

Department of Physics and Energy Science

**College of Letters, Arts and Sciences
University of Colorado Colorado Springs**

**Criteria, Standards and Evidence for
Reappointment, Promotion and Tenure**

July 1, 2020

Physics and Energy Science Reappointment, Promotion and Tenure Criteria

Introduction:

Standards and processes for reappointment, promotion and tenure of faculty are governed by Article V and Appendix A of the Laws of the Regents. These are further delineated in a series of CU Administrative Policy Statements. Campus guidance is supplied in UCCS Policy # 200-001. These documents require the establishment of departmental criteria which are to be used throughout the review process.

These criteria are to be considered guidelines for the general review of candidates toward reappointment, promotion and tenure in the Department of Physics and Energy Science at the University of Colorado at Colorado Springs. The criteria are based on appropriate and current standards of professional performance in our discipline. Each candidate's case will be reviewed and judged on its individual merits and circumstances. The department is committed to quality teaching, strong research/creative work, and effective service to the university, the profession, and the community. The evaluation process assumes: possession of an appropriate terminal degree; competent education and training in the discipline(s); conduct which reflects the professional and academic standards for generating, validating, disputing, and transmitting knowledge; and an appreciation of and respect for the rights, duties, and privileges associated with academic freedom and collegial responsibilities.

In the assessment of research and creative work, the department places greater weight on items which have undergone some form of peer review than those that have not. In cases where an item does not undergo peer-review (for instance, reports, or articles in the popular press), such material may be submitted to outside readers for evaluation. Our department encourages collaborative research and so co-authored papers may be considered as equivalent to sole-authored papers if the candidate provides clear evidence of a significant contribution by the candidate to the paper.

When these criteria are applied to faculty who were granted time toward tenure, the work performed during the years granted toward tenure shall be considered equivalent to work performed at UCCS. Nonetheless, the main emphasis of evaluation will be on work performed while resident at UCCS and, in particular, progress since the last review.

These criteria can be amended by majority vote of the department subject to approval by the Dean of the College of Letters, Arts, and Sciences and the Executive Vice-Chancellor for Academic Affairs. The Physics Department does not, at present, use a Faculty Responsibility Statement in our reappointment, promotion and tenure process.

As permitted in APS 1022, the faculty of Physics and Energy Science have voted not to have a vote of the primary unit faculty as a step in the reappointment, promotion, and tenure process.”

New Regental policy delineates some additional issues regarding evaluating "excellence in teaching". The new guidelines state, "A recommendation of tenure based on excellence in scholarly/creative work shall include evidence of impact beyond the institution. A recommendation for tenure based on excellence in teaching shall include multiple measures of teaching evaluation and demonstrated achievement at the campus, local, national, and/or international level which furthers the practice and/or scholarship of teaching and learning beyond one's immediate instructional setting."

In the Department of Physics and Energy Science, we identify the "immediate instructional setting" as the place where regular assigned teaching occurs. Thus, teaching impact, such as mentoring of individual students, at the departmental, campus, national or international level demonstrates impacts of teaching and learning beyond the candidate's immediate instructional setting. There are multiple methods to indicate evidence of teaching and learning beyond the candidate's immediate instructional setting given in Appendix I.

Initial Reappointment Review

The candidate's total record, including teaching, research/creative work and leadership and service, will be evaluated. A rating of "on track for tenure", "not yet on track for tenure but could meet standards for tenure with appropriate corrections" or "not on track for tenure" in each area is required. The record must show sufficient potential of future success to justify reappointment. The review may also take into account issues of material bearing such as strategic goals of the department, college and campus.

Teaching: Emphasis will be placed on the total teaching contribution of the individual. The candidate should demonstrate that his or her courses are coherently organized, thoughtfully presented, cover the appropriate material and test at the appropriate level. Furthermore, the candidate will be expected to demonstrate a commitment to teaching, evidence of which will be good interaction with students, concern with curriculum, and satisfactory development of the skills required in presenting material. Improvement in teaching methods, teaching outside the classroom, and curriculum development will be taken into consideration. Teaching will be evaluated using student evaluations, and at least two other methods selected by the faculty member. *Examples of these other means of evaluation are provided in Appendix II to this document.*

In addition to classroom teaching, the candidate's work with students outside of the classroom as a mentor, research advisor, independent study director, intern supervisor and similar activities shall be considered here.

Scholarly/Creative Work: The department recognizes that scholarship can take many forms. Our department emphasizes fundamental discovery, scholarly work which integrates existing knowledge, and applied research. We recognize scholarly study of teaching and learning issues in our field as a form of research. Candidates are expected to present evidence of the development of a significant research program. This may include progress in establishing a laboratory, submitting grant proposals, presentations at

conferences, and evidence of continuing progress toward publication, which might include copies of drafts of work in progress or submitted for publication.

Leadership and Service: The department recognizes service to the campus, community and to our profession. At this stage, the candidate is expected to be involved in departmental meetings and activities.

Comprehensive Reappointment Review

The Comprehensive Reappointment Review requires an individual assessment for teaching, scholarly/creative work and leadership and service. The evaluation choices are given by:

- 1) "on track for tenure",
- 2) "not yet on track for tenure but could meet standards for tenure with appropriate corrections" or
- 3) "not on track for tenure."

For clarity, the Department will add words such as "with a rating of meritorious" or "with a rating of excellent" to the evaluation choice "on track for tenure" or the "not yet on track for tenure but could meet standards for tenure with appropriate corrections" listed above. The criteria for the different evaluations listed above are given below in terms of the eventual tenure requirements, i.e. meritorious or excellent ratings.

The candidate must demonstrate sufficient progress toward tenure to justify reappointment. This will require a rating of at least meritorious in all three areas and indications of strong performance in teaching and/or scholarly/creative work. Thus "on track for tenure" requires an evaluation that the candidate could eventually be at the meritorious or excellent level at the tenure decision. The "not yet on track for tenure but could meet standards for tenure with appropriate corrections" indicates that further progress in an area is required for an eventual positive tenure decision.

