BYU Computer Science Department Faculty Expectations

Updated: February 2013

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Foundational Notes

The goal in defining our expectations is to help use the time available in our faculty stewardship in the most efficient and productive way in supporting the BYU mission. This document is a supplement to the College and University rank and status documents. Those documents should be read carefully in conjunction with this department document. The expectations of our Department must at least meet the standards in the University rank and advancement document.

We would like to have a model that allows us to be somewhat objective in our ability to judge faculty performance and that allows faculty to "self-assess" to a large degree. The expectations represent a consensus set of guidelines meant to help the faculty and those who have to assess faculty performance. They should be reviewed regularly to ensure they remain current and relevant. The process is not meant to define an objective formula for assessing faculty. These guidelines must be coupled with prayerful consideration to resolve each individual decision.

We believe that we are all different and that there needs to be room to value the skills of each faculty member who is an overall contributor to the Department. Faculty should have the freedom to take risks and find their best way to fulfill the BYU mission, while still being accountable in terms of productivity. We believe the best faculty members are balanced and do a good job in each area of teaching, citizenship, and scholarship. This balance should extend to their life and the BYU commitment should leave ample time for family, church, and other responsibilities. We should seek the Spirit to guide us in organizing our time and directions within the BYU stewardship. We should seek to do quality work in each area. Focusing too much effort in one area at the expense of another would not be best.

Although we hope that our faculty will aspire to excellence in all they do, a faculty member must fulfill minimum expectations in each area of teaching, citizenship, and scholarship. We hope and believe that our faculty members will not allow minimum expectations to become their standard. Just reaching the minimum expectation in all areas is not sufficient. To aid in a) specifying basic department expectations and b) faculty self-assessment, we propose the following basic scale.

- Exceptional - Very strong performance.
- Good - Performance that is well within department expectations.
- Sufficient - This is the area just above the minimum expectation. This signifies there is some concern in this area and effort should be made to improve.
- Insufficient - Performance below the minimum standard.

When considering an individual candidate, we will keep the scale in mind as a general guideline, but will focus on the specific production of the candidate. For example, we will not try to say that teaching evaluations of 6.79 are good and evaluations of 6.81 are exceptional just because they are on either side of the scale discretization. We will simply say the candidate has teaching evaluations of x, internal peer review of y, m publications, etc. The scale gives basic guidance and understanding on expectations and performance.

For an advancement decision, insufficiency in any area would stop advancement. As a general guideline, the overall performance of a faculty member should be around the Good range. An area where the candidate is in the good or exceptional range will require little faculty discussion. Sufficiency in any area will lead to serious discussion and will usually need to be offset by stronger performance in other areas. There is no set formula for this. These are guidelines to aid our decisions and to allow a faculty member to be aware of where concerns will arise.

The above paragraph suggests that in some cases sufficiency in one area may be offset by excellence in others. However, note the following reality. For associate and especially for full professor advancement, the college and university committees look very closely at external letters. The external letters look only at scholarship. If a faculty member has excellence in teaching and citizenship, but just sufficiency in scholarship, these letters will typically not be strong since they consider only scholarship. This could lead to rejection at the college and/or university level. Thus, weak external letters (particularly for full professor advancement) could be cause for the Department not to forward an otherwise favorable recommendation.

However, if a candidate is at the good or better level for scholarship, then even if external letters are not real strong, we should be able to make a strong case for advancement. Regarding advancement to full professor, the current University stance appears to lean strongly on scholarship, and thus strong teaching and citizenship will typically not override scholarship lower than the good level.

Application for advancement to full professor should be initiated in the fifth year after advancement to associate professor. In some cases, a faculty member may wait longer than the five years to apply. In these cases, primary emphasis will be given to productivity over the most recent five years preceding the application. In all cases, application for advancement to full professor should only be initiated when the faculty member is ready. However, it should be the goal of all faculty members to be ready for advancement to full professor as soon as possible.

