

**SIGNATURE SHEET FOR EVALUATIVE CRITERIA**  
**APPROVED CRITERIA SHALL HAVE ALL REQUIRED SIGNATURES**

Department/Office: Physics & Astronomy

Department Chair/Head: E.J. Guerra  
Print

  
Signature

Academic Year (circle): (15-16)      16-17      17-18      18-19      19-20

Date Sent to Dean/Supervisor: 09-21-15

Signature	Date	Approved
_____	_____	Y / P / N
Dean/Supervisor:		
_____	_____	Y / P / N
Add'l Admin:		
_____	_____	Y / P / N
Provost/designee:		
_____	_____	Y / P / N
President/designee:		

Y = Approved                      P = Approved pending modifications                      N = Not approved

For P or N decisions, the departmental committee should be provided with the reasons for non-approval, as well as suggested changes to the criteria within a reasonable time to ensure timely approval for first year candidates.

**DIRECTIONS:** Sign each line and print or stamp name below the line. This signature page must accompany the evaluative standards throughout the entire approval process, and serves as a record that all levels have contributed to the approval process. After all levels have approved the evaluative standards, this cover page and the criteria shall be duplicated, and a copy sent to the Senate office for archiving. The original criteria packet is returned to the Department/Office.

<b>SUGGESTED TIMETABLE:</b>	<b>DATE</b>
Departmental approval, sent to Dean/Supervisor:	September 25 (earlier if possible)
Dean provides feedback regarding criteria	October 9
Final administrative approval and forwarding to Senate, Department, and Dean	November 1

**DEPARTMENT OF PHYSICS AND ASTRONOMY**

**RECONTRACTING AND TENURE GUIDELINES**

as amended September 17, 2015

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**STATEMENT OF TERMINAL DEGREE**

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The terminal degree for teaching faculty in the Department of Physics and Astronomy is the Ph.D.

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**WEIGHTING OF EVALUATION CRITERIA**

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The three areas to be assessed in detail for each faculty requesting recontracting or tenure, and the weighting percentages for these areas, are Teaching Effectiveness—55%, Scholarly & Creative Activity—35%\*, and Service—10%.

Service includes contribution to the department, college, and university communities as well as contribution to the wider and professional community. If the interests of a faculty member suggest that these percentages should be different, then the faculty member can present a development plan that offers an alternative set of percentages. The Departmental Tenure & Recontracting Committee, in discussion with the candidate, will consider this alternative suggestion, taking into account the justification offered and the needs of the Department. In no case though will the order of importance of these assessment areas be altered.

The following pages describe the departmental interpretation of these criteria.

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\* Candidates for tenure and recontracting at the rank of instructor do not have the expectation to develop a research program. Rather, their scholarly and creative activities are designed to focus on maintaining currency in their field.

# DEPARTMENT OF PHYSICS AND ASTRONOMY

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## CRITERIA FOR EVALUATING TEACHING EFFECTIVENESS

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Teaching is the primary function of faculty. Faculty members are expected to facilitate learning, manage instruction, and supervise students (See Appendix A §1.1 of the Recontracting & Tenure Memorandum of Agreement). They must also advise students, develop learning activities, and develop as a teacher. The evaluation procedure will include classroom and/or laboratory peer observations, student evaluations, course content, advising activities, and a statement by the faculty member which includes a self-assessment and a professional development plan.

### PEER CLASSROOM AND/OR LABORATORY OBSERVATIONS ASSESS:

- Mastery of subject matter discussed
- Interactions with students: rapport, sensitivity to students' difficulties, impartiality, respect, appropriate humor, flexibility, and avoidance of hurtful sarcasm.
- Classroom/Laboratory presence: awareness of physical conditions in classroom, avoidance of distracting behavior and mannerisms, awareness of students as a group and as individuals, enthusiasm for subject taught, and interest generated in subject matter.
- Organization and technique: development of presentation, board work and use of other teaching aids, planning of assignments and in-class activities or lab experiments, encouragement and handling of questions from the class, ability to stimulate thinking, flexibility in use of techniques and materials, and use of illustrative examples.

### USE OF STUDENT EVALUATION DATA AND RESPONSE

- The department uses the online, 5-point Likert-scale, student evaluation form and standard procedures for deployment and reporting. The exact survey questions used are available to the candidate prior to being used. The department as a whole periodically reviews and updates the question form as necessary.
- It is recognized that students are, in general, non-experts in the field of teaching and so evaluations are considered more of a feedback mechanism than an assessment of the candidate's teaching ability. As such, candidates will provide a feedback response to the evaluations and free responses to all those evaluation items that received an average score of less than 4.

### EVALUATION OF COURSE CONTENT

- Syllabi should reflect the Department's collective decisions concerning multi-section courses. Such decisions may include items such as curricular content, laboratory experiences, texts, and goals.
- Learning activities should have a clear relationship to course and program goals.
- Learning outcomes assessment tools should be appropriate. Such tools might include, but are not limited to, the following: exams, tests, quizzes, papers, reports, projects, lab notebooks, presentations and portfolios.