The Department will solicit letters from respected scholars in the candidate's field(s) of research to guide the Department in the evaluation of the faculty candidate. A minimum of three external letters shall be added to the file. All letters received must be included in the candidate's file. The majority of letters should not be from people closely connected to the candidate.

Teaching: In addition to the teaching requirements for the initial review, the candidate will be expected to demonstrate effective teaching evaluated by multiple means which will include, at a minimum, student evaluations and two other means of evaluation. Numerical ratings of student evaluations are used for no more than one third of the overall teaching rating. *Examples of other means of evaluation are provided in Appendix I and II of this document.* This evaluation includes contributions to the instructional breadth, depth, and needs of the department and up-dating curriculum and course materials. In addition to classroom teaching, the candidate's work with students outside

of the classroom as a mentor, research advisor, independent study director, intern supervisor and similar activities shall be considered here.

It has been shown that a standard "Evaluate this instructor" question on student evaluations of teaching sometimes shows a bias in results based on gender, ethnicity, and age. To help avoid this, we use an average of scores over several questions relating, not only to the instructor, but to the effectiveness of the instruction. We average the scores (0-7) to the following five questions:

Question 4: The course made it possible for me to increase my knowledge, skills, and understanding of the subject

Question 7: The instructor explained course ideas in a clear and understandable manner.

Question 8: The instructor encouraged interest in this subject.

Question 9: The instructor demonstrated interest in student learning.

Question 10: The instructor communicated effectively with students about this course

An average rating of 5.25 – 5.99 for the questions, listed above, which evaluate the instruction, is viewed as meritorious; a rating of **6.0** or above will be viewed as excellent. In cases where the professor teaches small classes, provisions shall be made for the possibility of the average being lowered because of the effect of a few low FCQ scores. In those cases, the individual student evaluations shall be provided to the primary committee for a more detailed analysis. A rating of excellent will also require evidence of effective teaching, and dedication to student learning. Course content, appropriateness of the level of the instruction, and size of class will be considered in interpreting student evaluations. A rating of excellent in teaching will eventually require evidence of impact beyond one's immediate instructional setting. Examples of such evidence can be found in Appendix I.

Scholarly/Creative Work: The department recognizes that scholarship can take many forms. Our department emphasizes fundamental discovery, scholarly work that integrates existing knowledge and applied research. We also recognize scholarly study of teaching and learning issues in our field as a form of research. A rating of meritorious requires reasonable progress toward tenure as demonstrated by submission of research proposals, professional presentations, publications, grant activity and by letters of evaluation of the candidate's work. Improvements in laboratory facilities and development of new research techniques or software, may also be considered as contributing toward reasonable progress toward tenure.

A rating of meritorious, requires at least three publications in refereed journals, refereed book chapters, or article-length reports since arrival at UCCS. Also, at least two grant proposals will have been submitted to a grant agency (or agencies) external to UCCS. A rating of excellent requires at least five publications in refereed journals, refereed book chapters, or article-length reports since arrival at UCCS. Also, at least four grant proposals will have been submitted to a grant agency (or agencies) external to UCCS.

Receipt of external peer-reviewed grants or contracts may be substituted for publications. Exceptional quality of scholarly work may be considered to raise an evaluation in cases where the quantity specified has not been met. Significant improvements in laboratory facilities, development of new research techniques or software may also be considered as contributing toward excellent progress toward tenure.

If a faculty member is granted years of credit toward upon hiring, the publication requirements while at UCCS will be at least an average of one peer reviewed paper per year for a rating of meritorious. Also, an average of at least one grant proposal per year (written while at UCCS) will have been submitted to a grant agency (or agencies) external to UCCS. A rating of excellent requires at least an average of two peer-reviewed publications which make an original scholarly contribution published or accepted in final form per year. Also, an average of at least two grant proposals per year (written while at UCCS) will have been submitted to a grant agency (or agencies) external to UCCS.

Leadership and Service: The department recognizes service to the campus, community and to our profession. A rating of meritorious requires meeting service responsibilities within the department and some service to the college, campus, community or profession. A rating of excellent requires meeting service responsibilities within the department and multiple service contributions to the college, campus, community, or profession. In evaluating service, the quality, time commitment, and quantity of service contributions will be considered.

Promotion to Associate Professor and/or Awarding of Tenure

The candidate's record in teaching, scholarly/creative work, and leadership and service will each be evaluated separately as "below expectations", "meritorious", or "excellent". The candidate must be rated as, at least, meritorious in all three areas and must receive a rating of excellent in either teaching or scholarly/creative work. The department will solicit letters from respected scholars in the candidate's field(s) of research, per campus policy.

Teaching: The candidate will be expected to demonstrate effective teaching evaluated by multiple means which will include, at a minimum, student evaluations and two other means of evaluation. Numerical ratings of student evaluations are used for no more than one third of the overall teaching rating. *Examples of other means of evaluation are provided in Appendix I and II to this document.* This evaluation includes contributions to the instructional breadth, depth, and needs of the department and up-dating curriculum and course materials. The candidate must demonstrate continuing creativity and/or improvement of courses and, if appropriate, competence in graduate training and in the teaching of graduate courses. The candidate is expected, at this point, to be mentoring PhD students, and the quality of the mentoring will be assessed. In addition to classroom teaching, the candidate's work with students outside of the classroom as a general mentor, research advisor, independent study director, supervisor and similar activities shall be considered here.

On the FCQ evaluations, an average rating of 5.25 – 5.99, for the questions listed earlier, on all courses taught since the last review, will be viewed as meritorious; a rating of 6 or above will be viewed as excellent. In cases where the professor teaches small classes, provisions shall be made for the possibility of the average being lowered because of the effect of a few low FCQ scores. In those cases, the individual student evaluations shall be provided to the primary committee for a more detailed analysis. In evaluating teaching, course content, appropriateness of the level of instruction and size of the class will be considered in interpreting student evaluations. A rating of excellent in teaching also requires evidence of impact beyond one's immediate instructional setting. Examples of such evidence can be found in Appendix I.

