MONTANA STATE UNIVERSITY

Role, Scope, Criteria, Standards and Procedures

of the

Department of Physics

College of Letters and Science

Effective Date: July 1, 2025

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Effective July 1, 2025

Role and Scope

Document for

The Department of Physics

Article I. Role and Scope of the Unit

The Physics Department at Montana State University, the State's land-grant institution, educates students, creates knowledge, and serves the community. Physics is the most fundamental of the natural sciences. The department provides courses that satisfy the Core natural science credit, educating students about the concepts and methods of physics as well as its historical development and human impacts. Students in professional fields such as architecture, nursing, teaching, and all engineering fields acquire fundamental knowledge that is essential for success in their professions. Undergraduate physics majors are furnished with a comprehensive grasp of the concepts, theories, and analytical and experimental techniques of physics that are applicable for advanced study or careers in industry. Masters and doctoral students receive an advanced education through our courses. All of these students develop analytical and communication skills through departmental courses.

Research and scholarship seamlessly integrate into our educational mission. The Physics Department nurtures research groups in Astronomy, Astrophysics, Condensed Matter Physics, Cosmology, Laser and Optical Physics, Gravitation, Physics Education, Quantum Materials, Relativity, Solar and Space Physics. Faculty and research scientists conduct research at the frontiers of knowledge that provide opportunities for student involvement at the undergraduate and graduate levels. Through research, students apply skills learned in their studies, advance knowledge, and explore their own creativity. Research experiences create individuals that are better prepared for success in a complex, rapidly changing world.

Service to the community is an important component of the Physics Department's mission. This includes service to local, state, and federal agencies, service to professional organizations, and educational outreach. The Department is committed to alliances with local industry that apply fundamental knowledge toward the development of new technologies.

The faculty, staff, and administrators in the Physics Department support the fulfillment of the University's teaching, research and scholarship, and service missions. The teaching role of faculty members is threefold: (1) to offer an academic curriculum providing for the general education of all MSU students, (2) to enrich student education by involving students in research, and (3) to provide a high-quality program of graduate study in Physics. Faculty members are expected to engage in service activities with the local, state, or national public, and to participate in national or international

professional organizations within their academic discipline. Faculty members are expected to engage in research and scholarship of the highest caliber and to mentor undergraduate and graduate students in these endeavors. Faculty also have the responsibility to serve on Department, College, and University committees. The integration among teaching scholarship and service is fundamental to our mission as a land-grant university.

Article II. Appointment of Research Faculty

Research faculty are non-tenurable faculty whose assignment principally involves time and effort on research projects funded by grants and contracts, administered by the Office of Sponsored Research. The titles of:

- Research Professor
- Associate Research Professor
- Assistant Research Professor

are used for experienced, independent researchers who have qualifications comparable to those expected of the tenurable ranks. The appointee is expected to make significant contributions to the research field and have instructional responsibilities including but not limited to advising graduate students, teaching seminars and courses, and serving on departmental committees. They are expected to serve as Principal Investigator on the majority of grants which provide their own support, as well as any associated personnel, and operating costs for their program.

When the research faculty member has a significant commitment in a second department, or a research center or institute, the department head or director of the non-home department should provide a written evaluation of the candidate's scholarship for inclusion in the candidate's dossier and/or annual review package.

Section 2.01 Procedure for Appointment

Any candidate for a Research Faculty position in the Department of Physics will submit a formal application, including:

- Complete CV, including full professional history, publication list, list of invited talks.
- Complete information about past and present grant funding, including proposal titles, agencies, dates, amounts, accepted/rejected/pending, role of candidate on each proposal (i.e. PI, Co-I or other).
- Detailed statement of research experience and interests and research plan for the next five years.
- Summary of teaching experience, including classroom teaching, advising research students

(undergraduate and graduate), and any other relevant experience. Indicate plans for future involvement of students in research program, and how the candidate will be involved in the instructional mission of the Physics Department.

- Letter(s) of support from TT faculty stating what particular benefits the appointment would have on the department's research, students, teaching, and outreach. If the candidate is an experimentalist, the letters of support must indicate who among the tenure-track faculty will be the candidate's "sponsor" (or sponsors), providing the candidate's lab space.
    - A list of at least three external (i.e., non-MSU) references who have agreed to be contacted regarding the candidate

The candidate's application will be examined by the department's Policy and Personnel Committee and Department Head. A thorough, substantive evaluation of the candidate's application will be performed. The committee will examine the quality of the candidate's research record, their record of grant funding and the promise of future awards, the candidate's teaching record and interests, and, most importantly, the potential for the candidate to contribute to the mission of the department.

Section 2.02 Procedure for Promotion

Research faculty may be considered for promotion (Assistant Research Professor to Associate Research Professor, or Associate Research Professor to Research Professor) by submitting a dossier containing the same documentation required for an initial appointment as a member of the Physics Research Faculty.

The candidate's application for promotion will be examined by the Policy and Personnel Committee and Department Head. A thorough, substantive evaluation of the candidate's application will be performed. The committee will examine the quality of the candidate's research record, their record of grant funding and the promise of future awards, the candidate's teaching record and interests, and, most importantly, the potential for the candidate to continue to contribute to the mission of the department.

