MEMORANDUM

Date: September 6, 2007

To: Elizabeth J. Stroble
Senior Vice President, Provost and Chief Operating Officer

From: George K. Haritos
Dean, College of Engineering

Subject: Merit Salary Guidelines and Criteria

The attached merit salary guidelines and criteria have been approved by the Faculty of the Department of Chemical and Biomolecular Engineering on September 6, 2007. I have approved all attached guidelines and criteria.

If you concur, we ask that you also approve the guidelines and criteria.

Faculty Representative — Date: 9/6/07

Department Chair — Date: 9/6/07

Dean — Date: 9/7/07

Senior Vice President, Provost and Chief Operating Officer — Date: 9/10/07

Department of Chemical and Biomolecular Engineering Merit Review Criteria

The department merit criteria are divided into the usual three categories: research, teaching, and service. The mechanism is accomplishment based and includes a quantitative and quality measure for contributions to each area over the previous 3 years (i.e. a 3 year rolling average). A variable weighting system is used which initially (i.e. for 2006) has a maximum of 40% for each area (i.e. 40-40-40). This variable weighting system will transition in two steps: for 2007 the maximums will be 42% research, 42% teaching, and 36% service and for 2008, and thereafter, the maximums will be 45% research, 45% teaching, and 30% service. The service component has an internal maximum of 10% national service. Both an individual's and the aggregate weighting between the three areas are governed largely by the teaching and service assignments made and/or approved by the chair. The department chair and the individual faculty will determine the weightings, summed to 100%, no later than the second week of Fall semester of the academic year under consideration. A test using data from approximately 2/3 of the department faculty shows a median result of 40% research (maximum reached), 36% teaching, and 24% service for the 3 previous years. This test included data from two faculty members who had significant service loads which are not likely to be recurring on an annual basis.

The formula is described in detail in the attached Excel spreadsheet. Since the formula results in non-integer numbers, simple rounding will be applied to convert the score of each category (research, teaching, and service) to a standard integer value (1 to 5). Accordingly, the department chair will assign a ranking for each category: "unsatisfactory" for the rounded value of 1, "satisfactory" for 2, "meritorious" for 3, "outstanding" for 4, and "extraordinary" for 5. An overall score is calculated and rounded to the nearest 10^{th}, based on the relative weights for the three categories.

A department merit committee comprised of three bargaining unit faculty will annually: review the results of the merit evaluation, propose adjustments to the weightings (score factors and quality factors), and prepare a report to the faculty and chair on statistical results from the prior year's merit evaluation and any adjustments made. Further, this committee will annually review the suitability of teaching evaluation instruments for use in the merit evaluation system and include this evaluation in its report to the department. The three bargaining unit faculty are elected by the department bargaining unit faculty. This committee will also respond to faculty requests for adjustment of any of the quality factors from the default value of 1.0. The quality factors may also be adjusted at the discretion of the department chair.

For faculty participating in Professional Development Leave, the previous three-year average teaching score will be applied and a score of 10 will be assumed for their local service. For other leaves, the previous three-year average scores will be applied in every category.

Reappointment, promotion and/or tenure will not be interpreted as altering an individual's rating for merit.

Research Merit Criteria

The types of activities which contribute to one's research merit criteria score are summarized below. The column labeled ScoreFactor is the "steady state" value the committee will use. The committee used as its guiding principle the desire of the department to improve our NRC PhD program standing, hence rewarding those contributions which move us closer to that goal. This basic guide was tempered with the need to recognize all relevant research contributions.