Scholarly/Creative Work: The department recognizes that scholarship can take many forms. Our department emphasizes fundamental discovery, scholarly work which integrates existing knowledge and applied research. We recognize scholarly study of teaching and learning issues in our field as a form of research. In all cases, it is the scholarly quality of the work reviewed, not merely its quantity, which shall guide the evaluation of the faculty member's work. The candidate is expected, at this point, to be mentoring PhD students, and the quality of the mentoring, and the resulting research, will be assessed.

A rating of meritorious requires at least six peer-reviewed publications which make an original scholarly contribution published or accepted in final form since beginning a full time tenure track position at CU-Colorado Springs. These may include refereed journal articles, refereed book chapters, textbooks, or article-length reports. Receipt of peer-reviewed grants or contracts may be substituted for publications. Also, at least four grant proposals will have been submitted to a grant agency (or agencies) external to UCCS. A rating of excellent requires at least ten peer-reviewed publications that make an original scholarly contribution published or accepted in final form. These may include refereed journal articles, refereed book chapters, textbooks, or article-length reports. Receipt of peer-reviewed external grants or contracts may be substituted for publications. Also, at least seven grant proposals will have been submitted to a grant agency (or agencies) external to UCCS. Exceptional quality of scholarly work may be considered to raise an evaluation in cases where the quantity specified has not been met. Presentations at professional meetings and non-refereed publications may be considered as secondary evidence of ongoing scholarly/creative work activity.

If a faculty member is granted years of credit toward tenure upon hiring, the publication requirements while at UCCS will be at least an average of one peer reviewed paper per year since arrival at UCCS for a rating of meritorious. Also, an average of at least one grant proposal per year (written while at UCCS) will have been submitted to a grant agency (or agencies) external to UCCS. If a faculty member is granted years of credit toward tenure upon hiring, the publication requirements while at UCCS will be at least an average of two peer reviewed papers per year for a rating of excellent. Also, an average of at least two grant proposal per year (written while at UCCS) will have been submitted to a grant agency (or agencies) external to UCCS.

Leadership and Service: The department recognizes service to the campus, community and to our profession. University service would involve participation in the larger collegial life of the university by serving on college, campus and/or system-wide faculty committees. Professional service may include reviewing books in scholarly journals, refereeing manuscripts, organizing professional conferences, chairing a session at a conference, and membership in and/or office-holding in professional associations. Service to the community - through activities such as lecturing to public or school audiences, judging science fairs, working with primary and secondary school students - may also count as a valuable part of a candidate's service record.

A rating of meritorious requires meeting service responsibilities within the department (for example, participating in regular departmental meetings) and service to the college, campus, community or profession. A rating of excellent requires meeting service responsibilities within the department and multiple service contributions to the college, campus, community, or profession.

In evaluating service, the quality, time commitment, and quantity of service contributions will be considered.

Promotion to Full Professor

The candidate's record in teaching, scholarly/creative work, and leadership and service will be evaluated as a whole as "below expectations", "meritorious", or "excellent". Promotion requires "a record that, taken as a whole, is judged to be excellent; a record of significant contribution to both graduate and undergraduate education, unless individual or departmental circumstances require a stronger emphasis or singular focus on one or the other; and a record, since receiving tenure and promotion to associate professor, that indicates substantial, significant, and continued growth, development, and accomplishment in teaching and working with students, research, scholarship or creative work, and service." The department will solicit letters from respected scholars in the candidate's field(s) of research, per campus policy.

Teaching: In addition to meeting the standards in the previous reviews, the candidate will be expected to continue to demonstrate effective teaching evaluated by multiple means which will include, at a minimum, Faculty Course Questionnaires and two other means of evaluation. Numerical ratings of student evaluations are used for no more than one third of the overall teaching rating. *Examples of other means of evaluation are provided in Appendix II to this document.* This evaluation includes contributions to the instructional breadth, depth, and needs of the department and up-dating curriculum and course materials. The candidate is expected, at this point, to be mentoring PhD students, and the quality of the mentoring will be assessed. In addition to classroom teaching, the candidate's work with students outside of the classroom as a general mentor, research advisor, independent study director, lab supervisor and similar activities shall be considered here.

Course content, appropriateness of the level of instruction and size of the class will be considered in interpreting student evaluations. Substantial, significant and continued

growth, development, and accomplishment as a teacher since tenure, can be demonstrated, for example, through development of new and revised curriculum, or through new pedagogical techniques, or other teaching efforts such as those in Appendix I. Specific guidelines for evaluating teaching as excellent are that the candidate shows:

- A thorough knowledge of the subject matter of the courses taught by the candidate.
- That courses are kept up-to-date by incorporating new materials or by introducing new methods/approaches/technology.
- A demonstrated ability to develop new courses at the undergraduate and/or the graduate level, or to make substantial revisions in old ones.
- Him/herself to be an enthusiastic teacher, accessible and willing to spend adequate time with students outside of the classroom.
- Him/herself to be an effective teacher, as judged by students and/or peers
- Effectiveness in advising and counseling of both undergraduate and graduate students
- Evidence of impact beyond one's immediate instructional setting. Examples of such evidence can be found in Appendix I.

Scholarly/Creative Work: The department recognizes that scholarship can take many forms. Our department emphasizes fundamental discovery, scholarly work which integrates existing knowledge and applied research. We also recognize the scholarly study of teaching and learning issues in our field as a form of research. Substantial, significant and continued growth, development, and accomplishment as a researcher since tenure must be demonstrated through refereed publications, peer-reviewed grant proposals, and other areas of research such as those in Appendix I. Exceptional quality of scholarly work may be considered to raise an evaluation in cases where the quantity is less. Presentations at professional meetings and non-refereed publications may be considered as secondary evidence of ongoing research activity. Specific guidelines which demonstrate excellence in scholarly/creative work are that the candidate shows:

- Quality and Quantity in his/her scholarly/creative work contributions, as evidenced by the record of high caliber, peer-reviewed publications.
- An evaluation by recognized authorities outside the University of the candidate's national or international ranking in scholarly accomplishment.
- A record in attracting undergraduate and graduate students, stimulating their research efforts, and promoting and directing significant thesis research.
- An ability to initiate, develop and direct significant research projects.
- Initiative and success in attracting research funding.