Section 2.03 Resources Provided to Research Faculty

- Research Faculty are entitled to receive mail at the main Physics Department office. They will be given a University e-mail address. An account will be provided on the department server to host their individual web page.
- Office space:
    (1) An office for the Research Faculty member will be assigned on as available basis.
    (2) Offices for members of the Research Faculty member's group (research scientists, postdocs, technicians, etc.) will be assigned on as available basis.
- Lab space:

(1) Research Faculty with experimental programs will have a tenure track faculty member (or faculty members) as their "sponsor". Lab space for the Research Faculty member is to be assigned by the sponsor from within their departmental allocation. All assignments are reviewed and approved by the Department Head. Factors to be considered in space assignments include:

- Number and size of grants involved in the research program.
- F&A return to the department on those grants.
- Number of students involved in the research program.
- Program productivity (papers, talks, new proposals generated).
- Relevance of research program to department research groups.

- Research Faculty may utilize the Physics Department Electronics Shop and Machine Shop with the same rights and privileges as members of the tenure-track faculty.
- Research Faculty are provided access to and assistance by the Physics Department staff at the same level as that provided to tenure-track faculty.
- Research Faculty may serve as committee chairs for graduate students.
- There is no obligation by the Department of Physics to provide salary or other financial support to a member of the Research Faculty.

Article III. **Annual Review Process**

An annual review assesses the performance, over the preceding calendar year, of all tenurable and nontenurable faculty who are not subject to the Non-Tenure Track (NTT) Collective Bargaining Agreement. The Annual Review process, appeals to the dean, and changes in assigned percentages of effort are described in the University Faculty Handbook. Candidates should consult the Faculty Handbook, which may be found at:

https://www.montana.edu/policy/faculty_handbook/

The Department Head shall assign each faculty member the specific duties and responsibilities which meet department needs and enable the faculty member to fulfill the responsibilities of the position. The Department Head shall ensure that, taken collectively, the assignments of the faculty shall meet the department's and college's obligations to the University. The Department Head and the faculty member shall annually review the faculty member's role within the department and make any modifications as may be necessary, after consultation with the faculty member. Any substantial modification of the faculty member's role within the department must be approved by the Department Head, Dean, and Provost and Vice President for Academic Affairs, after consultation with the faculty member.

The annual review is performed at the beginning of each calendar year by the Department Head. Prior to review, each faculty member is responsible for submitting, by the specified deadline,

information in a format designated by the Department Head. The department head shall then provide a written evaluation to the faculty member. Upon receipt the faculty member will be given the opportunity to schedule a meeting with the Department Head to discuss the evaluation and performance rating.

The Department Head will have a peer evaluation of each pre-tenure faculty member conducted as part of their annual review. A tenured faculty member will be assigned to observe the assigned teaching of the pre-tenure member at some point before the current annual review is completed. The assigned member will submit a summary of the peer-evaluation, which will be shared as part of the annual review. These summaries will be archived and later used in the retention review and tenure review process.

Non-Tenure Track Faculty - The annual review of all Research Faculty will be conducted using procedures that are applicable to Tenure-Track and/or adjunct faculty. This review will include an assessment of compliance with terms of hire, including all relevant memoranda of understanding.

Article IV. Primary Review Committee and Administrator

Section 4.01 Primary Review Committee-Composition and Appointment

The Primary Review Committee is the departmental Retention, Tenure, and Promotion Committee (RTPC). It shall consist of four tenured faculty members nominated by the Department Head and approved by the Personnel and Policy (P&P) Committee. The members of the Personnel and Policy (P&P) Committee consist of three tenure-track faculty elected annually by the tenure-track faculty and one NTT faculty elected annually by the NTT faculty. The members of the Personnel and Policy (P&P) Committee serve for the academic year that follows their election. The Department Head will select one member of the RTPC to serve as the Chair of the RTPC and will assign a member of the department staff to serve as administrative support for the RTPC. Normally, at least one-half of the members will have attained the rank of professor. In the case of promotion to (full) professor, this requires all members of the RTPC to have attained the rank of professor. The department may request approval from the University Retention, Promotion and Tenure Committee (URPTC) Chair to make an alternate tenured faculty appointment. Emeritus faculty members are ineligible to serve. No faculty member who is on leave during the year of the appointment may serve on RTPC.

Before conducting a review, committee members will attend the orientation regarding retention, tenure, and promotion offered by the provost's office for the review cycle in addition to other training described in the Faculty Handbook. The Department Head should make all nominations with the aim of achieving consistency with the University Faculty Handbook, which encourages a selection procedure that will promote membership which is inclusive of the categories protected

by the university Non-Discrimination Policy.

Section 4.02 Primary Review Administrator

The Primary Review Administrator is the Department Head of the Department of Physics. Should the Primary Review Administrator have a conflict of interest with a candidate under review, the CLS Dean will identify an individual to serve as Primary Review Administrator for the case under review. Before conducting a review, the primary review administrator will attend the orientation regarding retention, tenure, and promotion offered by the provost's office for the review cycle.

Section 4.03 Identification of Responsible Entities

The Primary Review Committee is responsible for the following:

- Informing the faculty member of the University, college, and department role and scope, criteria and standards documents which form the basis of review.
- If appropriate to the review, creating a list of external evaluators following the guidelines for that review level.
- Sending its evaluation letter and, if appropriate, the vote tally sheet to the Department Head for communication to the candidate and inclusion in the candidate's dossier.

