepares an individual recommendation for each faculty member in the unit. (See CBA section 10.240).
- D. Each faculty member shall sign the recommendations of the FEC and the department chair to signify that he or she has read them and to attest to the accuracy of the supporting documents. The signature does not signify the faculty member's endorsement of the recommendations.
- E. These unit standards and procedures are intended to be in addition to and consistent with those provided in the current collective bargaining agreement and in the event of any omissions or inconsistencies the terms of the CBA shall be applicable and shall prevail.
- F. A faculty member should consult the collective bargaining agreement for procedures relevant to the evaluation process beyond the FEC and to determine the procedural requirements for appeals.