I. Introduction

This document outlines the procedures and guidelines that are used in the Department of Chemistry in the area of faculty development. Because faculty development ends only when an individual retires or otherwise leaves the University, the range of activities described includes faculty recruitment and appointment, periodic review of probationary faculty, consideration for promotion and tenure, and periodic review of tenured faculty. These procedures adhere to the principles, guidelines and procedures set forth in the following sources:

1. College of Liberal Arts & Sciences (CLAS) webpages on faculty reviews, http://www.clas.uiowa.edu/faculty/review/index.shtml

II. Qualifications for Rank. The criteria below are based on those of the College of Liberal Arts and Sciences (http://www.clas.uiowa.edu/faculty/review/criteria-tt.shtml). The College’s criteria build on the University’s qualifications for rank, as specified in the University’s Operations Manual at http://www.uiowa.edu/~our/opmanual/iii/10.htm#104.

Elements of the qualifications used by the Department of Chemistry that are department-specific are denoted by italics type.

a. Assistant Professors
Faculty members appointed to the rank of assistant professor are ordinarily expected

1. to hold the doctorate or other terminal degree in the discipline or to present equivalent training and experience as appropriate to the particular appointment (for appointment in the Department of Chemistry, postdoctoral experience is strongly encouraged);
2. to show promise in teaching; and
3. to show promise for the development of a program of research or creative professional work consistent with eventual promotion to associate professor.

b. Associate Professors
Faculty members are expected to have served at the rank of assistant professor for a period of time sufficient to have established a record of teaching, scholarly or creative work, and service that meets the criteria below and shows unmistakable promise of promotion to full professor. Most faculty members in the College serve a probationary period of six years.

Faculty promoted or appointed to the rank of associate professor are ordinarily expected

1. to hold the doctorate or other terminal degree of the discipline or to have equivalent training and experience as appropriate to the particular appointment;
2. to have an acknowledged record of success in undergraduate and graduate teaching, including successful direction of doctoral and/or master’s candidates, as applicable;
3. to have national recognition for a productive program of research, scholarship, or creative work, supported by the following, as appropriate to the research subdiscipline:
   a. substantial, significant publication of high quality, in media appropriate to the chemistry profession, such as scientific journals, symposium proceedings, and invited contributions in monographs;
   b. production of disseminated software packages and other teaching materials, such as laboratory manuals, textbooks, and the like.
4. to have participated in the professional activities of the discipline, in ways other than teaching and research; and
5. to have established an appropriate record of departmental service.

c. Professors
Candidates for promotion to full professor are expected to have established a record since promotion to associate professor that demonstrates a pattern of sustained development and substantial growth in achievement and productivity in the areas of teaching; of research, scholarship and creative work; and of service.

Faculty promoted or appointed to the rank of professor are ordinarily expected
1. to hold the doctorate or other terminal degree of the discipline or to have equivalent training and experience appropriate to the particular appointment;
2. to have an acknowledged record of continued success in undergraduate and graduate teaching, including continued successful direction of doctoral candidates to the completion of their degree programs, as applicable;
3. to have sustained unmistakable national recognition and, where applicable, to have achieved international recognition for a productive program of research, scholarship, or creative work of high quality in the chosen research subdiscipline of chemistry; and
4. to have a substantial and sustained record of effective service to the department, the institution, and the profession.

III. Recruitment Procedures

The Chair of the Department of Chemistry will appoint a faculty member to chair the Search Committee for a specific faculty position. For recruitment of faculty at the assistant professor level, other faculty members within the specialized teaching and research areas of chemistry to which faculty is to be added will serve as members of the Search Committee. These additional Search Committee members will be selected by the Department Chair in consultation with the Executive Committee.

The search committee must carefully review the information on tenure-track searches on the College’s website (http://www.clas.uiowa.edu/faculty/recruitment/index.shtml) and in the Office of Equal Opportunity and Diversity Recruitment Manual, http://www.uiowa.edu/~eod/searches/index.html). The College expects departments to provide recent data on the availability of qualified women and minorities.