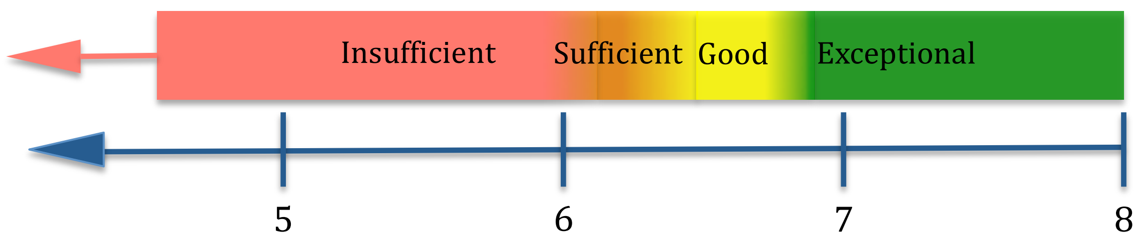
In summary, we hope that faculty in the CS Department love what they do and that they do the right things for the right reasons. If so, the productivity mentioned in this document will be the "natural fruits" of our efforts. We should love the students and love to teach them, both in the laboratory and in the classroom. We should be committed to the mission of BYU, and thus naturally give our best efforts in committee assignments, seek to strengthen each other, and strive to represent BYU in the best light. We should enjoy the pursuit of knowledge and seek to accomplish scholarship that we believe to be significant and which we are eager to communicate with others in order that all may benefit. We should enjoy building a laboratory culture where our students can grow in capacity and confidence and work with each other to discover and apply significant concepts. The natural fruits of these desires and efforts are publications, funding, strong teaching feedback, etc.

Teaching

University documents state (and we agree) that the two main mechanisms to measure teaching are 1) student evaluations and 2) internal peer review. We feel students are best able to judge from the perspective of the learner (delivery, motivation, etc.) while peer evaluation is best able to judge from the perspective of the discipline (content, procedures, expectations, etc.). The appendix contains a draft justifying our stance on using student evaluations. The detailed approach to doing the Department internal review is also found in the appendix. Good teaching is required for a favorable review in this area of stewardship. Other activities, such as undergraduate student mentoring, textbook writing, etc., can be used to enhance teaching, but cannot compensate for inadequacy in teaching. Thus, the main focus of this section is excellence in teaching and student learning.

A candidate insufficient in either the peer review or teaching evaluations will be considered insufficient in teaching. We propose that in practice, student evaluations would be the main indicator of teaching with peer review able to validate or potentially adjust the student evaluation metric. The average overall instructor rating from student evaluations during the review period, along with appropriate adjustments as mentioned above, will be used to assess teaching using the guideline given below:

Overall Instructor Evaluation (8 point scale)



These numbers may be adjusted based on future experience, but are not dependent on the department average. Thus, if the department average increases significantly, faculty will still be held to the general guidelines listed here. In addition, the specific courses that a faculty member teaches will be taken into consideration. For example, large undergraduate sections typically receive lower ratings than small graduate level courses.

Teaching expectations are the same for associate and full professor. We have found that after a few initial semesters teaching measurements seem to level out and stay fairly consistent. We will use the average of either a) all scores since the last advancement or b) all scores for the last three years, at the discretion of the candidate. At the third year review we would look more closely at the most recent evaluations (assuming an upward trend), but by the time CFS comes around we assume that there has been sufficient time to reach a reasonable steady state. We believe that CFS is the most critical time to make decisions regarding teaching. Faculty members who are strong teachers can always be a benefit to the students and Department. If a candidate is weak in teaching at CFS time, then with high probability, this will be a difficulty throughout the entire career and we need to be willing to make hard decisions.

If there are mitigating circumstances (e.g. large service sections, irregularities in the student evaluation numbers, etc.) which could bias the student evaluations, then the candidate should make those arguments in the teaching section of the advancement file. In addition, the candidate may submit any other measures of quality teaching as part of the notebook (e.g. teaching awards, additional assessments, evidence of learning, etc.)

If a candidate is receiving low evaluations then the candidate is encouraged to seek input from the faculty development center, their mentor, other colleagues, etc. In addition, the teaching committee can do an early peer review upon request to help give feedback to the faculty member. The Chair will encourage these things, but it is at the discretion of the candidate to initiate them.

Citizenship

Citizenship Activities

Citizenship expectations are divided into two categories: 1) required and 2) additional activities. The required activities are those that all faculty must do. The additional activities benefit the Department and students, but are not activities that every faculty member must do. Faculty should be rewarded for quality efforts in additional activities but not penalized for only fulfilling the required activities.

Required Activities

- For faculty who are members of The Church of Jesus Christ of Latter-day Saints, loyalty to the Church.
- Support for and affirmative contributions to the university mission and The Aims of a BYU Education.
- Behavior and expression reflecting honor, integrity, collegiality, civility, respect, concern for others, adherence to the Honor Code, and observance of university policies.
- Constructively participating in department discussions and activities without being contentious.
- Showing collegiality towards other faculty, staff, and students.
- Accepting assignments and making useful contributions in committee and other departmental assignments.