The candidate is expected, at this point, to be mentoring PhD students, and the quality of the mentoring, and the resulting research, will be assessed.

Leadership and Service: The department recognizes service to the campus, community and to our profession. In evaluating service, the quality, time commitment, and quantity of service contributions will be considered. Substantial, significant and continued growth,

development, and accomplishment in service since tenure must be in the department, college, campus, university, community and in our profession. We recognize that different faculty at this level will fulfill this requirement very differently. Appendix I lists some alternative service opportunities that may be considered. Specific guidelines that demonstrate excellence in service are that a candidate shows:

- Professional recognition outside the university community as evidenced by membership on significant professional and scientific committees, councils, boards, and review panels.
- Development of major college facilities that contribute to scholarly/creative work and teaching activities.
- Participation and leadership in important faculty assignments and committees within the department, college or university.
- Outside industrial, governmental experience or K-12 activities to the extent that it contributes to the candidate's effectiveness as a faculty member.

Post-tenure Review

Recognizing the many different ways in which post-tenure faculty contribute to the University, we define "meeting expectations" for purposes of post-tenure review as consisting of three elements, each of which must be met: 1) having achieved a rating of "meeting expectations" or higher on each of the annual merit reviews included in the time period under review, 2) having met most of the goals of the faculty member's current professional plan, and 3) having submitted an acceptable professional plan which indicates an ability to achieve "meeting expectations" or higher ratings in the future. If a faculty member is deficient in meeting this standard, the committee shall consider the total record of the faculty member during the review period to determine whether strengths in some time periods or some activities compensate for the deficiency such that a rating of "meeting expectations" is still appropriate. Ratings of "exceeding expectations" or "outstanding" will be awarded for exceeding these standards.

Appendix I

Examples of Appropriate Criteria for Faculty Evaluation

A1. TEACHING

- Student evaluation of teaching (Course questionnaires)
- Teaching awards and other outstanding accomplishments in instruction
- Peer evaluation of teaching
- Quality of Doctoral Dissertation and Master's Thesis Supervision and Graduate Committee Contributions
- Student Advising
- Innovations and Creativity in Teaching
- Participation in Teaching-Related Subject Activities
- Effectiveness of Students in Succeeding Courses and/or in the Pursuit of Graduate Education and/or in Careers
- Student Supervision in Professional Experience Activities, Internships, and/or Independent Studies
- Evaluation of Student Performance in departmental examinations and assessments
- Preparation of Course Material
- Student Development/Encouragement (Centers of Excellence, Library Knowledge, Learning Disability Recognition, Encouragement of Students)
- Course Organization
- New Course Development
- Teaching Improvement Activity (Workshops, Conferences)
- Role Modeling and Mentoring Based on a Teaching Experience on Any Educational Level
- Teaching Contribution at Any Institution in addition to the University of Colorado
- Risk Factor Involved in the Teaching Venture
- Contributions of teaching to diversity
- Receipt of grants for curriculum development

A2. EXAMPLES OF TEACHING BEYOND ONE'S "IMMEDIATE INSTRUCTIONAL SETTING"

(Many of these are also in the list directly above as they are also appropriate as simply measures of good teaching.)

- Teaching awards and other outstanding accomplishments in instruction
- Quality of Doctoral Dissertation and Master's Thesis Supervision and Graduate Committee Contributions
- Student Advising
- Innovations and creativity in Teaching
- Participation in Teaching-Related Subject Activities

- Effectiveness of Students in Succeeding Courses and/or in the Pursuit of Graduate Education and/or in Careers
- Student Development/Encouragement (Centers of Excellence, Library Knowledge, Learning Disability Recognition, Encouragement of Students)
- Development of New Courses
- Teaching Improvement Activity (Workshops, Conferences)
- Providing peer evaluation of teaching
- Publications about teaching methods or approaches
- Role Modeling and mentoring based on a teaching experience on any educational level (e.g. includes working with high-school students, or public science presentations)
- Teaching contribution at any institution in addition to the University of Colorado
- Contributions of teaching to diversity
- Receipt of grants for curriculum development or in support of teaching and learning.
- Scholarly research and presentation or publication on teaching and learning
- Alumni opinions within 2-5 years of graduation
- Professional awards related to the education process, beyond immediate institutional setting
- Publications and presentations with students beyond immediate instructional setting
- Mentoring students beyond immediate instructional setting (e.g. supervision of doctoral students, presenting teaching seminars to graduate students, independent study courses)
- Communication of teaching-related practices and research findings through presentations at regional, national, or international meetings
- Authoring or co-authoring textbooks, chapters, or manuals
- Reviewing textbooks or other educational materials
- Mentoring faculty, graduate students or lecturers who teach at UCCS or other institutions.
- Cross-institutional teaching and/or learning related data collection
- Creating support for Student Internships, Graduate Fellowships, Experiential Learning, Service Learning beyond immediate instructional setting.

