

Department of Chemical Engineering

DEPARTMENT OF CHEMICAL ENGINEERING PROMOTION AND TENURE GENERAL GUIDELINES

Adopted at Faculty Meeting, April 21, 1997

General Policy Statement

The Department of Chemical Engineering adheres to the *Guidelines for Promotion and Tenure and Renewal of Assistant Professor Appointments* issued by the College of Engineering. Candidates for promotion should become familiar with those guidelines and the *Handbook* of University regulations and policies. Those documents outline the procedures and standards related to promotion and tenure. This Departmental document addresses issues related specifically to the standards of excellence expected of the Faculty of Chemical Engineering.

Since the University and College standards of excellence are enforced by the departments, it is important that those standards be recognized by the departments. In general, the University expects some degree of excellence in research, teaching and service, and the candidate for promotion, tenure or renewal of appointment has the responsibility of documenting his/her performance in each of those areas. There are differences in emphasis between what is required of candidates for promotion to Associate Professor, Professor, and candidates for promotion within the non-tenure track research positions. For example, promotion to Associate Professor emphasizes teaching and research, but for promotion to Professor one is expected to have demonstrated service to the community and/or profession as well. Although some Research Assistant Professors and Research Associate Professors have teaching experience, the research record is emphasized when their promotion is considered.

It is the responsibility of each faculty member to maintain written records demonstrating his/her performance in teaching, research and service. The Department Chair will use such documentation to evaluate faculty for promotion, salary increases and other recognition.

Chemical Engineering Standards

1. The Department encourages quality in teaching and quality as well as quantity in research activities.
2. It is recognized that individuals have different abilities and skills and will differ in their career development with respect to the emphasis placed on teaching, research and service.
3. Consistent with College policies, the Department weighting between (a) classroom and laboratory teaching, (b) graduate and undergraduate research, and (c) administration and service depends on rank.
 - a. Assistant Professors are expected to concentrate on perfecting their teaching skills and developing their research programs. The Department will attempt to free them from

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administrative work, committee work and other service to permit them to concentrate on career development. To assist that development the Department has a mentoring system in which a senior faculty member is assigned to work with a junior faculty member to advise, suggest improvements and otherwise help the junior faculty member get established.

- b. For Associate and Full Professors, the nominal weighting for teaching, research, and service/administration is 40-40-20. Individuals may negotiate with the Chair if they would prefer a different weighting. The needs of the Department must be considered in this decision, however. Deviations from the nominal weighting are constrained accordingly.
4. Evaluation of the faculty will follow the guidelines of the College of Engineering, and some additional considerations and possible metrics are listed in the sections on teaching and research. The Department Chair will carry out an annual assessment and discussion with each faculty member to elucidate areas of excellence and areas of possible improvement.
5. Promotion and tenure decisions are made by faculty vote as specified in the *Faculty Code*.

CLASSROOM TEACHING

1. The university professor must:
 - a. be competent in and show enthusiasm for the course subject matter.
 - b. show interest in the student.
 - c. have the ability to convey complete ideas by clear language and examples.
 - d. be reliable as indicated by meeting every class and scheduled office hours, and preparing adequately for lectures, homework, and exams.
 - e. document teaching accomplishments and efforts in a teaching portfolio.

2. Several attributes mark the high quality teacher. These include:
 - a. the ability to inspire students or motivate them and convey the excitement of learning.
 - b. the ability to see concepts from many perspectives and disciplines, bring in many simplified and complex examples or analogies of the topic at hand.
 - c. the ability to present material in a way that reinforces the student's own experience. This includes the use of design problems that are clearly related to the practice of engineering.
 - d. the perception of a minimum performance and a core body-of-material that comprises a course. This involves an upgrading process whereby new material and current engineering techniques are incorporated. The notion of high priority or essential topics in a course is also part of this criterion.
 - e. the desire to evaluate and improve his or her own teaching. This involves requesting written teaching evaluations from students, and communicating openly with students and peers on their thoughts about the pace, topics, goals, difficulty, and flexibility of the course being taught as well as the wider curriculum.
 - f. an ability to discuss and present a wide range and variety of topics at a high intellectual level. This is especially important owing to the increasingly interdisciplinary nature of university teaching and scholarship.

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ASSESSMENT OF CLASSROOM TEACHING

1. The following four measures form the basis of all teaching evaluations (not necessarily of equal importance):
 - a. UW Office of Educational Assessment student course evaluations in every course.
 - b. peer reviews of teaching, including annual departmental peer reviews or informal classroom attendance.
 - c. evaluations by trained professionals (e.g., CIDR).
 - d. written self-evaluation of the strengths and weaknesses of each course, and an annual summary of teaching accomplishments.