The Primary Review Administrator is responsible for the following:

- Nominating the four tenured faculty members to the RTPC, and requesting approval of these faculty members by the P & P committee.
- Choosing one member of the RTPC to be the chair of the committee
- Providing the letter of hire, any Percentages of Effort changes, all annual reviews, and all Evaluation Letters from prior retention, tenure, and promotion reviews at MSU.
- If appropriate to the review, soliciting confidential letters of evaluation from external evaluators who are qualified to assess the candidate's research performance. The names of the evaluators will be supplied by the RTPC.
- Soliciting confidential letters from current MSU Physics faculty holding academic rank and tenure status higher than that of the candidate.
- Assuring the dossier includes a summary of the peer teaching evaluations.
- Sending the decision and letter from the RTPC to the Dean, along with the independent evaluation from the Department Head.
- Organize additional classroom visits for further peer evaluation if deemed necessary.

Section 4.04 Next review level.

The next review level after the reviews by the RTPC and the Department Head is the College of

Letters & Science Retention, Tenure, and Promotion Committee (CLSRTPC).

Article V. Intermediate Review Committee and Administrator.

The intermediate review committee is the College of Letters and Science Retention, Tenure, and Promotion Committee and conducts an independent review of the dossier in accordance with the responsibilities delineated in Sections 2 through 6 of the University Faculty Handbook Retention, Tenure, and Promotion Rights and Responsibilities.

This review level is explained in the Role and Scope Document of the College of Letters and Science.

Article VI. Review Materials

Review materials submitted by the candidate shall comply with the University Faculty Handbook (FH) document "Annual Review: Retention, Tenure and Promotion," subsection "RTP: Rights and Responsibilities," sections 1 and 7. Additionally, candidates in the College of Letters and Science must follow the requirements below.

Section 6.01 Materials submitted by Candidate

Materials for dossier must include:

- Cover sheet obtained from the Provost's office.
- A comprehensive CV including teaching, scholarship, and service activities of the candidate.
- Personal Statement that includes a description of the candidate's area of scholarship.
- Separate self-evaluations for teaching, scholarship, service, and integration summarizing the evidence demonstrating that the candidate meets the standards for the attainment of retention, tenure, or promotion, as applicable. Each self-evaluation shall include a summary of activities, selected products or accomplishments, and evidence of recognition itemized by year over the relevant review period.

If included in the vita, the candidate should separate the following categories:

- Refereed books or book chapters
- Refereed journal articles
- Invited book chapters or articles
- Invited conference presentations

- Contributed conference presentations
- Seminars and/or colloquia
- Grant proposals submitted and grants funded
- Unrefereed publications

The candidate may choose to include other categories as appropriate. On papers, grants funded, and other scholarly products, full author lists must match the order present on the item. Candidates are encouraged to clearly indicate student coauthors.

Section 6.02 Documentation of Collaborative Scholarly Contributions

In complying with the FH document entitled "Retention, Tenure and Promotion Rights & Responsibilities," Article 1, Paragraph e, on the requirement to detail scholarly collaboration, candidates in Physics will include this information in a single document. The candidate may choose to use a single statement covering any long-term collaboration that has resulted in multiple publications and/or grants.

Section 6.03 Peer Review Solicitation Procedure

The process and requirements for soliciting peer review materials are described in **Section 7 of** the Faculty Handbook, "Annual Review: Retention, Tenure and Promotion" subsection "RTP: Rights and Responsibilities".

Evaluators should be specialists in the candidate's field and familiar with the usual expectations for faculty performance. The candidate shall submit a list of at least 4 persons who will provide an independent and objective evaluation of the candidate's Scholarship. The Physics RTPC will select at least two names from this list. It will then create a separate list of at least three evaluators whose names **do not appear** on the candidate's list. They will combine these and pass the combined list to the department head. The Department head will solicit letters from all evaluators. Candidates shall not be informed of the identity of outside evaluators to protect the confidentiality of the review process.

Guidelines regarding who may and may not serve as referees are elaborated in the FH on "Retention, Tenure, and Promotion Rights and Responsibilities as follows:

> *3.c. No person may participate in the review of any person with whom they have a personal, business, or professional relationship that could be perceived to preclude objective application of professional judgment. A conflict of interest occurs when the evaluating party could realize personal, financial, professional, or other gain or loss as a result of the outcome of the review process, or when the objectivity of the evaluating party could be impaired by virtue of the relationship. Examples of persons who may be excluded by*

professional relationship include undergraduate and/or graduate mentors, postdoctoral mentors, collaborators who are co-investigators on grants and/or co-authors on a significant portion of scholarly products completed during the review period, colleagues who depend on instrumentation controlled or operated by the candidate, and/or co-inventor of a patent.

The five or more external review letters must be requested by the Department Head as specified in **Section 4.03,** and may not be solicited by the candidate. The department report should state clearly how external referees were chosen, include a brief CV for each external referee, and should include a brief statement of their status in the field. Referees should state either knowledge of or relationship to the candidate, if any. The completed review dossier must include at least five letters from external evaluators. The majority must be from evaluators drawn from the list created by the RTPC. The Department Head must solicit additional letters from that list until this criterion is achieved.