B. RESEARCH/CREATIVE WORK

- Peer Reviewed Publications
- Papers Prepared for Professional Conferences
- Recognition by other Scholars of Research and Publications – citation metrics
- Un-sponsored Research
- Grants and Contracts (Sponsored Research)
- Professional Reputation (Both Inside and Outside University)
- Evidence of Capacity for Future Achievements
- Participation in Development Workshops
- Papers Presented at Professional Workshops, Conferences
- Long-Term Research Projects

- Expert and Technical Consultation of Research Projects
- Role Modeling and Mentoring of Research on Any Educational Level
- Risk Factor Involved in the Research Venture
- Cultural and societal impact of research
- Contribution to diversity of research
- Patent submissions
- Inclusion of students in refereed or non-refereed publications

C. SERVICE

- Departmental, College, Campus and University Committees
- Administrative Service (such as program director, chair, center director ...)
- Service to the Profession and Discipline (Local, State, National, International Level)
- Consultation and Public Service
- Role Modeling and Mentoring on Any Educational Level
- Reviewing Research Proposals
- Reviewing Books in Scholarly Journals
- Reviewing Grant Proposals
- Refereeing Manuscripts
- Participation at Professional Conferences, Specifically Organizational Activities (Organizational Activities, Local Planning Committees, Site Visit Details, Activities Involved in Local, Regional and National Meetings, etc.)
- Membership In and/or Office-holding in Professional Associations.
- Service Contribution to Education at Any Level and at Any Institution in Addition to the University of Colorado
- Contribution to diversity through service
- Participation in faculty governance

This is a list of suggestions and is NEITHER all-inclusive nor a list of requirements. Items are not ranked or grouped in any order of importance. If a candidate is making a case that his/her scholarly work should be considered research, the candidate should be aware that the further a candidate's scholarly work varies from the traditional definition of peer-reviewed research, the more important it is for the candidate to document his/her work and seek external, unbiased reviews.

Appendix II

METHODS OF EVALUATING TEACHING

(Links and some material slightly updated by Physics in 2020)

A Report by the LAS Teaching Committee, Fall 2008

Prepared by Valerie Brodar, Jim Eberhart, Edie Greene, Steven Jennings, Aditi Mitra, and Robert von Dassanowsky

Introduction

The LAS Teaching Committee has prepared this document to assist Department Chairs and Directors in developing a variety of evaluative tools in order to assess the effectiveness of faculty in teaching. Traditionally the use of FCQs has been the primary way to evaluate teaching. The Board of Regents has mandated that additional forms of evaluation be used to assess teaching. This document should be viewed only as a guide. Ultimately it is the prerequisite of each department to decide the best way to evaluate teaching in their department. **The members of the LAS Teaching Committee view this report as an advisory document.** The tools discussed in this document are not to be construed as a complete list, nor are the brief discussions of each of the tools complete descriptions of their application. We encourage departments to use this document as a starting point for developing a robust examination of teaching effectiveness. On this campus the Teaching and Learning Center (<http://www.uccs.edu/~tlc/index.html>) is an important resource for implementing programs for the evaluation of teaching. We also welcome feedback related to the effectiveness of this document and always welcome the contribution of new techniques in the evaluation of teaching.

Resources

Seldin, P. (1999). *Changing Practices in Evaluating Teaching*. Anker Publishing Company, Bolton, MA.

Mentoring

“Teaching Fellows Program” <https://frc.uccs.edu/programs/teaching-fellows-program>

The practice of mentoring is engrained into the fabric of academia. Mentoring takes a variety of forms at all levels from undergraduate-faculty interactions, to the apprenticeship of graduate school, to the senior faculty member who guides junior faculty to tenure and promotion. The mentoring relationship is one which is highly variable and dependent on the needs of the mentor and mentee. In the context of teaching, the pairing of a neophyte teacher with an experienced practitioner is one goal. In this case, attention must be paid to creating an effective mentor-mentee relationship by defining desired outcomes which are related to teaching. The department has a vested interest in helping

junior faculty develop effective teaching techniques and appropriate content. Guidance from experienced and successful teachers in the department helps to make the curriculum of that department more cohesive and effective. The careful selection of qualified faculty is important component of the development of a mentoring program. In addition to possible intra-departmental mentoring, a campus-wide mentoring program has been established at UCCS for first-year faculty. This campus-wide program is an additional means of reinforcing good teaching behavior. The establishment of mentor-mentee pairs across departmental and in some cases college boundaries is logical if an established teacher from one department teaches a class similar to one that the first-year faculty is teaching in another department. For example, statistical methods classes are found in a variety of departments across LAS. These classes have some commonalities across disciplines and the establishment of mentoring pairs or groups of faculty who regularly teach these classes could potentially be valuable for faculty members. More information about the campus-wide mentoring program can be obtained by contacting the office of the Provost.

Resources

Johnson, W. B. (2007). On Being a Mentor, a Guide for Higher Education Faculty. Lawrence Erlbaum Associates, Mahwah, NJ.

Teaching Portfolios

LAS requires that each faculty member produces a dossier of their accomplishments for promotion and tenure. While required to address teaching these dossiers are not synonymous with a teaching portfolio. One way to view a teaching portfolio is that it is similar to a stock portfolio. Not only is it a record of how a teacher has performed in the past it is a projection of how a teacher will perform in the future. In other words, a teaching portfolio is a long range plan for improvement and innovation (growth, in the parlance of the stock portfolio). The teaching portfolio should be a living document that lays out ways that the faculty member will improve his or her teaching. Standard components of the dossier such the documentation of a teaching philosophy and past performance, while helpful parts of the teaching portfolio, should not be the main emphasis. The teaching portfolio should be a concrete plan for the improvement of teaching. Plans may include the development of new classes, the incorporation of new material in existing classes, or the use of new technologies in the improvement of instruction. The teaching portfolio should clearly demonstrate a pathway to improvement by laying out meaningful achievable goals. Traditionally teaching portfolios have been printed documents, but increasingly electronic versions of these plans have been created. Electronic teaching portfolios are excellent ways to illustrate how a faculty member might utilize a variety of electronic media. The UCCS Faculty Resource Center is an excellent resource for developing teaching portfolios.

Resources

UCCS Faculty Resource Center
<https://frc.uccs.edu/>

Seldin, P. (1993). *Successful Use of Teaching Portfolios*. Anker Publishing Company, Bolton, MA.

