

Guidelines for Annual Merit Review

February 22, 2022

DRAFT

Introduction:

The annual merit review process for faculty is governed by Article V of the Laws of the Regents and CU Regent Policies 5 and 11. These are further delineated in CU Administrative Policy Statements 1006, 1009 and 5008.

- CU Laws of the Regents Article V: <https://www.cu.edu/regents/law/5>
- CU Regent Policy 5: <https://www.cu.edu/regents/policy/5>
- CU Regent Policy 11: <https://www.cu.edu/regents/policy/11>
- CU Administrative Policy Statement 1006: <https://www.cu.edu/ope/aps/1006>
- CU Administrative Policy Statement 1009: <https://www.cu.edu/ope/aps/1009>
- CU Administrative Policy Statement 5008: <https://www.cu.edu/ope/aps/5008>

These documents require the establishment of departmental “performance standards” which will include “goals and components for evaluating teaching” which are to be used throughout the review process. Annual merit review assists faculty in their professional development by providing frequent feedback on progress and helping faculty to set goals for continued development.

These performance standards are to be considered guidelines for the annual merit review process in the Department of Physics and Energy Science at the University of Colorado Colorado Springs. The departmental standards are based on appropriate and current standards of professional performance in our discipline. Each faculty member will be reviewed and judged on their 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 annual merit review process assumes: possession of an appropriate terminal degree (for tenured/tenure track faculty); 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 conducting annual performance evaluations, performance over multiple years may be considered to account for activities that may not yield measurable results in a single year. This

allows some flexibility to give appropriate consideration to pedagogical and research innovation, recognizing that positive impact may not be immediately evident.

Consistent with the faculty member's duties, their contribution to teaching, scholarly/creative work, leadership and service, and, where applicable, other activities specific to their unit (e.g., clinical activity, librarianship), shall be evaluated based on these written performance standards and any additional written expectations agreed to by the faculty member and the unit. Teaching evaluations shall use multiple measures, including normed student feedback (e.g. Faculty Course Questionnaires) and will include multiple measures of teaching effectiveness. In annual merit evaluations, the assigned workload of a faculty member shall be considered.

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.

Faculty will be evaluated separately in the areas (as determined by their workload) of research and creative works, teaching, and service and leadership based on the following terms and assigned a corresponding numerical score which will typically be in the range specified. Note that the numerical ranges may be adjusted based on guidance from the college and/or campus.

- Outstanding (4.5 - 5)
- Exceeding Expectations (4.0 – 4.49)
- Meeting Expectations (3.0 – 3.99)
- Below Expectations (< 2.99)

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.

Faculty who disagree with the Chair's evaluation should first discuss their disagreement with the Chair during their evaluation meeting. If the disagreement is not resolved and is substantial (typically at least a 0.3 difference in ratings), they may appeal their evaluation to the Dean.

Annual merit evaluation standards:

We value the efforts of our faculty in the area of diversity, equity and inclusion both in support of our students and in support of one another. These efforts can exist within any of the traditional divisions of teaching, research and service/leadership and include aspects of mentoring, recruitment, and retention of students and faculty from groups which are underrepresented in physics. These efforts will be considered in annual merit evaluation in accordance with their quality and quantity.

Appendix A provides a more extensive (but not exhaustive) list of faculty activities which may be considered in the annual merit evaluation process. In the following sections we provide additional guidance on departmental expectations and examples of the most important standards to weigh in the annual merit review process. In all cases both the quantity and quality of the work will be considered.

We recognize that new methods of dissemination and ways to impact science and society are constantly evolving. The examples in these standards are not intended to exclude the use of new technologies and new methods of dissemination and impact.

For tenured and tenure-track faculty, numerical values are based on an annual workload of 40% teaching, 40% research, and 20% service. Instructor-rank faculty evaluations are based on an annual workload of 95% teaching and 5% service/leadership.

Instructor-rank faculty are not evaluated on research activities and are not expected to mentor students in research. Furthermore, their level of effort in service should be consistent with the typical 5% service load for instructors. If Research faculty and Clinical faculty are being evaluated, these guidelines will be adjusted to be appropriate for their defined workload. Differentiated workloads and reduced overall workloads will be considered when applying these standards.