The first action will be to submit a Recruitment Plan (Form A) to the office of the Dean of Liberal Arts and Sciences, where it will be reviewed before forwarding the Office of Provost and the Office of Equal Opportunity and Diversity. The Recruitment Plan lists the names of the persons on the Search Committee, the advertising sources to be used, the professional contacts which are planned, and
copies of advertisements, letters, and announcements which will be used. The College requires that the recruitment plan incorporate techniques to attract a candidate pool high in quality and diverse in gender and ethnicity. The recruitment ad must prominently include language such as the following:

The Department and the College of Liberal Arts and Sciences are strongly committed to gender and ethnic diversity; the strategic plans of the University, College and Department reflect this commitment. Women and members of underrepresented minorities are especially encouraged to apply. The University of Iowa is an affirmative action/equal opportunity employer.

As applications are received, the Affirmative Action Form C will be sent to the applicants and individual files will be prepared and made available to the Search Committee and the remainder of the faculty.

Applicants will be expected to provide a resume, description of their research program, statement of teaching philosophy, and arrange for at least three letters of recommendation. The Search Committee, in consultation with the Department Chair, will prepare a short list of candidates using promise of excellence in teaching and research as the major criteria in the selection process. After College approval, candidates will be invited for an on-campus interview.

The faculty as a whole will participate in the interview, which consists of the following elements: 1) a seminar presentation of research accomplishments; 2) a presentation of research plans; 3) a meeting with the Executive Associate Dean of the College; 4) formal and informal meetings with the Department Chair, faculty, staff and students. Following all interviews the Search Committee will present recommendations which will be discussed by the faculty as a whole. A favorable appointment decision will require a strong majority (75%) of the eligible voting faculty. The successful candidates will be ranked and this ranking will be submitted to the College administrative officials for approval before the offer for appointment is made.

For senior level positions, a similar process will be followed except that the Search Committee will consist of a Chair and two or more faculty members designated by the Department Chair in consultation with the Executive Committee. Successful candidates to the advanced ranks will be expected to meet the qualifications outlined in Section II of this document for promotion to these ranks.

Searches for temporary faculty positions will be conducted at the discretion of the DEO and will be consistent with Collegiate policies.

IV. Annual Review of Probationary Faculty

These reviews follow the procedures laid out by the University and the College of Liberal Arts and Sciences, as described on the For Faculty page of the College’s website at http://www.clas.uiowa.edu/faculty/review/annual_rvw.shtml. Please also note the special procedures for third-year reappointment reviews, in Part V below.

Probationary faculty are reviewed annually by the DEO and Review Committees designated by the DEO, in consultation with the Executive Committee. The review ensures that the faculty member receives the guidance necessary for meeting promotion and tenure standards, but it does not in any way prejudge the review for promotion and tenure. The Review Committee serves three roles: 1) evaluates the progress of the probationary faculty member in development of his/her teaching and
research/scholarship programs and service efforts; 2) recommends modifications of the teaching, research/scholarship, or service efforts of the probationary faculty member; 3) recommends continuation of appointment, reappointment, or termination, as appropriate. In third year reviews (see below) and occasionally in first-year reviews, a recommendation on the appointment status of the probationary faculty member is made to the Dean of the College by the DEO, in consultation with the Executive Committee.

Annual reviews are initiated in January when the DEO requests, in writing, that the faculty to be reviewed submit, generally within 14 days, the following items:

a) an updated professional resume
b) a publication list, particularly noting those publications and submitted manuscripts arising from work performed at the University of Iowa. For papers published, accepted, or submitted since January 1 of the preceding year, submit reprints, or preprints with letters from editors indicating acceptance for publication or receipt of the manuscript.
c) a description of contributed and invited presentations, at meetings, or at academic, government, or industrial organizations
d) a description of current and pending grant support
e) copies of summary output from ACE forms, syllabi of courses taught since January 1 of the preceding year, and descriptions of any innovations in teaching
f) lists of undergraduate students, graduate students, and postdoctoral associates trained at the University of Iowa
g) a list of Departmental and University committee assignments served, along with information on other service provided to the Department of Chemistry or the University
h) a description of external professional service that you have rendered
i) any other relevant information such as proposals submitted but not funded
j) a one-page summary of the highlights of teaching, research and service activities during the past year, and a projection of corresponding activities for the coming year

The Review Committee reviews the submitted items of the probationary faculty member’s file. The probationary faculty member is informed that a member of the Review Committee will perform a classroom visit and write a report of the corresponding observation of teaching. The Review Committee writes a report of their assessments and evaluations of the teaching, research and service programs of the reviewed faculty. A copy of the draft of the review is provided to the probationary faculty member for correction of factual errors. The probationary faculty member has the right to respond, in writing to the DEO, to the final review and recommendations of the Review Committee and the DEO. The review, recommendations, and response of the probationary faculty member are provided to the Executive Associate Dean of the College by an appointed date.