External evaluators should be sent a copy of the departmental Role and Scope, the candidate's vita, a brief statement that identifies the candidate's area of scholarship, as well as a selection of relevant publications and/or unpublished manuscripts, along with other materials, as appropriate and selected by the candidate. The external evaluators should be instructed to evaluate the candidate's work according to the criteria, standards and indicators described in the department's role and scope document. They should be asked to comment specifically on the quality of the candidate's written scholarship and his or her productivity, as well as the candidate's recognition in the field. Further, they should be asked not to comment on whether or not the candidate should be granted tenure or promotion at this institution, nor at their own.

Article VII. Applicable Role and Scope Documents

Section 7.01 Retention Review

Candidates for retention are reviewed under the standards and indicators in the Role and Scope documents in effect on the first date of employment in a tenurable position. Candidates may select a more recent, approved Role and Scope document by notifying the primary review committee.

Section 7.02 Tenure and Promotion to Associate Professor Review

Candidates for tenure are reviewed under the standards and indicators in the Role and Scope documents in effect on the first date of employment in a tenurable position. Candidates may select a more recent, approved Role and Scope document by notifying the primary review committee.

Section 7.03 Promotion to Professor Review

A candidate for promotion to Full Professor will be reviewed using standards and indicators in the

Role and Scope documents in effect two (2) years prior to the deadline for notification of intent to apply for promotion. Candidates may select a more recent, approved Role and Scope document by notifying the primary review committee.

Article VIII. Retention Reviews

For retention, the Department of Physics requires that a faculty member must demonstrate effectiveness in all areas of the candidate's assignment: teaching, scholarship, and service as described in the University Faculty Handbook (FH), "Retention, Promotion, and Tenure: Candidate's Rights and Responsibilities." In addition, a faculty member must demonstrate effective integration of two of the above areas; for example, teaching and scholarship. Critically, the faculty member must also demonstrate satisfactory progress towards meeting the standards for tenure by the candidate's tenure review year.

Section 8.01 Timing of Retention Review.

Faculty are reviewed for retention in the academic year specified in their Letter of Hire, unless extended under the Extending Tenure Review Period policy.

Section 8.02 University Standard.

The standards for the retention of probationary faculty members are:

- Effectiveness in teaching, scholarship and service during the review period.
- Integration of no less than two of the following during the review period: teaching, scholarship, and service,
- Satisfactory progress towards meeting the standards for tenure by the candidate's tenure review year.

Section 8.03 Performance Indicators and Weighting

Teaching:

Effectiveness in teaching shall be demonstrated through a combination of several indicators that may include:

Summary of peer teaching evaluations; the review of course materials including syllabi and examinations; the results of the candidate's teaching in courses prerequisite to those of other members of the unit; and the results of periodic and systematic student evaluation, appropriately documented and explained; supervision of graduate student research, theses, and dissertations; teaching awards; evidence of student success through a sequence of

courses; papers co-authored with students and projects with student collaborators; review of student portfolios, and implementation of teaching techniques informed by pedagogical scholarship.

As stated in the "Retention, Tenure & Promotion Review Definitions" section of the FH, Teaching is defined to also include the assistance and mentoring of student projects, and dissertations; the academic and career advising of undergraduate and graduate students; and the supervision of graduate teaching and research assistants.

Notwithstanding the diverse elements enumerated above, effectiveness in the classroom will be considered essential.

Scholarship:

Some primary indicators of effectiveness will be the publication of research in recognized journals and other venues (whether published or accepted for publication), the presentation of research at scientific meetings and at seminars and colloquia; the submission of grant proposals to relevant funding agencies; the awarding of grant proposals from relevant funding agencies; invention disclosures; the development of research and pedagogical tools such as software, algorithms, textbooks, experimental techniques, instrumentation, and laboratories.

As stated in the "Retention, Tenure & Promotion Review Definitions" section of the FH, Scholarship is defined to also include the generation of new knowledge in pedagogy, development of pedagogical innovations, and the dissemination, publication, and practice of that knowledge.

In making a determination of effectiveness in scholarship, weight will be placed both on the quality and the quantity of these primary indicators.

Service:

Faculty members of the Physics Department have a responsibility to make contributions through service and outreach. In fulfilling service responsibilities, the faculty member may:

- Engage in service to others on and off-campus by applying their knowledge and expertise. This may include service to local, state, federal, international organizations, and industry.
- Engage in service to their discipline or profession through professional organizations and activities. This may include, but is not limited to, editing duties, service to professional organizations, organization of conferences, and reviewing of proposals and manuscripts.
- Provide honest and objective appraisals in judging the professional performance and evaluation of colleagues in accordance with the primary academic unit, college, and university criteria.
- Participate in governance at the primary academic unit, college, and/or university levels of the institution.
- Maintain an active and significant role in the selection of new faculty and members of the administration.
- Participate in the development of goals and plans of the department/school, college, and

university.

- Engage in outreach activities that serve to educate the general public about science.