Additional Activities

- Department/College/University leadership assignments
- Heavy committee roles
- Collaboration/Mentoring with colleagues in citizenship, teaching, or scholarship
- Significant curriculum development, including, for example, revising core CS courses, designing new core CS courses, or providing significant assistance to the department in the undergraduate curriculum.
- Service to the profession – We propose that participation in the scholarly review process and defining the discipline (editorial boards, program chairs, refereeing papers, steering committees, etc.) be part of the scholarship expectation. Other service in the profession (conference organization, session chair, organization treasurer, etc.) would come under citizenship. There may be cases when activities could fit under both areas.
- Undergraduate mentoring not included in scholarship.
- Other significant contributions to the Department/University or the Computer Science Community.

Faculty members must find a proper balance in their stewardships, and too much effort in additional citizenship activities would not be appropriate when there are concerns requiring attention in the teaching or scholarship of a faculty member.

Citizenship Measurement and Assessment

All faculty members are expected to perform positively in the required citizenship activities. Younger faculty members do not have a significant expectation in the additional activities portion of citizenship. Assuming positive performance in the required activities, a 3rd year or CFS/associate professor candidate would be ranked as “good” with no additional activities. The candidate may be ranked as exceptional if significant contributions were made under additional activities. Assuming positive performance in the required activities, a candidate for full professor would be ranked as “sufficient” without additional activities, but to be ranked good or exceptional the candidate should demonstrate significant contribution in additional activities contributing to the University or profession.

Faculty members will be sent a note inviting them to share commentary regarding the candidate’s citizenship activities with the Department Chair or a member of the Rank and Status Committee. In the case of negative feedback, this commentary would most often be private and verbal. People who have had in-depth interaction with the candidate (Chairs of committees on which the candidate served, etc.) will receive specific requests from the candidate or Rank and Status Committee to provide input. We realize that in many cases, a faculty member may not have sufficient close hand experience to comment on particular citizenship activities, in which case the faculty member need not give any commentary.

The Department Rank and Status Committee, together with the Chair, will use the candidate's notebook and any feedback from the faculty to rank the candidate as exceptional, good, sufficient, or insufficient. Required activities will be considered first and if deemed positive then the candidate will be initially ranked as good or sufficient, depending on whether the candidate is seeking 3rd year/Associate or Full professor advancement. If positive, then the required activities would require minimal discussion in the faculty meeting before the vote. If a significant group (even a reasonable minority) of faculty express concerns in the required activities area, then the citizenship ranking of the candidate in terms of required activities will be postponed by the committee and will be a critical discussion issue in the faculty meeting.

After consideration of required activities, the Rank and Status Committee will consider the candidate's notebook and comments from the faculty regarding additional activities. Starting with the initial rating of the candidate based on required activities, they will make a judgment regarding the quality and significance of the additional contributions to give an overall citizenship ranking which will be proposed to the faculty at the faculty meeting.

Scholarship

Scholarship Goals

The basic goals of scholarship for our Department are:

1. Accomplish basic and applied research of high quality, influence, visibility, and utility.
2. Integrate students in the research process both to aid the process and to prepare students to continue to advance truth and knowledge.
3. Maintain vigor and currency in the field to support quality teaching. (This facet is measured under teaching and will not be a focus in this section).

Scholarship Activities

We propose the following four basic activities as evidence of effort and productivity in accomplishing scholarship goals:

- Peer-reviewed publications in the best possible forums: This is a basic required staple and is a foundation of influential work.
- Student involvement in research and publication: Graduating and mentoring students is another indicator of student involvement.
- Peer-reviewed and non peer-reviewed external funding and solicitations: External funding is not required to produce quality scholarship, but is necessary for student support and special infrastructure needs. Peer-reviewed (NSF, etc.) and non-peer reviewed funding are equally acceptable as long as they allow for publishable research. A peer-reviewed grant is additional evidence of scholarly quality.
- Evidence of scholarly influence: Influential work fulfills an important part of the mission of BYU by raising awareness of BYU, the Church, and their uniqueness in the world. Below are potential mechanisms to demonstrate influence.
    - Recognition/involvement in the profession (editorships, program committees, refereeing, technical committees, etc.)
    - Citations
    - When others have built/used the candidate's research
    - Testimonials (external letters)
    - Awards and honors
    - Invitations (plenary speaker, articles, colloquia, etc.)
    - Other evidences of influence

Scholarship Measurement and Assessment

Peer reviewed publications: There is no fixed expectation for number of publications. The following provides a general guideline for the "good" category and we do not specify exact boundaries for sufficient and exceptional. To be in the "good" category a CFS candidate should publish an annual average of at least two papers of category 2 level or greater for which the candidate is a major contributor. (See notes below for category definitions.) These should include three category 1 publications over the five year period. Note that this also fits with the University requirement of sending out 3 solid publications for review as part of the external letters. To be in the "good" category a full professor candidate should publish an annual average of at least two papers of category 2 level or greater including an average of about (or slightly below) one category 1 publication per year.