V. Third-Year Review of Probationary Faculty

The third-year review results in an assessment of the candidate’s progress toward an eventual successful tenure review. It also results in a decision on reappointment of faculty for a second, three-year probationary contract. The reviews follow the procedures laid out by the University and the College of Liberal Arts and Sciences, as described at http://www.clas.uiowa.edu/faculty/review/annual_rvw.shtml#thirdyear.

This review is initiated in January of the candidate’s third year of appointment at the University of Iowa. The process used in this review parallels the process described in the CLAS/UI Procedural
Guidelines for Promotion and Tenure, as described at http://www.clas.uiowa.edu/faculty/promotion_tenure/index.shtml with an important difference being that external evaluations of the candidate’s creative or scholarly work are not sought. The DEO creates a timeline for the review that allows the process to be completed, including the submission of the candidate’s response to the review report, by the College’s deadline, which falls early in March each year.

The following section lists reviewed activities during the Third Year Review Process:

A. Research and Scholarship

- Submission of and successful funding of starter grant applications to external agencies (e.g. NSF, ACS-PRF, Research Corporation, Dreyfus Foundation) and/or internal sources (Office of Vice President for Research).
- Publications in appropriate media, such as peer-reviewed journals.
- Production of disseminated software packages and other teaching materials, such as laboratory manuals, textbooks, and the like.
- Presentations at professional meetings and workshops.

B. Teaching

- Evidence of student appreciation of teaching efforts, as provided by the numerical results of ACE surveys and associated written student comments.
- Training of graduate students whose degree objectives are MS and/or Ph.D.
- Training of undergraduate research students.
- Participation in and direction of departmental seminars.
- Positive peer evaluations of classroom teaching performance.
- Teaching innovations, such as introduction of new courses, development of Web-based resources for courses taught, or introduction of interactive learning methods or new laboratory experiments.

C. Service

- Participation in departmental committee activities.
- External service contributions, such as reviewing of submitted journal articles and/or review of grant submissions for external agencies (e.g. NSF, NIH, ACS-PRF).

This delineation of reviewed activities is not intended as a checklist. Rather, the activities provide an indication of the range of successful efforts that will inspire confidence, at the time of the third-year review, that the probationary faculty member is developing a program of research/scholarship that is gaining national attention, is maturing as an effective teacher of the chemical sciences, and is willing to provide the service commitments that the University and the chemistry profession deserve. The Review Committee considers the efforts of the probationary faculty member in light of the question “Is the probationary faculty member on track for a successful P&T process in three years?”

The third-year review generally leads to one of two possible outcomes: 1) The candidate’s progress is considered of sufficient quality that the prospects are reasonable for a successful promotion
and tenure decision three years hence. Reappointment for three years is recommended. 2) Deficiencies in the candidate’s progress are identified that suggest that the case for promotion and tenure three years hence will not succeed. A terminal one-year appointment is recommended.

VI. Periodic Review of Tenured Faculty

Tenured faculty are reviewed every five years, in accordance with policies and procedures outlined on the CLAS “For Faculty” website: http://www.clas.uiowa.edu/faculty/review/tenured_fac_rvw.shtml. Each tenured faculty review will seek proof of excellence in each of the following endeavors: 1) research/scholarship, 2) teaching, 3) service and professional contributions. The Department’s Tenured Faculty Standards (see Appendix A) and the Qualifications for Rank delineated on Section II of this document provide guidelines for the review. In consultation with the Executive Associate Dean of the College, the DEO recommends a standard review or an extended review for a particular tenured faculty member. Standard reviews of teaching, research and service are conducted as outlined on the CLAS “For Faculty” website listed above, and may be conducted by the DEO or by a committee constituted by the DEO. An extended review is required by CLAS or the DEO. Extended reviews are conducted by a committee of tenured faculty, consisting of at least two members chosen by the DEO, who are not themselves currently being reviewed. The DEO may not serve as a member of the review committee in an extended review. Extended reviews of teaching, research and service are conducted as outlined on CLAS “For Faculty” website listed above.