Integration:

Teaching, scholarship and service frequently show synergy, where the combination of two or more of these pursuits results in an enhanced product. The Department of Physics therefore values the integration of teaching, scholarship and service, and requires faculty members to pursue the integration of synergistic efforts. Examples of performance indicators that may support the attainment of standards in integration include, but are not limited to:

- Directing undergraduate research projects (Teaching/Scholarship).
- Directing graduate research projects (Teaching/Scholarship).
- The incorporation of research into instructional materials (Teaching/Scholarship).
- Journal reviews (Service/Scholarship).
- Grant and panel reviews (Service/Scholarship).
- Presenting Physics/Astronomy curriculum in a K-12 setting (Teaching/Service).
- The presentation of science in public forums and/or community outreach (Scholarship/Teaching/Service).

Section 8.04 Quantitative and Qualitative Expectations

Teaching:

Student evaluations should be both quantitative and qualitative: quantitative in order to allow comparison with other teachers, and qualitative to enable students to elaborate on their perceptions of strengths and weaknesses of the teacher. It is expected that the majority of the candidate's student evaluations will not be far below the departmental average. However, because student evaluations are vulnerable to different types of bias, they should not be the sole measure of teaching effectiveness.

The candidate will include the summary of peer evaluations obtained through the mandatory annual peer evaluations (see Article III). If deemed necessary, the primary review committee will organize additional classroom visits for further peer evaluation. In addition, instructor-provided materials and other evidence described in **Section 8.03** (especially mentoring and advising undergraduate and graduate students) must also be included and considered.

Faculty performance in teaching will be judged **effective** at the time of retention review if it is projected to reach the level expected at the time of tenure review (see **Section 9.04**).

Scholarship:

The candidate is expected to be actively engaged in scholarly activity, to regularly publish at least

1-2 research articles annually in appropriate journals of their sub-field, to participate in professional conferences, and to seek external funding.

Faculty performance in scholarship will be judged **effective** if it is consistent over time and of high quality and meets or exceeds the standards of the faculty in the Physics Department. The candidate's productivity will be judged relative to those in the same physics sub-discipline. Effectiveness at time of retention review connotes that the candidate is judged to be projected to achieve the level expected at the time of tenure review (see **Section 9.04**).

Service:

Faculty performance in service should further the mission of the department, college, university, or profession. It will be judged **effective** at the time of retention review if it is projected to reach the level expected at the time of tenure review (see **Section 9.04**).

For Assistant Professors, service is expected to be commensurate with the assigned percentage effort. In order to be judged effective in service, the Assistant Professor is expected to assist in graduate recruitment, to attend seminars and meet with speakers, to play an active role on committees to which they are assigned, including student review and exam committees, and to assist in the preparation of departmental proposals. In addition, by retention review, there should be some modest level of service outside the department at either the college or university level, or in a professional or governmental organization, or in K-12 or community outreach.

Section 8.05 Evidence of Performance Indicators

Teaching:

The candidate should provide both quantitative and qualitative evidence of effectiveness in teaching using a combination of indicators that may include those suggested in **Section 8. 03,** including the summary of annual peer evaluations.

Student evaluations, student mentoring, peer evaluations and student advising are a required part of the dossier (**Section 4.03**). Student course evaluations should be addressed by the candidate in a manner that demonstrates the case for effectiveness. Additional Evidence of Performance that may support the attainment of standards in Teaching include, but are not limited to:

- Personal statement on teaching.
- A description of courses taught, including credit hours and enrollment.
- Results of university approved student evaluations.
- Representative syllabi, examinations and other course related materials.
- Peer evaluations.
- Letters from former students.
- Implementation of teaching techniques informed by pedagogical scholarship.
- A list of research projects, theses and dissertations directed.

- Mentoring of undergraduate scholars (including publications in peer reviewed journals and abstracts for presentations at professional meetings).
- Sponsored undergraduate fellowships (Undergraduate Scholar's Program, etc.).
- Mentoring graduate students (including publications in peer reviewed journals and abstracts for presentations at professional meetings).
- Membership on dissertation/thesis/examination committees.
- Academic advising.
- Honors or special recognition for teaching accomplishments.

Scholarship:

The performance indicators from **Section 8.03** will be evaluated both for their quality and quantity. Evidence of Performance that may support the attainment of standards in Scholarship include, but are not limited to:

- Personal statement on scholarship.
- Recruitment of graduate students and post-doctoral scholars.
- Grant proposals submitted and grants funded.
- Refereed journal articles (accepted, in-press and published).
- Refereed books or book chapters (accepted, in-press and published).
- Nonrefereed publications (accepted, in-press and published).
- Invention disclosures for materials, processes and instruments.
- Invited conference presentations.
- Contributed conference presentations.
- Invited seminars and/or colloquia.
- Honors and awards for research accomplishments.

Service:

Performance indicators from **Section 8.03** will be evaluated for both their quality and quantity. Evidence of Performance that may support the attainment of standards in Service include, but are not limited to:

- Personal statement on service.
- Service on departmental committees or contribution to departmental projects and programs.
- Service on CLS or university committees.
- Service on national panels and committees concerned with science policy and practice {e.g.,

National Science Foundation and National Institutes of Health panels and study sections).

- Service in professional organizations or societies.
- Service as a journal editor or referee.
- Service on national, state or local government advisory panels.
- Outreach and service to K-12 educational institutions or programs.
- Outreach and service to other units of MSU or tribal colleges.
- Providing assistance or expertise to business, agricultural, or manufacturing concerns.