In-class Visits and Peer Evaluation

One of the most effective approaches to teaching evaluation remains the in-class or peer evaluation. While this may appear to be a task run by common logic, it is one that is often fraught with questions regarding who does the evaluation and how. Such essential patterns also suggest issues of professionalism, academic freedom, seniority, fairness, preparation, student involvement, comprehension of the purpose of the visit as well as of the particular class goals, and the teacher's ability to take issue with the in-class visit and peer evaluation report.

Peer Evaluation is defined as a "fair, systematic process originating with the unit and done by an informed colleague or colleagues who will use clearly stated criteria for gathering a multidimensional body of evidence from multiple sources for the purpose of evaluating the teaching performance of a faculty member."(Andrus, 2008). Peer review is or can be used in:

- Hiring
- Communities of Practice
- Coaching new faculty
- Review for merit raises
- Contract renewals
- Assigning courses
- Promotion and tenure
- Sabbatical approvals
- Teaching awards
- Post-tenure review (Andrus, 2008)

Unless used as a comparative examination of teachers teaching the same topic or level and by specific agreement of the department and the participants, peer class-evaluations must be done by senior faculty in the field, and with the knowledge of the chair or director of the program. The peer evaluator should preferably meet with the teacher at an earlier point in the semester to announce such a visit and to go over particular aspects that will be addressed --- a pre-printed form might be developed in the department or section which cues the evaluator for basic teaching aspects pertinent to the field (e.g. different criteria would be used for a language class, a physics class, a history class, etc.). Some criteria might include:

- Engagement with students
- Class session goals
- Communication skills
- Relating the particular session to previous assignment or work

- Variation in structure (e.g. coverage of different aspects in different ways such as lecture-discussion-presentations, or discussion-group work-presentations, or review-quiz-preview of new material, etc.)
- Clarity and focus of the instruction
- Support of the student questions and their desire for amplification
- Encouragement of participation

The peer evaluator should schedule the visit with the teacher to fit into the teaching schedule and optimally display an average class session. Surprise visits should not be given (trust is a major factor in such evaluations) unless this is agreed to for a specific pedagogical reason. Copies of the class evaluation should be given as soon as possible to the teacher and the chair of the department or program director. A discussion with the peer evaluator regarding the evaluation should follow immediately. If there is significant disagreement with the evaluation, the teacher should request and be granted a conference with the evaluator and the department chair or program director to discuss the expectations of the class presentation and the review. If possible, a different peer-evaluator should visit if there is any trace of "bad history" or a personality clash. Ultimately, a set of peer-evaluations will record over time, a *qualitative* glimpse at classroom interaction and activity relating to teaching style and mode and its effectiveness.

Resources

“Evaluation of Teaching “ https://frc.uccs.edu/teaching_resources/evaluation_of_teaching from Faculty Resource Center website

Arreola, R. (2007). *Developing a Comprehensive Faculty Evaluation System*. Anker Publishing Company, Bolton, MA.

Bernstein, D. Et al. (2006). *Making Teaching and Learning Visible: Course Portfolios and the Peer Review of Teaching*. Anker Publishing Company, Bolton, MA.

Chism, N. (2007). *Peer Review of Teaching: a Sourcebook*, 2nd. ed. Anker Publishing Company, Bolton, MA.

Seldin, P. (1999). *Changing Practices in Evaluating Teaching*. Anker Publishing Company, Bolton, MA.

Teaching Awards

While suggesting elitism by its very nature, teaching awards are not only very useful in encouraging a striving for excellence, but very democratic in promoting merit. Faculty should use the goal of such an award to set pedagogical parameters for growth. Teaching awards ought to be encouraged by department chairs, mentors, and directors, to foster growth and concepts of achievement. College or campus recognition of excellence in teaching is an important milestone in a career especially if there are differentiated and achievable awards aimed at various levels of faculty. UCCS offers far more

opportunities to the potential nominee than most universities of our rank. We offer college awards for lecturers and part-time instructors, instructors, and tenure-track faculty, campus awards for two of these categories, and additional special teaching technology and innovation awards.

Nomination for teaching awards, allows a faculty member an opportunity to work with the nominator (perhaps a previous winner) on presentation of skills and career history. This provides an excellent "workshop" in the comprehension of teaching methods and subsequent results. Another useful by-product of presenting material for the nomination is the assemblage of a teaching portfolio, which is an important element in career review at all levels, and for promotion and tenure. It is also an excellent reason to organize and archive peer-reviews, student letters and e-mails regarding teaching performance, FCQ's, previous awards, innovative projects, or developments, syllabi of courses created or adapted, and general feedback on ones teaching as a whole (See the section on teaching portfolios above).

Should a faculty member feel he or she has the criteria to become an award candidate, there should be no inhibition in discussing this with a chair, director, or peer, who might serve as a nominator or write letters of support. One should also remember that a teaching award also recognizes the quality of the winner's program or department, and is thus a subject of pride and encouragement to the unit and its entire faculty.

List of Awards and Grants

Teaching Enhancement Grants

A maximum of \$750 per faculty member is available to help faculty enhance their instruction. This includes all UCCS full time, part time, and honoraria faculty, and faculty with special appointments.

<https://www.uccs.edu/facassembly/awards/teaching-enhancement-grants>

LAS Teaching Awards

These awards are for tenure-track faculty, instructors and part-time lecturers.

<https://www.uccs.edu/las/las-teaching-awards>

UCCS Outstanding Instructor Award

<https://www.uccs.edu/facassembly/awards/outstanding-instructor-award>

UCCS Outstanding Teacher Award

<https://www.uccs.edu/facassembly/awards/outstanding-teacher-award>

The CU System Diversity and Excellence Grant

This grant is designed to provide assistance for projects initiated by faculty and/or staff that promote diversity and inclusion on the campuses.