Impacts of major life, health, professional and personal factors may be taken into account when appropriate in understanding the context in which the work was performed and may reduce expectations.

Faculty in their first few years of service may be evaluated with slightly lower expectations as they become familiar with teaching our students and develop a research program. This is particularly true of service expectations in the first few years.

Teaching:

The faculty member will be expected 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 B to this document.* This evaluation includes contributions to the instructional breadth, depth, and needs of the department and up-dating curriculum and course materials. Mentoring of graduate students will be considered, if appropriate, 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. Suggested methods for evaluating teaching are provided in Appendix B.

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 11: The instructor communicated effectively with students about this course

An average rating of 4.5 – 5.24 for the questions, listed above, which evaluate the instruction, is viewed as meeting expectations; an average rating of 5.25 – 5.99 is viewed as exceeding expectations; a rating of 6.0 or above will be viewed as outstanding. 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 evaluator(s) for a more detailed analysis. Course content, appropriateness of the level of the instruction, and size of class will be considered in interpreting student evaluations.

In addition to FCQ scores, teaching evaluations will consider the following factors (possible means of demonstrating each factor are provided). Effective mentoring of undergraduate and graduate students is considered an important aspect of teaching as indicated below. Effective mentoring is reflected in the publications, retention, and graduation of students as well as in student assessment of their mentoring experiences. Additional ways of satisfying the factors are included in Appendix A. In all cases both the quantity and quality of the activity will be considered. When appropriate, the impact on student learning should be demonstrated. Exceptional accomplishments in one factor may be considered when accomplishments in other factors are not as strong.

A rating of Meeting Expectations is consistent with the following:

- a) All faculty are expected to deliver their assigned courses appropriately. This means teaching at the appropriate level, grading and returning homework in a reasonable time frame, and having exams/projects which are commensurate with the course level and material. It also involves creating an engaging and inclusive environment. (Success will be measured by occasional checking of exams, homework, and by monitoring student comments.
- b) We are a PhD granting department and so all tenured/tenure-track faculty are expected to mentor graduate students. An occasional period without students is acceptable, but extended periods (years) is not appropriate and will result in a reduced rating.
- c) An average FCQ rating of 4.5-5.24 as described above

- d) Service on student-related departmental committees such as comprehensive examinations, PhD committees and MSc committees.

A rating of Exceeding Expectations would be consistent with a faculty member demonstrating significant contributions in most of the following:

- a) Achievement of the Meeting Expectations guidelines
- b) An average FCQ rating of 5.25-5.99 as described above.
- c) Effective mentoring of 1-2 graduate and undergraduate students for tenured/tenure-track faculty
- d) Engaging with students (in addition to research mentoring) outside the classroom in at least one activity, e.g. independent study courses, Journal Club, student advising, Open House presentations, etc.
- e) Service on student-related departmental committees such as comprehensive examinations, PhD committees and MSc committees.

A rating of Outstanding would be consistent with a faculty member demonstrating significant contributions in most of the following:

- a) Achievement of the Meeting Expectations guidelines
- b) An average FCQ rating of 6.0 or higher as described above.
- c) Effective mentoring of 3 or more graduate and undergraduate students for tenure/tenure-track faculty
- d) Engaging with students (in addition to research mentoring) outside the classroom in multiple activities, e.g. independent study courses, Journal Club, student advising, Open House presentations, etc.
- e) Service on student-related departmental committees such as comprehensive examinations, PhD committees and MSc committees.

Bonus Factors: These additional factors will be considered for enhancing the 1-5 teaching rating determined above. In some cases, these bonus factors could move a faculty member from one rating to a higher rating.

- a) Developing and teaching of a new course for the department – adds about .3 to score
- b) Teaching a course that is new to the faculty member – adds about 0.2 to score
- c) Engaging in special DEI aspects in a course - adds about 0.2 to score
- d) Winning a Teaching Award - adds about 0.5 to score
- e) Receipt of teaching and curriculum related grants - adds about 0.5 to score
- f) Participation in teaching improvement activities - adds about 0.2 to score

Research and creative works:

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. 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.