Integration:

Performance indicators from **Section 8.03** will be evaluated for both their quality and quantity. Evidence of Performance that may support the attainment of standards in Integration include, but are not limited to:

- Personal statement on integration.
- Directing an undergraduate research project (teaching/scholarship).
- Directing a graduate research project (teaching/scholarship).
- Incorporation of research into instructional materials (teaching/scholarship).
- Journal reviews (service/scholarship).
- Grant proposal reviews (service/scholarship).
- Presenting Physics/Astronomy curriculum in a K-12 setting (teaching/service).
- Presentation of science in public forums and/or community outreach (scholarship/teaching/service).

Section 8.06 Status of Scholarly Products:

Scholarly products listed in the candidate's dossier may be published or accepted for publication. In case of the latter, the candidate must clearly specify the current status at the time the dossier is submitted. The time from submission to publication in peer reviewed journals and the time from grant submission to decision and notification of an award are generally substantial. For this reason, for retention review the Department of Physics will consider submitted manuscripts and grant applications to external funding agencies as evidence of scholarly activity.

Article IX. Tenure Review

To achieve tenure, faculty members must demonstrate:

- Accomplishment in scholarship during the review period.
- Sustained effectiveness in teaching and service during the review period.
- Integration of no less than two of the following during the review period: teaching, scholarship, and service.

Section 9.01 Timing of Tenure Review

Faculty are normally reviewed for tenure in the academic year specified in their Letter of Hire, unless extended under the Extending Tenure Review Period policy. For mandatory reviews (i.e., retention and tenure), the provost will notify candidates, heads, and deans of the faculty scheduled for mandatory reviews each year.

Faculty members who wish to initiate a review for early tenure or promotion to professor must notify the primary review administrator(s) by the date established by the Provost. Critically, the faculty member should note that per the Faculty Handbook (Retention, Tenure, and Promotion Standards & Timelines, **Section 2):**

- Faculty may initiate a tenure review only once during their employment at Montana State University.
- A faculty member who is not awarded retention or tenure after review will receive a terminal MUS employment contract for the academic year that follows the decision of the provost.

Section 9.02 University Standards

The University standards for the award of tenure are:

- Sustained effectiveness in teaching and service during the review period.
- Integration of no less than two of the following during the review period; teaching, scholarship, and service as demonstrated by the candidate's performance during the review period.
- Accomplishment in scholarship as demonstrated by the candidate's performance during the review period.

Section 9.03 Performance Indicators and Weighting

Teaching:

The indicators of effectiveness and weighting in teaching for tenure include, but are not limited to, those found in **Section 8.03.**

Scholarship:

In addition to the indicators in **Section 8.03,** the candidate is expected to have developed a coherent research program in a particular area of Physics. Accomplishment in scholarship carries the expectation that it is indicative of a nationally recognized research program consistent with national norms for peer departments in universities with "highest research activity" (as defined by Carnegie: http://carnegieclassifications.iu.edu). In addition, the faculty member must also possess a strong record of financial support for their research program. For quantitative expectations, see **Section 9.04.** Examples of primary performance indicators that may support the attainment of this standard of accomplishment include but are not limited to:

- Journal articles.
- Extramural grant funding.
- Invited conference presentations.
- Contributed conference presentations.
- Invited seminars and/or colloquia.
- Invention disclosures for materials processes or instruments.

For peer reviewed journal articles, primary weight will be placed on the quality of the research and the level of the faculty member's contribution. The quality of the journal as indicated by impact factor and other criteria may be considered. Only accepted publications may be considered in the review period. Non-refereed publications receive lower weight.

Funded grant proposals will carry significantly greater weight than unfunded proposals. Conference presentations and seminars will receive a significant, though secondary weight. **Service:**
The performance indicators of effectiveness in service for tenure include, but are not limited to, those found in **Section 8.03.**

Integration:

The performance indicators and weighting for integration include, but are not limited to, those found in **Section 8.03.**

Section 9.04 Quantitative and Qualitative Expectations
Teaching:
Faculty performance in teaching will be judged **effective** at the time of tenure review if the faculty member demonstrates the ability to teach courses at several different levels. Faculty performance in classroom teaching will be judged based on course materials and student and peer evaluations. Student evaluations are a required part of the dossier (see **Section 4.03).** It is expected that recent peer and student evaluations will be consistent with departmental norms for the respective courses Historically, standardized teaching evaluations have been weighted and valued most highly. However, student evaluations are vulnerable to various forms of bias. Thus, it is

understood that course evaluations serve to provide a measure of student satisfaction and should be applied with caution as an indicator of teaching performance. Additional evidence should be included, such as structuring courses around high quality learning outcomes, engaging in course improvement, and the adoption of best practices.

The candidate is expected to mentor undergraduate research; this activity is an important teaching component in the Department of Physics, which requires its majors to participate in research or perform a Senior Project as part of the degree requirements. In addition, the candidate must have at least one graduate student in good standing that has made significant progress towards their Ph.D. degree.