Research (3yrs)	ScoreFactor	
#CorrPapers	3	Corresponding author papers
#ContPapers	1.5	Contributing author papers
#Pro's	2	Federal funding agency proposals
#Pro's (industry)	1.5	Industry & Non-federal agency proposals
#Grants	3	Federally funded grants
#Grants(industry)	2	Industry & Non-federal agency grants
#Patents	2	Patents
#Book Chapters	1	Book Chapters (or equivalent)
#Edited Books	2	Edited Books and Monographs
#Texts/Books	6	Textbook or monograph author
#Presentations	0.5	Presentations in professional conferences & workshops, and public seminars
#AvgCites	0.1	Average citation rate (all papers, limited to UA association)

The score factors were adjusted to appropriately weight each of the different types of contributions. It is perhaps easiest to think about this by comparing a given score factor with that for a paper for which the faculty member is primary author (ScoreFactor = 3). This is the most complex, and probably controversial, part of the merit evaluation mechanism and will need refinement as the department's experience grows. There is also a quality factor which defaults to 1.0 for all contributions above. The base case for this default will be discussed along with further descriptions of the contributions.

The various contributions are:

Corresponding author papers are papers in which the faculty member is the primary author and is listed as corresponding author. The base case for a quality factor of 1.0 is an ISI refereed journal article. Variations upward (up to 6.0) are made for publications in very high quality, high impact journals like Nature, Science, and PNAS. Variations downward (various, but not generally lower than 0.5) are made for other publications such as proceedings or non-ISI publications. The faculty member should use their best judgment in assigning a non-unity quality factor and include a rationale for the assignment as part of their report. The department merit committee will review quality

factor assignments for consistency and report its recommendation to the department chair.

Contributing author papers are papers in which the faculty member is a supporting author and is not listed as the corresponding author. The quality factors are the same as for corresponding author papers.

Federal funding agency proposals are competitive proposals submitted to NSF, DOE, DOD, EPA, etc. The quantity used in the calculation is based on the IDC distribution specified in the proposal transmittals. Should the IDC distribution not accurately reflect the effort required to prepare the proposal, the faculty member should adjust the weighting appropriately and make a note in their merit report justifying the adjustment. The default quality factor is 1.0 which generally is not adjusted. Should a faculty member feel an upward adjustment is required they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Industry and non-Federal funding agency proposals are competitive proposals submitted to companies, the State of Ohio, and other non-Federal funding sources. The quantity weighting based on IDC distribution and the quality factor determination are the same as for Federal funding agency proposals.

Federally funded grants are grants from NSF, DOE, DOD, EPA, etc. The quantity weighting based on IDC distribution is the same as for Federal funding agency proposals. Quality factors greater than 1.0 could be assigned for proposals that are funded by extremely competitive programs (less than 10% funding rate) or that bring in large amounts of money relative to the average. Quality factors less than 1.0 could be assigned for proposals that have been funded by non-competitive programs. The faculty member should use their best judgment in assigning a non-unity quality factor and include a rationale for the assignment as part of their merit report. The department merit committee will review quality factor assignments for consistency. The committee shall then report its recommendation to the department chair.

Industry and non-Federal funding agency grants are grants from companies, the State of Ohio, and other non-Federal funding sources. The quantity weighting based on IDC distribution is the same as for Federal funding agency proposals. The quality factor determination is the same as for Federally funded grants.

Patents are U.S. patents issued in which the faculty member is the sole inventor or one of the listed inventors. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Book chapters are chapter length contributions to texts, monographs, or other book length technical publications. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition

the department merit committee. The committee shall then report its recommendation to the department chair.

Edited books and monographs are book length technical works edited by the faculty member. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Textbook and monograph authorship is recognized upon publication of a textbook or monograph authored or coauthored by the faculty member. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Presentations are technical presentations made by or substantially contributed to by the faculty member. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Average citation rate is the mathematical result of dividing the total number of citations for a faculty member's work reported by ISI by the number of publications for that faculty member reported by ISI. This calculation is done for all papers published by the faculty member while associated with The University of Akron. It is intended to recognize both the overall impact of a faculty members work as it evolves and the contribution of the faculty member to the citation driven metric utilized by the NRC in assessing the quality of engineering PhD programs.

Teaching Merit Criteria

The teaching merit criteria appear in the table below.