2. Other quality and effectiveness measures are part of a teaching portfolio such as:
 - a. evidence that modern experimental techniques, correlations and calculational methods are incorporated in a timely manner.
 - b. introduction of design material into courses.
 - c. generation of new courses or new material for courses.
 - d. published reviews of textbooks.
 - e. feedback from alumni : letters, questionnaire responses.
 - f. testimonials from employers and other industrial contacts.
 - g. availability for after-class consultation, specialized individual instruction or projects, and writing letters of recommendation for students.

3. In order to place the teaching accomplishments and work load in perspective, it is important to document:
 - a. number of students in classes and level of class; whether class was interdisciplinary and attended by students outside the major.
 - b. contact hours per week and nature of class, i.e., lecture, lab or seminar.
 - c. whether TAs and/or graders were utilized.
 - d. any significant changes (if taught previously by the same instructor).
 - e. writing of a textbook or teaching module for the use of others.

RESEARCH

1. The university researcher must:
 - a. develop and sustain a dynamic research program. That is, he/she must have the desire and ability to obtain external funding, supervise graduate students and demonstrate potential for future growth in his/her research area.
 - b. articulate the goals, worth, depth, and breadth of his/her research project or program both in the proposal format and in the archival format such as the published paper.
 - c. scope research problems appropriate for graduate education. That is, he/she must define a problem that has enough complexity and worth so that a graduate student recognizes how to solve problems of an original nature and, on the Ph.D. level, how to define problems.
 - d. demonstrate reliability. That is, a researcher should complete projects and/or fulfill contracts.

2. High quality researchers also have the following attributes:
 - a. the ability to inspire critical evaluation skills and creativity in research students.
 - b. the desire to encourage, stimulate, and engage in interdisciplinary research activities. This may involve co-supervising graduate students with other departmental or university faculties, writing joint proposals and technical papers, participating in university-wide research programs and collaborating with other scientists in academia and industry.
 - c. the desire to encourage, stimulate, and engage in broad research activities such as special seminars, reading seminars, in his/her own field and other fields.
 - d. the ability to improve the national and international research reputation of the Department.
 - e. the ability to create new technologies and applications that benefit the residents of the state of Washington, the nation and the world. This may involve patents and research of wide applicability and benefit.
 - f. the ability to inter-relate insights from several research areas in review articles and books.

ASSESSMENT OF RESEARCH

Assessment of research includes both quantity and quality factors.

1. Measures of work load include:
 - a. number of graduate and undergraduate students personally supervised (students that are co-sponsored should be prorated).
 - b. proposals and technical papers written.
 - c. disclosures and patents written.
 - d. books written and/or edited.
 - e. research software and other research material developed.
 - f. presentations at local, national and international meetings.
 - g. invited presentations at universities and companies.

2. Quality measures are: (not necessarily of equal importance)
 - a. evaluation of the impact and quality of the research program by peers.
 - b. size of funded research program (multiple-investigator activities should be prorated).
 - c. technical papers published.
 - d. patents awarded.
 - e. honors awarded.
 - f. journal editorship and/or membership on editorial boards.
 - g. success of graduate students well into their careers.
 - h. evidence that a faculty member's students contribute to the formulation of their research project as well as its solution.
 - i. efficient management of students' research (to avoid unnecessary delays and expeditious work towards the thesis and publication).
 - j. range and depth of research topics investigated.
 - k. ability to generate new ideas as evidenced by new research programs, seminar leadership, etc.
 - l. invitations to talk at other universities or companies, or as a featured speaker at meetings.
 - m. number of citations and reprint requests.
 - n. requests to peer review papers and proposals.
 - o. reviews of books.

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- p. consulting requests (for the individual, i.e., requests for consulting help that are relayed through the Department would be classified as service).

SERVICE AND ADMINISTRATION

1. Included are:
 - a. service activities that promote the Department's teaching quality and the visibility of its research program. These include interaction with industry, consulting, and presentations at other universities.
 - b. committee assignments that fulfill administrative responsibilities of the Department (first), college, and university.
 - c. proposal and paper reviews, and editorial service for journals.
 - d. advising and writing letters of recommendation for undergraduates.
 - e. work with student groups, such as the AIChE student chapter.
 - f. membership in a professional society.
Professional society service is important and includes administrative tasks within a society such as program planning and holding office, as well as chairing technical sessions
 - g. interdepartmental and community interactions.
 - h. service on a government advisory panel or national committee, technical and education advisory panels.
 - i. inter-university program participation and management.
 - j. outreach and recruitment programs.

2. The primary quantity measure is the hours per quarter spent in such activities.