<https://www.cu.edu/oa/grants/diversity-inclusive-excellence-grant>

The CU Presidential Teaching Scholars

These scholars "are a group of faculty from all three CU campuses chosen not only for skill in their own classrooms, but for their promise of improving education and enlarging its possibilities across the university." In addition to many letters of support from peers and students, nominees must have previously been recognized for teaching excellence and submit a proposal for a research project measuring classroom learning that will be undertaken as a Teaching Scholar. While it is an involved application process, this award offers a unique and prestigious framework for contribution and participation at UCCS and in the CU system.

<http://www.colorado.edu/ptsp/>

Diversity

Departments may choose to recognize the initiatives of faculty promoting diversity, equity and equal opportunity through teaching, research and service. If diversity is an integral part of the core academic mission in our institution, then this aspect maybe encouraged and included in the criteria used to evaluate and reward faculty during the faculty review, tenure and promotion process. In many cases the promotion of diversity falls within the purview of teaching both in UCCS classes and in outreach to the general public. Contributions to diversity can take various forms, including:

- Efforts to advance equitable access to education
- Public service that addresses the needs of the community's diverse population
- Research in scholar's area of expertise that highlights inequalities (related to race, ethnicity, gender, socio-economic class, sexual orientation, age, abilities /disabilities, environment, nationality, religion, language) which can be used in classroom settings.

Some possible scenarios and examples:

- Supporting minority students in the sciences,
- Prepare classes for K-12 teaching
- Public dissemination of research findings on social inequities through alternate channels (media, internet forums, blogs etc)
- Engaging in "transformative research" (creating new fields of study in diversity)
- Engaging in "risk-taking" through teaching and research when dealing with controversial or sensitive topics related to diversity

Resources

UCCS Universal Design (UD) for Inclusive Teaching
<https://frc.uccs.edu/udit-program-pilot-2020>

National Science Foundation

The Chronicle of Higher Education

Undergraduate research

Undergraduate research is a project or investigation conducted by an undergraduate student, typically mentored by a faculty member, “that makes an original or creative contribution to the discipline” (Council on Undergraduate Research, 2008). Engaging in undergraduate research motivates students to learn by doing. It replaces the “sage on the stage” model in which students passively acquire knowledge that was produced by others in the discipline and communicated by faculty members with a “guide on the side” model in which faculty members actively collaborate with students to produce new information or creative works. The opportunity to conduct research conveys a number of benefits to undergraduates’ learning, including the following:

- Experience in using primary sources, formulating research questions, interpreting data, and communicating research results (Kardash, 2000)
- Sophistication in epistemological reflection (Rauckhorst, et al., 2001)
- Clarity of career goals and gains in career preparation (Seymour et al., 2004)
- Personal gains in independence, communication skills, and self-confidence (Seymour et al., 2004)
- Increased likelihood of pursuing graduate degrees (Hathaway et al., 2002)

Resources

The Center for Student Research UCCS
<https://studentresearch.uccs.edu/>

Council on Undergraduate Research. Retrieved online October 30, 2008 from
www.cur.org

Hathaway, R., Nagda, B., and Gregerman, S. (2002). The relationship of undergraduate research participating to graduate and professional education pursuit: An empirical study. *Journal of College Student Development*, 43:614-631.

Kardash, C. (2000). Evaluation of an undergraduate research experience: Perceptions of undergraduate interns and their faculty mentors. *Journal of Educational Psychology*, 92:191-201.

Rauckhorst, W., Czaja, J., and Baxter Magolda, M. (2001, July). *Measuring the impact of the undergraduate research experience on student intellectual development*. Paper presented at Project Kaleidoscope Summer Institute, Snowbird, UT.

Seymour, E., Hunter, A., Laursen, S., and DeAntoni, T. (2004). Establishing the benefits of research experiences for undergraduates in the sciences” First findings from a 3-year study. *Science Education*, 88:493-534.

Publishing in teaching-oriented journals

A number of journals publish research related to effective teaching in a college or university environment. Articles may include formal research projects with either a quantitative or qualitative emphasis; reflective essays that provide integrative evaluations, challenge current practices, or propose novel perspectives; literature reviews; and case studies that generalize to a wide and multidisciplinary audience. In addition, many disciplines have a journal dedicated to scholarship in teaching and learning in that particular field. The objective of these journals is generally to publish articles that promote effective practices in teaching and learning and that add to the knowledge base of pedagogy in the field. Publishing in a teaching-oriented journal enables a faculty member to share interesting and relevant classroom experiences and data with peers, enhances others’ teaching skills, and refines one’s own pedagogy.

Resources

University of Colorado Boulder, Physics Education Research
<https://www.colorado.edu/per/>

National Examinations

In some fields, national, normed examinations are available from professional societies to provide yet another way in which a faculty member’s teaching effectiveness can be evaluated. (These same exams are sometimes also selected by an entire department for department assessment purposes.) An example for physics is the Physics GRE subject test (<https://www.ets.org/gre/subject/about/content/physics>).

Community Outreach

Individual faculty members as well as entire departments sometimes engage in community outreach based on the courses that they teach on the campus and the research that they do with our students. There is often considerable community interest in a subject that is being taught or studied on our campus. Some faculty members take advantage of this interest to make presentations on these “hot topics” to local schools, service clubs, retirement communities, Sunday school classes, *etc.* Besides providing positive publicity for our campus, such talks can also be a means of recruiting local high

school students to our campus, either by the direct contact with the students or via their parents and other relatives.

Faculty can also engage in outreach through organizations in the community such as Science Fairs, Cool Science, Girls Count, Boy Scouts, Girl Scouts, and many others. Of course, these activities can also be directed toward minority groups in the city and in southern Colorado that our campus would like to recruit. Opportunities of this kind are probably available in almost every academic discipline and certainly constitute one of many legitimate means for evaluating teaching performance.