Publications can be either in journals or conference proceedings. Since the field of Computer Science is changing rapidly, some of the best publication forums are in conference venues[1]. Thus, journals and

[1] See "Research Evaluation for Computer Science" by Meyer, Choppy, Staunstrup, and van Leeuwen in *Communications of the ACM*, April 2009.

conference proceedings can both be Cat 1 publication venues. The quality of the venue will be used as the major criteria in reviewing the candidate, whether the venue be a journal or conference proceedings.

A faculty member in their first year will initiate a venue survey which can aid the faculty member and the Chair in evaluating publication quality. A venue survey is done by the Department polling ten influential people in the faculty member's area, asking them to rank a list of venues provided by the faculty member. (A sample letter of request is in the appendix.) The ten people are chosen by the faculty member. Tenured faculty members at PhD granting institutions are generally the best for this process since their credentials are easy to check. If ten such people cannot be found, the faculty member should make a case why others are trustworthy in this process. Another survey will be done in the 5th year before CFS review. A final survey will be done in the 10th year before advancement to full professor. In addition, a faculty member may initiate a venue survey at anytime deemed appropriate. In cases where multiple faculty members' research areas overlap, one faculty member could use another faculty member's venue survey to determine venue rankings.

On occasion there are venues for which survey results come back as Cat 1, yet have very high acceptance rates. These may still be great venues in which to publish, but in these cases it would be essential for the candidate to have at least some other publications in Cat 1 venues with more typical acceptance rates.

There has been some confusion between a Cat 1 venue and a Cat 1 publication. In publications we are only judging the quality of the venue, not each individual paper. We realize that excellent and highly influential work may be published in lower categorized venues. In this case, a faculty member may point this out under the category of 'Evidence of Scholarly Influence.'

There is some concern that the surveys may make a faculty member less willing to publish in new or inter-disciplinary venues. Remember, the requirement for CFS is just to have at least 3 publications in venues which peers accept with consensus as being top tier (and just under 1/year for full professor). This still leaves plenty of room for freedom and exploration in other venues. We have found that candidates who have at least some publications in the category-1 venues receive strong external letters, while those with publications *only* in category-2 and category-3 venues typically receive weaker letters.

We encourage research collaboration (in addition to a candidate's students) both internally and externally. Joint authorship on publications is a good option. However, in terms of the category 1 publication expectation, to be good in this area, a candidate must demonstrate the ability to be the driving force behind at least some of these papers (exact number purposely left out). Mechanisms to demonstrate this include:

- The candidate is first author
- A student for whom the candidate was the lead researching supervisor is first author (this is perhaps the most common variation)
- If a collaborative paper, the other authors recognize the candidate as the leading impetus for the work

Once the candidate demonstrates this role on some category 1 papers, then all category 1 papers for which the candidate is a co-author and for which he/she played a significant role, will be counted in full towards the number of category 1 papers published.

It is also expected that collaborative efforts will result in higher publication rates than research performed by a single faculty member.

Student Involvement: No specific number is expected, but faculty should regularly be the chair for successfully graduating graduate students. In most cases, the majority of publications should include student co-authors. It is common and acceptable in our Department that the majority of publications have a student as first author with the faculty advisor as a second author. We expect that candidates for Full Professor will have had success in graduating PhD students.

External Funding: All faculty members should seek and find funding to support their labs. For CFS advancement, demonstrable effort to attain funding is required. This effort should include at least one strong external proposal per year. For full professor advancement, some success in obtaining external funding is required. The full professor candidate should be the principal driver behind at least $100,000 of cash (non-equipment) external research funding in the previous five years to be sufficient in this area.

Evidence of Scholarly Influence: All faculty members should seek to accomplish research which has real influence. A list of possible activities in this area is given under *evidence of influence* above. The expectation is that faculty members should be able to use some (not necessarily all) of the listed items to demonstrate influence. For CFS advancement, effort to become influential is required. For full professor advancement, some success in having influence is required.