Research and creative work evaluations will consider the following factors (possible means of demonstrating each factor are provided). Additional ways of satisfying the factors are included in Appendix A. In all cases both the quantity and quality of the activity will be considered. Exceptional accomplishments in one factor may be considered when accomplishments in other factors are not as strong.

A rating of meeting expectations would be consistent with a faculty member demonstrating a **few** of the following:

- a) Quality and Quantity in their scholarly/creative work contributions, as evidenced by the record of high caliber, peer-reviewed publications.
 - a. 1 refereed publication (generally required)
 - b. Presentations at conferences
- b) A record in attracting undergraduate and graduate students, stimulating their research efforts, and promoting and directing significant thesis research
 - a. Working with an undergraduate or graduate student
- c) An ability to initiate, develop and direct significant research projects
 - a. Continued progress in an existing research area
- d) Initiative and success in attracting research funding.
 - a. A funded grant or service contract
 - b. Submission of a grant proposal
 - c. Preparation of a grant proposal for future submission
- e) Receipt of patent(s)

A rating of exceeding expectations would be consistent with a faculty member demonstrating **some** of the following:

- a) Quality and Quantity in their scholarly/creative work contributions, as evidenced by the record of high caliber, peer-reviewed publications.
 - a. 2 refereed publications per year (generally required)
 - b. Presentations at conferences
- b) A record in attracting undergraduate and graduate students, stimulating their research efforts, and promoting and directing significant thesis research
 - a. Working with a couple of graduate students
- c) An ability to initiate, develop and direct significant research projects
 - a. Progress in developing a significant, new research area
 - b. Continued progress in an existing research area
- d) Initiative and success in attracting research funding.
 - a. A funded grant or service contract
 - b. Submission of one or two grant proposals
- e) Receipt of patent(s)

A rating of outstanding would be consistent with a faculty member demonstrating **most** of the following:

- a) Quality and Quantity in their scholarly/creative work contributions, as evidenced by the record of high caliber, peer-reviewed publications.
 - a. 3 or more refereed publications per year (generally required)
 - b. Presentations at conferences
- b) A record in attracting undergraduate and graduate students, stimulating their research efforts, and promoting and directing significant thesis research
 - a. Working with several graduate students
- c) An ability to initiate, develop and direct significant research projects
 - a. Progress in developing a significant, new research area
- d) Initiative and success in attracting research funding.
 - a. A funded grant or service contract
 - b. Submission of multiple grant proposals
- e) Receipt of patent(s)

Additional guidance: The department recognizes that many factors may impact a faculty member's performance during a particular year. Some flexibility is allowed. For example, while publications are expected, a faculty member could still be meeting expectations in a year with no publications if there is significant other research activity. If there are no publications for two years in a row, however, a rating of below expectations in research would be appropriate. The department also recognizes that new faculty require some time to build their research program. Lower expectations for new faculty would be appropriate for the first few years.

Service and Leadership:

The department recognizes service to the department, college, campus, community and to our profession. In evaluating service, the quality, time commitment, and quantity of service contributions will be considered. We recognize that different faculty will fulfill this requirement very differently.

Given the small size of the department, all tenured and tenure-track faculty members are generally expected to do some departmental service. Examples of this include the following:

- 1) Graduate Advisor or Co-Advisor
- 2) Assessment Coordinator
- 3) Undergraduate Advisor
- 4) Seminar Coordinator
- 5) Department web manager
- 6) Departmental Chair

Service and Leadership evaluations will consider the following factors (possible means of demonstrating each factor are provided). Additional ways of satisfying the factors are included in Appendix A. In all cases both the quantity and quality of the activity will be considered.

Exceptional accomplishments in one factor may be considered when accomplishments in other factors are not as strong.

The following guidelines apply to tenured/tenure track faculty. For instructors with a 5% service/leadership expectation, a single activity would be sufficient with the distinction between outstanding, exceeding expectations, and meeting expectations determined by the quality with which the activity is performed and the participation in additional activities.