The candidate should provide both quantitative and qualitative evidence of effectiveness in teaching using a combination of indicators that may include those suggested in **Section 8.03.** For example, since peer evaluation of teaching is used as an indicator of teaching effectiveness, a formal report describing the methods employed in the evaluation (classroom visits, interviews with current and past students, etc.), and the findings of the evaluation should be included in the dossier.

Scholarship:

In addition to the expectations from **Section 8.04,** faculty performance in scholarship will be judged **accomplished** if it is consistent over time and of high quality and meets or exceeds the standards of the faculty in the Physics Department. Expectations are that the successful candidate will have established a nationally recognized research program consistent with norms for peer departments at universities with "highest research activity" as defined by Carnegie (http://carnegieclassifications.iu.edu). Promotion from assistant to associate requires publications as corresponding author in quantities and quality comparable to colleagues in these peer departments, at a similar stage in their professional careers. Since research in some areas produces fewer publications for a given effort, the candidate's productivity will be judged relative to those in the same Physics sub-discipline. For many candidates, typical publication activity is an average of more than one publication per year as corresponding author in quality, peer reviewed journals. The majority of the external reviews should indicate that the candidate has met this definition of accomplishment. In addition to the external reviews, the department will also evaluate the body of work, with emphasis on both the quantity and quality of the publications; quantity alone is insufficient evidence for accomplishment.

The candidate must also have demonstrated the ability to obtain funding at a level appropriate for long-term support of their independent research program. Minimally, funding is expected to include at least one nationally competitive major research grant for which the candidate is the principal investigator, or significant funding as a co-investigator in a multidisciplinary project. The candidate is also expected to have presented 3 or more invited presentations at nationally recognized meetings and/or invited seminars at peer academic institutions.

Service:

A faculty member is expected to advance the mission of the department through service. This generally includes actively serving on Departmental committees each year, attending faculty meetings, and representing the Department on College and University level committees when asked to do so. Prior to tenure the committee assignments may have lower time commitments. There is also an expectation of an adequate level of professional or community service, commensurate with the appointment. Performance will be judged **effective** for tenure if it satisfies these expectations to a level commensurate with other tenured faculty members in the Department. Critically, the department expects service on Department, College, or University committees, including Ph.D. graduate student committees. Service in other capacities, as described in **Section 9.03** and **Section 9.05,** is highly encouraged. Professional activities with high external visibility are strongly valued.

Section 9.05 Evidence of Performance Indicators

Teaching:

The evidence of effectiveness in teaching for tenure includes, but is not limited to, that listed in **Section 8.05.**

Scholarship:

The evidence of effectiveness in scholarship for tenure includes, but is not limited to, that listed in **Section 8.05.** The performance indicators from **Section 9.03** will be evaluated for their quality, quantity, and external recognition. Evidence of quality may include the professional judgment of the RTPC, the external or internal evaluators. Evidence of recognition may include citations to the candidate's published work, the professional judgment of the external evaluators, invitations to give high-profile talks at national or international scientific meetings, invitations to write review articles, success at obtaining external funding, or awards for scholarship.

Service:

The evidence of effectiveness in service for tenure includes, but is not limited to, that listed in **Section 8.05.**

Section 9.06 Status of Scholarly Products

For tenure and promotion reviews, only scholarly products that have been accepted for publication, performance, or exhibition within the Review Period may be considered. Due to the long lead time associated with proposal evaluation, Tenure Reviews in the Department of Physics will consider submitted grant applications to external funding agencies as evidence of scholarly activity.

Article X. Promotion to Rank of Associate Professor

Section 10.01 University Standards

The University standards for promotion to the rank of Associate Professor are the standards for the award of tenure. Appointment at the rank of Associate Professor or Professor does not

demonstrate, in and of itself, that standards for tenure have been met.

Article XI. Promotion to Rank of Professor

Section 11.01 Timing of Review

Normally, faculty applying for promotion to full professor are reviewed after completing at least five (5) years of service in the current rank of Associate Professor. However, faculty may seek promotion earlier if they can establish that they meet the same standards of effectiveness and accomplishment or excellence used in evaluating candidates after five (5) years in rank. Faculty who believe they have met the department, college, and University criteria and standards for promotion and wish to be considered for promotion should submit a written request for consideration to the department head by the date established by the Provost.

Section 11.02 University Standard

To achieve promotion to rank of (full) professor, faculty members must demonstrate:

- Sustained effectiveness in teaching and service during the review period.
- Sustained integration of no less than two of the following during the review period: teaching, scholarship, and service.
- Excellence in scholarship as defined in the Faculty Handbook document entitled "Retention, Tenure and Promotion Review: Definitions" as demonstrated by the candidate's performance during the review period.

Section 11.03 Performance Indicators and Weighting

Teaching:

The performance indicators and weighting for teaching include, but are not limited to, those found in **Section 8.03.** In addition, the candidate must have mentored, as principal advisor, at least two graduate students through successful completion of most of the requirements for their doctoral degree. In addition, current laboratory personnel in training must include at least one currently enrolled graduate student in good standing that has made significant progress towards their Ph.D. degree.