Teaching (3yrs)	ScoreFactor	
#ContactHrs	1	Classroom contact hours
#MS/PhD Graduating	2	MS and PhD students graduated
#BS/Undergrad Projects	1	Undergrad. and honors projects directed
#MS/PhD Committees (not own)	0.2	MS and PhD committees
TeachingEnhancements	1	Various teaching enhancements

Classroom contact hours are the number of hours the faculty member spends in the classroom on a weekly basis. It is generally equal to the number of credit hours for a given course. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

MS and PhD students graduated is the number of graduate students graduated by the faculty member. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Undergraduate and honors projects directed is the number of undergraduate and honors projects completed under the faculty member's direction. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Various teaching enhancements may be such things as introducing CPS to a course, credit for new course development, credit for substantial course revision, etc. The metric used is equivalent contact hours. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Quantitative student evaluations will form a partial basis for teaching merit scores. Quality factors (QF) will be assigned in accordance with the following formula based on the average score (avg) of all questions on the evaluation form excluding responses pertaining to facilities: $QF=0.2avg+0.45$. Should a faculty member feel there is justification for an adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Service Merit Criteria

Service is measured by the estimated clock hours spent by the faculty member on professional relevant service either locally or nationally including University, College, and Department service. Per the contract, service to Akron-AAUP is recognized as local service and service to the national or state AAUP is recognized as national service. Service to professional organizations may be either local or national depending on the organization served. Journal review and proposal review is recognized as national service. The default quality factor of 1.0 is generally not adjusted. Should a faculty member feel there is justification for an upward adjustment they may petition the department merit committee. The committee shall then report its recommendation to the department chair.

Service Clock Hrs (3yrs)	ScoreFactor
Local	0.03
National	0.03

Other types of service are:

Department, College, University committees
- ABET
- Undergraduate Curriculum Committee
- Graduate Curriculum Committee
- Library Committee
- Scholarship Committee
- RTP Appeal Committee
- College-wide RTP committee
- Brochure Committee
- ISPE/TauBetaPi
- College Computing
- Strategic Planning
- RTP

ABET activities (non-committee work, collecting, compiling data)
Student advising
Computer lab management
Organizing student activities (such as spring picnic, etc.)
Student AICHE chapter advising
Seminar coordinator
Safety
Car Team advising
Supervision of high school students
Fundamentals of Engr tutoring and advising
Recruiting activities (special events, tours, create brochures)
Proposal reviews (including review committees at NSF, DOE, etc.)
Journal paper reviews
Professional society activities (organizing sessions, organizing conferences, committee work, board of directors, officer positions)
Organizing on-campus conferences (for examples, high school teachers conf, research conferences with industrial sponsors, student poster day)
Organizing the CBE Advisory Board meetings

In the computation for service credit, the first 10 units (essentially percent) must be local service. If a faculty member has less than 10 units of local service then no national service is counted.

Operation and Maintenance

The merit criteria described above have been encoded in an Excel spreadsheet authored by Prof. J. Richard Elliott, Jr. and tested by the committee members. The spreadsheet has individual sheets for research, teaching, local service, and national service. The faculty member makes appropriate entries on each of the individual sheets. A separate ISI citation analysis code, also authored by Prof. Elliott, generates the data needed for the average citations entry. A manual recalculation is needed to effectuate the maximum limits and renormalization. That cell is highlighted in the spreadsheet with relevant instructions.

As mentioned in the introduction above, the department merit committee will review the results of the merit evaluation each year and propose adjustments to the score factors, update quality factor guidelines, and, generally, maintain the merit evaluation system for the department. Recommendations from the committee will be forwarded to the department chair, Dean, and the Provost for approval.

The department chair is responsible for making course assignments. The chair is also responsible for making department level service requests and coordinating college level service requests. The faculty member is responsible for conferring with the chair before voluntarily taking on other significant service duties. However it is recognized that not all service duties can be foreseen by the faculty member, for example, election to College and University bodies, election to professional society positions, etc.