In the extended review process, the DEO discusses all the review materials with the reviewee, including the self-assessment and plan of future work and the report and summary assessment of the review committee. The DEO then summarizes the actions that will follow from the review. The reviewee reads this summary and signs it before the review materials are submitted to the Dean’s Office. The reviewed faculty member has the right to respond to the review committee and/or the DEO, and that response will be forwarded to the Dean’s Office. The Dean responds to extended reviews of tenured faculty.

Among the actions that follow from the review, the DEO may ask the faculty member for a progress report as a specified time following the conclusion of the review, to ensure that recommendations from the review are being acted upon and goals established during the review are being achieved.

VII. Promotion Procedures

A. Process for Promotion of Assistant Professor to Associate Professor with Tenure

An Assistant Professor is formally reviewed for promotion to Associate Professor with tenure no later than during the sixth year of appointment on the faculty of the University of Iowa.\(^1\) The promotion and tenure (P&T) process follows the CLAS/UI Procedures for Tenure and Promotion

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\(^1\) Extension of the tenure clock beyond the sixth year may be granted when special circumstances arise, as outlined on the College’s website at http://www.clas.uiowa.edu/faculty/review/except_6yr.shtml. Request for extension is initiated by petitioning the DEO in writing and must be approved by the DEO, in consultation with the Executive Committee, by the Dean of the CLAS, and by the Office of the Provost.

Candidates for promotion and tenure and members of the Departmental Consulting Group must thoroughly familiarize themselves with these procedures. The Procedures include a timeline and summary of the process, at http://www.clas.uiowa.edu/faculty/promotion_tenure/timeline.shtml

1. Candidates should note that, in the Department of Chemistry, the departmental promotion and tenure committee consists of all tenured departmental faculty, except for the DEO. A member of the P&T Committee is selected to perform an independent classroom visit to assess the teaching of the candidate, as required by the Procedures.

2. In the Department of Chemistry, the Department solicits from the candidate a list of at least 8 potential external evaluators. A parallel list of at least 8 potential external evaluators is solicited by the DEO from members of the P&T Committee whose research interests are similar to those of the candidate. These lists are joined and from them 6 external evaluators and several alternates are chosen by the DEO, in consultation with members of the P&T Committee whose research interests are similar to those of the candidate.

B. Factors for Consideration of Promotion of Assistant Professor to Associate Professor with Tenure

The factors that are considered when the appropriate departmental committees assess and evaluate the candidate’s dossier amplify on those that were outlined earlier for the third-year review of probationary faculty. These are outlined below. Again, it is emphasized that these considerations do not provide a checklist of activities that a P&T candidate meets for assured positive evaluation. Rather, they serve as advisory guidelines. One cannot codify putative favorable written opinions from external reviewers. The advisory guidelines endeavor to position the candidate for favorable review both by departmental committees and by external reviewers.

Research and Scholarship

• Successful funding of multi-year grant applications to external agencies, such as NIH, NSF, ACS-PRF, EPA, DOD and ONR.

• Publications in appropriate media, such as peer-reviewed journals, invited chapters in monographs and symposium volumes, and invited articles or reviews.

• Production of disseminated software packages and other teaching materials, such as laboratory manuals, textbooks, and the like.

• Presentations at professional meetings and workshops, including poster presentations, podium presentations, and invited seminars.

• Indications of national and/or international recognition, such as invitations to speak at universities, colleges, industries, and at national or international meetings.

Teaching

• Evidence of student appreciation of teaching efforts, as provided by the numerical results of ACE surveys and associated written student comments.
• Mentoring of postdoctoral associates.
• Continued mentoring of graduate students whose degree objectives are MS and/or Ph.D.
• Continued training of undergraduate research students.
• Participation in and direction of departmental seminars.
• A record of positive peer evaluations of classroom teaching performance, including those that were conducted by the P&T Committee.
• Teaching innovations, such as introduction of new courses, development of Web-based resources for courses taught, or introduction of interactive learning methods.

Service
• Participation in departmental committee activities, including serving as committee chair.
• Service on committees at the College and/or University level.
• External service contributions, such as reviewing of submitted journal articles and/or review of grant submissions for external agencies (e.g. NSF, NIH, ACS-PRF).

C. Process for Promotion of Associate Professor to Professor

Promotion to Professor is generally considered within 5 to 10 years of assuming the rank of Associate Professor. Consistent with the qualifications for the rank of Professor in Section II of this document, a sustained record of excellence in teaching, research/scholarship and service is required for promotion. The process is initiated when the candidate petitions the DEO, in writing, by April 1 of the academic year preceding that in which promotion is sought. The candidate is notified in writing by the DEO by April 15th of that year that submission to the DEO of the components of the promotion dossier is required by September 1 of the same year.