Scholarship:

In addition to the indicators in **Section 8.03,** the candidate is expected to have continued to develop a coherent research program in at least one area of Physics. For promotion to (full) Professor, faculty members are expected to develop a sustained record of scholarly excellence. The sustained body of work should clearly indicate a nationally and internationally recognized research program consistent with norms for peer departments in universities with "highest

research activity" as defined by Carnegie (http://carnegieclassifications.iu.edu). In addition, the faculty member must also possess a strong and sustained record of financial support for their research program. For quantitative expectations, see **Section 11.04.** Examples of primary Performance Indicators that may support the attainment of this standard of accomplishment include but are not limited to:

- Journal articles.
- Nationally competitive extramural grant funding.
- Invited conference presentations.
- Organization of conferences.
- Books.
- Invention disclosures.
- State, national and international honors.
- Membership on editorial boards.
- Leadership roles in professional organizations.

For peer reviewed journal articles, primary weight will be placed on the quality of the research and the level of the faculty member's contribution. The quality of the journal as indicated by impact factor and other criteria may be considered. Manuscripts that are submitted, under review, or under revision will not be considered. Non-refereed publications will be of lesser weight.

Service:

The performance indicators and weighting for Service include, but are not limited to, those found **in Section 9.03.**

Integration:

The performance indicators and weighting for Integration include, but are not limited to, those found in **Section 9.03.**

Section 11.04 Quantitative and Qualitative Expectations

Teaching:

In addition to the expectations for effective teaching described in **Section 9.04,** the candidate for promotion is expected to have taught courses effectively at several different levels.

Scholarship:

For promotion to full Professor, faculty members are expected to develop a sustained record of

scholarly excellence. The sustained body of work should clearly indicate a nationally and internationally recognized research program consistent with norms for peer departments in universities with "highest research activity" as defined by Carnegie (http://carnegieclassifications.iu.edu).

Promotion from associate to full professor thus requires a sustained publication record, for example over the 5-year time span following promotion to associate professor, in quantities and quality comparable to colleagues in these peer departments who are at similar stages in their professional careers. Since research in some areas produces fewer publications for a given effort, the candidate's productivity will be judged relative to those in a similar Physics sub-discipline. Typically, however, the candidate will produce on average at least 2 high quality peer reviewed publications per year as corresponding author, though exceptions will be made in cases of outstanding quality. The majority of the external reviews should clearly indicate that the candidate has met this definition of excellence in scholarly productivity. In addition to external reviews, the department will also evaluate the body of work, with emphasis on both the quantity and quality of the publications; quantity alone is insufficient evidence for excellence.

The candidate must also have demonstrated the ability to maintain significant funding at a level appropriate for long-term support of their independent research program. Further, as an additional indication of the candidate's national and/or international stature, they are expected to have made numerous presentations at national and international meetings, and at peer academic institutions.

Service:

In addition to the expectations for effective service described in Sec. 8.04, the candidate for promotion is expected to have rendered some service in a leadership capacity to the Department, College, University, or profession.

Section 11.05 Evidence of Performance Indicators

Teaching:

The evidence of effectiveness in teaching for promotion to (full) Professor includes, but is not limited to, that listed in **Section 8.05.**

Scholarship:

The performance indicators from **Section 11.03** will be evaluated for their quality, quantity, and substantial recognition of significant contribution. Evidence of quality may include the professional judgment of the RTPC, the external or internal evaluators. Evidence of recognition and significance may include, but are not limited to:

- Personal statement on scholarship.

- Grant proposals submitted and grants funded.
- Refereed journal articles (published).
- Refereed books or book chapters (published).
- Nonrefereed publications (published).
- Invention disclosures.
- Invited conference presentations.
- Contributed conference presentations.
- Invited seminars and/or colloquia.
- Honors and awards for research accomplishments.
- Citations to the candidate's published work.
- Invitations to write review articles.

Service:

The evidence of attainment of standards in service for promotion to (full) Professor includes, but is not limited to, that listed in **Section 8.05.**

Integration:

The evidence of attainment of standards in integration for promotion to (full) Professor includes, but is not limited to, that listed in **Section 8.05.**

Section 11.06 Status of Scholarly Products

The Department of Physics will **not** consider submitted manuscripts and current grant applications to external funding agencies as evidence of scholarly activity during the review for promotion to Full Professor.

Article XII. Procedures for Updating and Revision of the Role and Scope Document

All faculty members in the Department of Physics are entitled to propose changes to this Role and Scope Document.

If the College of Letters and Science review committee or the dean identifies a need for improvement, clarification, or other revision to a unit's Role and Scope Document, they may submit the request for changes to the Chair of University Retention Tenure and Promotion Committee (URTPC) who will forward the recommendations to the unit. Submission to the Chair of URTPC should occur after the review committee or administrator completes all reviews for

the year.

Units will act on any proposed changes received from the Chair on an annual basis and will undertake a full review of their Document no less than every three years. All updates and revisions must be approved as set forth in **Article XIII.**

Article XIII. Approval Process

Section 13.01 Primary Academic Unit Role and Scope Document

- Tenurable faculty and department head of the Department of Physics
- College of Letters and Science Retention Tenure and Promotion Committee and Dean of the College of Letters and Science
- University Retention Tenure and Promotion Committee (URTPC); and
- Provost.

Section 13.02 Intermediate Academic Unit Role and Scope Document

- College of Letters and Science Retention Tenure and Promotion Committee and Dean of the College of Letters and Science
- University Retention Tenure and Promotion Committee (URTPC); and
- Provost.