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### EVALUATING ADVISING

- The candidate will do a self-assessment of his/her advising responsibilities that may include academic advising, mentoring student research and/or advising student clubs. The candidate should specifically address the issue of developmental advising of academic advisees.
- Student input may be sought through soliciting free-form prose evaluation from selected advisees. The students to be evaluated will be selected from the record of meetings with students provided by the candidate.

### EVALUATING THE DEVELOPMENT OF LEARNING ACTIVITIES

- The candidate will do a self-assessment of these efforts detailing course revisions, new materials and exercises, new types of activities, updating course syllabi, updating and developing new curricula, development of assessment tools for learning outcomes, and other aspects that the candidate thinks constitute development.
- Submission of documentation supporting these efforts is necessary. Documentation may include but is not limited to the following: description of activities, new course syllabi, details of curricular changes, student handouts, assessment tools, computer assignments, etc.

### EVALUATING DEVELOPMENT AS A TEACHER

- The candidate will do a self-assessment of these efforts including attendance/participation in development activities and learning communities of the University, region, and world, maintenance of currency in coursework and pedagogical practices, demonstrated acquisition, trial use, and sharing of knowledge of new pedagogical techniques and knowledge within the faculty member's field of expertise, to help meet the department's mission and goals.
- Submission of documentation supporting these efforts is necessary. Documentation may include but is not limited to the following: description of activities attended, letters of support from collaborating faculty, descriptions of new knowledge acquired and how it was applied to courses.

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### CRITERIA FOR EVALUATING SCHOLARLY ACTIVITY

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Each faculty member is expected to maintain currency within his/her chosen field. We recognize that this cannot take place without continued scholarship and research. We fully expect that such efforts will clearly enhance the Department's mission of providing students with a research-rich environment at all levels of coursework.

Scholarship and research activities in the Department of Physics and Astronomy are recognized as research and scholarship in physics, astronomy, science education in physics and astronomy, and various sub-fields of these three. All faculty members are expected to perform the research activities of publishing papers and grant proposal submissions as well as other appropriate activities as outlined below.

Candidates should address any and all such activities within the written self-appraisal. Any evidence of scholarly activity (abstracts, duplications of first pages from publications, grant proposal cover pages, etc.) may be placed within the Supplemental Folder.

#### **Research Activities:**

- Writing and submitting proposals for external grant funding of research activity; this includes funding and contracts from governmental agencies, industries, philanthropic organizations, and research foundations. Unfunded, favorably reviewed submissions are valued as evidence of scholarly effort.
- Publishing research activity and results in refereed (peer-reviewed) journals appropriate to the field and/or subfield of the candidate
  - Peer-reviewed volumes and monographs, also fall into this category.
  - The department does not use metrics such as impact factors to set any minimum standards of significance for a peer-reviewed venue. The candidate should provide a brief discussion of the quality and appropriateness of the journals and/or other venues for publication.
  - While the candidate need not be the primary author on all publications, the candidate should be making original contributions appropriate for an independent researcher. In many cases, the candidate's authorship will adequately convey the significance of the candidate's contributions, e.g., if the candidate is the sole, lead, or (in the case of publications where a student in the candidate's lab is the lead author) last author. In those cases where authorship alone does not indicate the candidate's contributions, the candidate's role in the production of the publication and the science behind it should be discussed.
  - It is clear that these two points (venue impact and contribution level) are not mutually exclusive. As such, the department values primary authorship in lower impact, more discipline focused, venues equally as well as non-primary authorship in higher impact, wider-focused venues.

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- Writing and submitting proposals for internal grant funding of research activity
- Writing and publication (by commercial or academic off-campus publishers) of chapters for science literature review manuscripts, science textbooks, laboratory manuals or academic/scientific computer software
- Oral or poster presentations of research at scientific or professional meetings. Presentations at international and national meetings are of greater weight than those at regional and state meetings. The significance of the candidate's contributions to presented research should be reflected by authorship or explanation of role in the presented research. Greatest weight will be placed on those presentations where the candidate has the greatest responsibility for bringing the research to the attention of his or her fellow scientists, particularly where either the candidate or his or her student is the presenter.
- Mentoring research students in projects, especially those that lead to publication or presentation by the student at scientific meetings. Evidence of student mentoring includes formal inclusion of students in scientific pursuits, either for credit or for pay, participation of students in presentation of research at institutional or extramural scientific conferences, and student authorship on peer-reviewed publications. The department recognizes that, because of the need for students to be trained first in the appropriate research methods, and because student aptitudes for research can vary greatly, student research progresses at a much slower pace than faculty research.
- Contributions towards departmental instructional improvement based on science education research (e.g., new courses, demonstrations, laboratory experiments, visual aids, application of computers, developing new software) with appropriate assessment thereof
- Research published without peer-review. This category includes: research published in technical reports, conference proceedings, and other venues. The candidate should provide some brief discussion of the significance and appropriateness of these publications.
- Unpublished research that is clearly documentable. This category includes unpublished results from industry-sponsored research and long-term projects with clear deliverables during their progression (e.g., presentations, reports to funding agencies and sponsors, other forms of dissemination).
- Scholarship of pedagogy by faculty who were **not** hired for science education research. This category includes the conduct, presentation, and publication of peer-reviewed research on the teaching of the physics or astronomy at any level. This category distinguishes the scholarship of pedagogy from research in the physics subfield for which the candidate was hired. If a candidate was hired as a scholar of physics or astronomy education, then this distinction would not exist and scholarship of pedagogy would be considered the same as the candidate's area of research for evaluating publications and presentations.