The process follows the CLAS/UI Procedures for Tenure and Promotion Decision-making, available on the College’s website at http://www.clas.uiowa.edu/faculty/promotion_tenure/index.shtml, with the additions noted in section VII.A of this document, above. The factors outlined in section B, above, will also be considered in reviews for promotion to professor.

VIII. Faculty Rights

Faculty members, whether probationary or tenured, have the right to file a response at specified stages of their reviews, as described in the procedures for probationary faculty review, peer review of tenured faculty, and promotion and tenure review available on the College’s website (on links from http://www.clas.uiowa.edu/faculty/review/index.shtml).


In third year probationary reviews (contract renewal reviews) the candidate has the right to respond within five days of receiving the review report and within five days of receiving a negative
recommendation from the DEO (see the procedures at http://www.clas.uiowa.edu/faculty/review/annual_rvw.shtml.)

Probationary faculty have the right to respond in writing to the DEO when the report of the annual review of the Probationary Faculty Review Committee is forwarded to the Dean. The same right is afforded when a periodic review of tenured faculty is conducted. In extended tenured faculty reviews, the faculty member also has the right to respond to the “DEO's Summary of Actions to Be Taken as a Result of the Tenured Faculty Review.” The DEO forwards a copy of the written faculty response to the Dean.
Appendix A
Department of Chemistry
Departmental Standards For Tenured Faculty Reviews
Approved by CLAS, March 2004

This document outlines Department of Chemistry standards for tenured faculty reviews. Departmental standards are described for teaching, creative and scholarly work, and service. This document is not intended as a checklist of expectations, but instead recognizes the range of ways tenured faculty can be valued, productive faculty members in the Department of Chemistry as they support the Department’s missions.

TEACHING

Collegiate Specifications for Departmental Standards on Teaching for Tenured Faculty Review:

“The departmental standards must include the expectation that faculty will regularly update existing courses, develop new courses, and teach to appropriately sized classes, with evaluations of classroom teaching that meet departmental expectations. The document must also state expectations for advising undergraduate students and for mentoring graduate students and (where relevant) postdoctoral fellows.”

Departmental Standards:

1. Faculty members will contribute to teaching undergraduate and graduate courses. Typically, each faculty member will teach one of each per year (e.g., one undergraduate course in the fall and a graduate course in the spring). However, teaching only in the undergraduate curriculum is also acceptable given the needs of the department. Teaching in both lecture and laboratory courses, and in both large- and small-enrollment courses, is expected over the long-term. Faculty are expected to regularly update existing course materials. Occasional development of new courses is desirable if feasible in view of Departmental teaching needs. Other innovations in teaching may include, but are not limited to, revamping of laboratory course experiments; introduction of electronic means of course information; dissemination, preparation, and utilization of electronic teaching media; and introduction of new texts or course notes. Teaching efforts that exceed the normal course load, such as organizing subdisciplinary or multidisciplinary seminars and participating in Honors and Freshman First-Year Seminar courses, are also recognized as important teaching contributions.

2. Teaching will be evaluated through classroom visit(s) made by peer review committee members, as well as by analysis of student ACE evaluations. Departmental expectations are that student evaluations shall in general be favorable, but it is recognized that they will vary from course to course depending on the content of the course, course enrollment, course level, laboratory vs. lecture course, majors vs. non-majors course, and other factors including the implementation of new teaching methods or new laboratory experiments.
3. It is expected that faculty will participate in advising students. For undergraduates, this can be done as a departmental academic advisor and/or as a research advisor for those doing research in an individual faculty member’s laboratory. While only a limited number of faculty serve as formal academic advisors in a given year, all faculty are encouraged to integrate undergraduate students into their research programs whenever possible. Honors advising and advising in the other programs (e.g. the chemistry track of the environmental science program) are other formal mechanisms for advising undergraduates.

4. It is typical for chemistry faculty to mentor graduate students throughout their careers. This mentoring comes in several forms, including as research advisor directly or collaboratively involved in the training of Ph.D. and M.S. graduate students, and in service on graduate student comprehensive exam committees and Ph.D./M.S. dissertation committees.

5. Mentoring of postdoctoral associates and visiting researchers from other institutions is another mechanism for advising young scientists early in their careers, and this too is considered a form of mentoring.