Resources

Colorado Springs Cool Science Festival

<https://www.coolscience.org/cool-science-festival.html>

Carnival Day at UCCS

<https://www.coolscience.org/carnivalday.html>

Transformative and Innovative Teaching

“We use this term [transformative research] to describe a range of endeavors, which promise extraordinary outcomes; such as, revolutionizing entire disciplines, creating entirely new fields, or disrupting accepted theories and perspectives...But we also can--and no doubt will--continue to quibble among ourselves about the meaning of "transformative research," which as yet has no universally accepted definition. That is just as it should be. When concepts as complex as "transformative research" are still emerging, we need to practice a kind of "constructive ambiguity." Doing so will give us the flexibility to incorporate new knowledge and fresh perspectives as they arise; in other words, leave room for discovery. In that way, we can make course corrections along the way, adapt to changing circumstances, and remain open to diverse suggestions about the issues.” Dr. Arden Bement Jr., Director of the National Science Foundation.

These concepts can be illustrated by a hypothetical example of an art historian teaching contemporary art. Contemporary art engages in a broad spectrum of issues including religion, gender, racism, feminism, political activism and global expressions. Many students enroll in art classes with a preconceived notion of what art is (e.g., a pastoral landscape that does not challenge aesthetics or content), thus the faculty member is often perceived as presenting content that is sacrilegious, deviant, pornographic, offensive, too liberal, or just plain not art. In addition, when her or his research or creative work is also engaged in cutting edge issues, misperceptions easily arise and become personal critiques when students do not separate academic discourse from the individual. In addition, contemporary art addresses groundbreaking territories; therefore, traditional paradigms are useful, but not comprehensive in teaching expansive ideas.

Respecting the history, skills, and theories of individual disciplines, faculty members engaged in innovative or transformative ideas and methodologies in their research or

creative work and as a result of their course content encounter unique challenges in disseminating this information. Although building upon tradition, new paradigms must be established to comprehend and situate the content on the frontier of the discipline. Students may not understand the content as readily because the referents are simultaneously being developed along with the cutting-edge research or creative work. Therefore, teaching efficacy can be disengaged from content emphasis in both traditional and innovative approaches.

Because of the unique nature of transformative and innovative teaching; evaluations, while similar to the evaluation of other more traditional classes, must be well designed and somewhat different. Evaluation may involve peer evaluations, student letters, mid-semester evaluations, and self-evaluation. The techniques outlined in this section are also applicable to other types of teaching.

Peer evaluation is important in evaluating the teaching of new approaches. Once a semester or year the faculty member chooses a colleague to be an evaluator. The instructor and evaluator meet before the classroom visit to discuss the strategies and content the faculty member is employing. After the observation the evaluator and instructor meet once again to discuss the evaluator's reflections and suggestions. This process will be enhanced through a departmental checklist, such as the one below, that will be used for all faculty members.

Is the instructor?

- Prepared and Organized
- Clearly stating objectives when introducing new concepts and defining terms
- Interested in the students
- Alleviating fear or discomfort with challenging subject matter
- Giving clear directions and using models that relate directly to the material to stimulate students' engagement and comprehension
- Using multiple learning strategies: visual/spatial, verbal/linguistic, kinesthetic/somatic, logic/reasoning, interpersonal/intrapersonal
- Facilitating collaborative/interactive methods to increase understanding: role playing, debates, labs, discussion teams, case studies, and projects that encourage students to creatively problem solve and critically analyze
- Stimulating students intellectual and creative approaches that reflect the innovative course content
- Incorporating a range of evaluative materials tests, projects, papers, etc. that encompass the transformative aspects of the research/creative work
- Encouraging a diversity of opinions and viewpoints
- Providing timely feedback on projects, papers, tests etc.

Two or three student letters from former students who have not had the instructor for at least a year may be solicited. A list is compiled by the faculty member and department from students who received at least a C in the class. The student should be given specific questions that will help she or he reflect on how the instructor and the content of the class influenced her or his comprehensive of the subject matter and/or overall educational experience.

Some questions which reflecting on the student's experience in the classroom:

- What ideas or understanding of the subject have been incorporated into your studies?
- How effective was the instructor in communicating a passion for and knowledge of the course content?
- What activities or assignments were the most valuable to help you grasp the subject matter? Which were the least effective?

Faculty members may be encouraged to administer a mid-semester evaluation.

Take 5 minutes at the end of class and have students respond anonymously to two questions:

- What was the most stimulating idea you have learned in this class so far?
- What significant questions remain unanswered?

Take 10 minutes at the end of class and have students respond anonymously to two questions (Lang, *Did You Learn Anything?*):

- What classroom activities or assignments have been most effective in helping you learn this semester, and why?
- What classroom activities or assignments have been least effective in helping you learn this semester, and why?

These evaluations are primarily for the individual but can be used as an assessment tool for evaluators when correlated to FCQs.

A brief self-evaluative statement written before receiving FCQs that reflects on the successes and difficulties of the class in regard to the presentation of innovative and challenging material is helpful in focusing the efforts of the teacher.

Resources

UCCS Faculty Resource Center

<https://frc.uccs.edu/>

University of Colorado Boulder, Physics Education Research

<https://www.colorado.edu/per/>

Angelo, T. and Cross, P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*, Jossey-Bass, San Francisco, CA.

Bain, K. (2004). *What the Best College Teachers Do*. Harvard University Press, Cambridge, MA.

Braskamp, Larry and Ory, J. (1994). *Assessing Faculty Work: Enhancing Individual and Institutional Performance*, Jossey Bass, San Francisco, CA.

Did You Learn Anything? by James M. Lang

Students are very accurate judges of the most important question we can ask them about their classroom experiences.

Making an Art Form of Assessment by Burton Bollag

A small women's college has become a model for determining what students have learned.

<http://chronicle.com/weekly/v53/i10/10a00801.htm>

Alverno College

Shaking Things Up by James M. Lang

In the crush of midsemester deadlines and obligations, how can you find time to rethink your teaching techniques.

Handbook of Good Teaching Practice 2004

William Cronon

<http://www.williamcronon.net/handouts.htm>

College of Letters, Arts, and Sciences
Department of Physics and Energy Science RPT Criteria
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