A rating of meeting expectations would be consistent with a faculty member demonstrating **one or two** of the following:

- a) Appropriate departmental service, e.g. one or more of the positions described above and service on departmental committees such as promotion and tenure review, and search committees.
- b) Professional recognition outside the university community
 - a. membership on professional and scientific committees, councils, boards, and review panels.
 - b. Refereeing manuscripts/grant proposals for journals and agencies.
 - c. Acting as an external referee on promotion and tenure decisions at other institutions.
 - d. Aiding in professional conferences through serving as a session chair, organizer, or similar positions.
- c) Development of college programs and facilities that contribute to scholarly/creative work and teaching activities.
- d) Participation and leadership in faculty assignments and committees within the department, college or university including faculty governance and diversity, equity and inclusion activities.
- e) Outside industrial, governmental experience or K-12 activities to the extent that it contributes to the candidate's effectiveness as a faculty member.

A rating of exceeding expectations would be consistent with a faculty member demonstrating **several** of the following:

- a) Appropriate departmental service, e.g. one or more of the positions described above and service on departmental committees such as promotion and tenure review, and search committees.
- b) Professional service outside the university community
 - a. membership on professional and scientific committees, councils, boards, and review panels.
 - b. Refereeing manuscripts/grant proposals for journals and agencies.
 - c. Acting as an external referee on promotion and tenure decisions at other institutions.
 - d. Aiding in professional conferences through serving as a session chair, organizer, or similar positions.
- c) Development of college programs and facilities that contribute to scholarly/creative work and teaching activities.

- d) Participation and leadership in faculty assignments and committees within the department, college or university including faculty governance and diversity, equity, and inclusion activities.
- e) Outside industrial, governmental experience or K-12 activities to the extent that it contributes to the candidate's effectiveness as a faculty member.

A rating of outstanding would be consistent with a faculty member demonstrating many of the following:

- a) Appropriate departmental service, e.g. one or more of the positions described above and service on departmental committees such as promotion and tenure review, and search committees.
- b) Professional service outside the university community
 - a. membership on significant professional and scientific committees, councils, boards, and review panels.
 - b. Refereeing manuscripts/grant proposals for journals and agencies.
 - c. Acting as an external referee on promotion and tenure decisions at other institutions.
 - d. Aiding in professional conferences through serving as a session chair, organizer, or similar positions.
- c) Development of major college programs and facilities that contribute to scholarly/creative work and teaching activities.
- d) Participation and leadership in important faculty assignments and committees within the department, college or university including faculty governance and diversity, equity, and inclusion activities.
- e) Outside industrial, governmental experience or K-12 activities to the extent that it contributes to the candidate's effectiveness as a faculty member.

Appendix A

Examples of Appropriate Factors for Faculty Evaluation

A. TEACHING

- Student evaluation of teaching (Course questionnaires)
- Teaching awards and other outstanding accomplishments in instruction
- Detailed peer evaluation of teaching which includes examination of strengths and areas for potential improvement
- 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, equity and inclusion
- Receipt of grants for curriculum development

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, equity and inclusion in 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, equity and inclusion 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 faculty member is making a case that their scholarly work should be considered research, the faculty member 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 their work and seek external, unbiased reviews.

Appendix B

METHODS OF EVALUATING TEACHING (Edited and updated by Physics in 2022)

A Report by the LAS Teaching Committee, Fall 2008

Original report 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. This document should be viewed only as a guide. 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 is an important resource for implementing programs for 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.

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. A teaching portfolio is a long range plan for improvement and innovation. 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. The UCCS Faculty Resource Center is an excellent resource for developing teaching portfolios.

Resources

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. 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.

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

These grants are available to help faculty enhance their instruction. This includes all UCCS full time, part time, and honoraria faculty, and faculty with special appointments.

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

LAS Teaching Awards

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

<https://las.uccs.edu/las-faculty-awards>

UCCS Outstanding Instructor Award <https://facassembly.uccs.edu/awards/outstanding-instructor-award>

UCCS Outstanding Teacher Award <https://facassembly.uccs.edu/awards/outstanding-teacher-award>

The CU System Diversity and Inclusive 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/oaa/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." 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 inclusion through teaching, research and service. If diversity is an integral part of the core academic mission in our institution, then this aspect may be 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

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 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.

Resources

Colorado Springs Cool Science Festival <https://www.coolspace.org/cool-science-festival.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.

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.

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>