SCHOLARLY AND CREATIVE WORK

Collegiate Specifications for Departmental Standards on Scholarly and Creative Work for Tenured Faculty Review:

“Departmental standards must include the expectation that tenured faculty members’ records of scholarly and creative work show continued development and growth and increasing visibility in ways consistent with the discipline and/or subdisciplines represented in the department. The College expects that this work be invited, refereed, juried and/or commissioned. Departmental standards must specify the department’s expectations for ongoing scholarly/creative work to be published, presented, performed and otherwise disseminated. Because work may be in progress over a span of years before it is brought to completion, the department must specify in its standards what will indicate progress toward completion. The standards must state the expectation that faculty will apply for internal and external funding appropriate to the discipline through extra-departmental, competitive awards processes.”

Departmental Standards:

1. Departmental expectations are that faculty will foster growth and vitality in their research efforts by continuing to publish throughout their careers. Publications normally come about as papers in peer-reviewed journals. Because of the broad scope of the field of chemistry, there are many high-quality, subdiscipline-specific journals in which faculty may choose to publish. Faculty are encouraged to report their research findings in quality journals, particularly those with high citation indices, and those published by the widely
recognized professional chemistry societies, such as the American Chemical Society or the Royal Society. Other journals may not fall into these specific categories, but may still represent high quality venues for publication within individual subdisciplines. Interdisciplinary research is encouraged, so publication in journals in other disciplines is also often appropriate. These papers can be in the form of original research papers, review papers, or commentaries, although original, refereed research papers and reviews are generally given greater weight. Authoring and editing of books, including textbooks, lab manuals, book chapters, and specialized monographs, are also valued modes of publication relevant to the chemistry profession.

2. Some faculty research results may lead to patentable technology or inventions. In such instances, submission of patent applications is also recognized as a valued mode of publication, especially when such efforts lead to awarded patents.

3. Faculty are expected to present their work on a regular basis throughout their careers at national professional conferences relevant to the discipline (e.g., at ACS meetings, Gordon Conferences, and other national meetings). Presentations at regional meetings (e.g., regional ACS meetings) are also encouraged. Short talks and posters presented in such venues by graduate, undergraduate, and postdoctoral researchers working with the faculty member are also important contributions, and are encouraged where permitted by circumstances and resources. Invitations to speak at international, national, and regional meetings, as well as at other institutions of higher education and/or industrial settings, are viewed as particularly positive measures of the external visibility of faculty research programs.

4. Because funding is an important part of sustaining research activities in the chemical sciences, it is expected that faculty will continue to pursue major external research grant support throughout their careers. Applications for support may be submitted to federal agencies, such as NSF, NIH, DOE, NASA, EPA, ONR, AFOSR, ARO, etc., to private foundations (e.g., American Cancer Society, Petroleum Research Fund, etc.), or to industrial sponsors. Success in obtaining such grants, especially those obtained through peer review processes, is viewed as an important indicator of research vitality because of the competition for such funds. Government contracts may also represent an important and valued source of funding opportunities for chemists in certain subdisciplines.

SERVICE

Collegiate Specifications for Departmental Standards on Service:
“Departmental Standards must include the expectation of increasing leadership and service to the department, the institution, and the profession consistent with each tenured faculty rank. Tenured faculty are expected to engage in professional service that reflects the visibility of their own scholarship/creative work and teaching.”
Departmental Standards:

1. Faculty are expected to provide service on Departmental standing committee(s), as well as ad hoc committees, on a regular basis throughout their careers. Such duties should sometimes include service as committee chair. Over time, service on a diversity of such committees is expected.

2. Service to the College and the University is also expected. Such roles may include participation on Collegiate or University committees, faculty governance, community outreach, service in administrative roles, directing or supporting university shared facilities, etc.

3. Faculty are expected to provide service to the chemistry profession in various ways throughout their careers. This service typically takes the form of peer reviewing of journal articles or books, and/or proposal review for funding agencies. Committee service to ACS and/or other professional societies is also appropriate. Service as a consultant to an external entity (e.g., academic, industrial or government institution) is another possible and valued professional service activity. Some aspects of external service are also particularly reflective of external recognition, such as election to a society office, appointment to a journal editorial position, editorial review board, or standing grant review panel, organization of a scientific meeting program, chairing a session at a scientific meeting, and/or service as a rotator in directing funding agency decisions and directions.