Note: Candidates for tenure and recontracting at the rank of instructor do not have the expectation to develop a research program. Rather, their scholarly and creative activities are designed to focus on maintaining currency in their field to be able to instruct students in the current state of the art in their area of expertise and to use modern pedagogical and technological tools and methods to do so. Candidate written self-appraisal should focus on how they have maintained currency in their area of expertise and their detailed plans for maintaining that currency in a section on plans for future growth. The administration recognizes that engaging in fundamental or applied research activities is one way to stay current, but the research itself is not the goal, but rather one possible mechanism towards achieving the goal of maintaining currency.

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### CRITERIA FOR EVALUATING SERVICE: CONTRIBUTION TO THE DEPARTMENT, COLLEGE, AND UNIVERSITY COMMUNITIES

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The following activities are considered in judging the contributions of a candidate to the Department and College. Candidates should address any and all such activities within the written self-appraisal. Any evidence of service (letters of participation from committee chairs, copies of syllabi from new courses, etc.) may be placed within the Supplemental Folder.

- Active participation in the regular business of the Department, e.g.:
  - Coordinating introductory courses<sup>†</sup>
  - Coordinating introductory lab instruction<sup>†</sup>
  - Supervising, evaluating, and/or mentoring adjunct and 3/4-time faculty<sup>†</sup>
  - Coordinating peer advising program<sup>†</sup>
  - Liaison for advising with University Advising Program<sup>†</sup>
- Service on Departmental Committees (regular or ad hoc)
- Service on College Committees (regular or ad hoc)
- Service on University Committees (regular or ad hoc)
- Development of new programs
- Writing grants to obtain funding for curricular or instrumental improvements
- Strong involvement with student clubs and club activities<sup>†</sup>
- Participation in student-related activities

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### CRITERIA FOR EVALUATING SERVICE: CONTRIBUTION TO WIDER AND PROFESSIONAL COMMUNITY

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The following activities are considered in judging the contributions of a candidate to the wider and professional community. Candidates should address any and all such activities within the written self-appraisal. Any evidence of service may be placed within the Supplemental Folder.

- Active participation in professional societies, including chairing of significant committees and organizing or presenting workshops and symposia
- Attendance at professional society meetings and conferences
- Membership in professional societies
- Business, industrial and public body consultancies where the individual's professional expertise is a requisite for appointment, including grant review panels, reviewing of textbooks or journal manuscripts, and reviewing of academic science programs at other institutions
- Participation in outreach activities to elementary, middle and high schools such as speaking to classes, demonstrations, judging science fairs, etc.<sup>†</sup>

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<sup>†</sup> Appropriate responsibility for full-time, tenure-track Instructors

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### ROLE OF THE DEPARTMENT CHAIR

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In the Department of Physics and Astronomy, the chair is involved in the evaluative process as a voting member of the department Tenure and Recontracting Committee.

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### PROCEDURE FOR COLLECTING STUDENT EVALUATIONS

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The Department of Physics and Astronomy uses an online form originally devised by the Faculty Center with an additional two questions, for student evaluation of teaching. Collection of the data is usually done during a class period by having another faculty member administer/proctor the students as they login and complete the survey while the course instructor is out of the room but may, at candidate's option, be open to students to complete on their own time outside of class. Processing of the data is done automatically by the online system and results are sent, in a non-editable document format, to the instructor. These procedures comply with the rules of the master contract and local T&R rules. The candidate only receives aggregate results and does not see the results until after grades have been submitted. All free-form student comments are included in the analysis given to the candidate.

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### PROCEDURE FOR EXTERNAL REVIEW OF SCHOLARLY ACTIVITY

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The Memorandum of Agreement now requires that **candidates for tenure** at the rank of Assistant Professor or higher provide an evaluation of their research by an external reviewer at another institution who has the expertise appropriate for assessing the candidate's research. The Department will consider more than one reviewer if the candidate wishes to provide more. The Department will ask the external reviewer(s) to comment on: 1) The quantity and quality of the candidate's research, and 2) The merit of the candidate's accomplishments in scholarship taking into account Rowan's infrastructure, institutional support for research, and other institutional factors that affect research productivity.