The faculty candidate will submit 10 names to the Rank and Status committee as possible external reviewers. These people must be from academic institutions and have rank at least as high as that sought by the candidate. Reviewers should be selected who know the candidate's work sufficient to make a reasonable evaluation. However, if the reviewer has too close a personal relationship with you, then the letter will be given less credence. Thus, collaborators, co-authors, and co-investigators would typically not be included in the group because of potential bias in the evaluation. With each name please submit a) a brief justification of why this person would be an appropriate reviewer, and b) your relationship with the reviewer. The committee will send requests to 5 of those people with a goal of having three respond.

The candidate will also submit to the committee the following to be included in the external letter. A sample of the external letter is found in the appendix.

- Three examples of scholarly work
- Curriculum Vita
- A statement of the candidate's research area to be inserted into the letter

Notes:

- Visibility and strength of venue are important themes in judging the quality of publications, evidence of influence, etc.
- The basic venue categories are:
  Category 1: The set of most prominent and influential venues in the faculty member's research area regardless of whether they are journals or conferences.
  Category 2: Other strong refereed venues.
  Category 3: Other refereed venues.
- The typical approach for venue categorization is to have the Department poll ten influential people in the faculty member's area, as discussed above. Other approaches are also possible. There are many kinds of evidence that a faculty member might produce including acceptance rates, citations, rigor of the review process, etc. If using an approach other than the typical polling approach, the faculty member must produce evidence that the venue categorization he or she proposes is reasonable. The Department suggests that the faculty member engage in this venue ranking process early to obtain as much information as possible in choosing where to publish. Any time desired, the faculty member may seek feedback from the advancement committee and/or Department Chair about his/her categorization justifications. Each year with the annual report the faculty member will report and justify the categorization of that year's publications. This will allow an opportunity in the stewardship interview to receive feedback from the Chair on whether the categorization justification seems sufficient.
- In general, we should strive towards publishing high quality research in the best possible venues. While category 3 publications are not mentioned in the specific expectations above, we believe they can be important stepping stones in the scholarship effort which may naturally lead to other measurable productivity.
- Quality and quantity are factors, but the first goal should be quality. A certain amount of high quality scholarship is mandatory and cannot be compensated for with numerous low quality products. Quantity can also be a good thing, but we must be attentive to balance our stewardships carefully. For example, being on the organization/program committee of a large number of low

tier conferences could become sufficiently burdensome that there would not be time to accomplish higher quality activities. This type of scenario can happen with every one of the scholarship activities above.

Peer Review of Teaching

BYU Department of Computer Science – June 10, 2004, updated January 2011

Rationale and Overview

Peer review is the process by which departmental faculty review the course objectives, content, lessons, activities, and assessments used in our courses. It is a standard part of teaching reviews at many universities and is now a required part of all rank and status reviews at BYU:

> *"Peer evaluation is as important for teaching as it is for scholarship. The department review committee will obtain at least two substantive confidential peer evaluations of teaching from BYU faculty members qualified to make evaluations of the faculty member's approach to pedagogy, teaching activities and materials. The faculty member will assemble a teaching portfolio containing syllabi, textbooks, handouts, multimedia materials, assignments, learning exercises, examinations, and other course materials. The peer evaluations should concentrate on a review of the teaching portfolio, but should also include classroom visits. Ideally, the classroom visits should be conducted over several semesters prior to the faculty member's third- and sixth-year reviews. Peer evaluations might best assess such areas as:*
>
> 1. *Whether the course reflects the current state of the discipline.*
> 2. *The faculty member's mastery of the course content.*
> 3. *The course objectives, including whether the course meets the objectives of the curriculum of which it is a part.*
> 4. *The course organization.*
> 5. *The methods used to foster and measure learning.*
> 6. *The materials in the teaching portfolio (syllabi, textbooks, handouts, multimedia materials, assignments, learning exercises, examinations, and other course materials).*
> 7. *The faculty member's general concern for and interest in teaching.*
> 8. *The overall quality of teaching.*
>
> *Other examples of meaningful peer evaluation of teaching might include reports from graduate schools or employers regarding students' performance, and professional invitations based on a faculty member's reputation as a teacher."*
>
> *University rank and status document, Section 3.3.2, Item C*

Peer reviews are *not* intended to replace student evaluations. Rather, they are intended to provide validity for those evaluations. Student evaluations without substantiation of the course content can be suspect. Likewise, peer review of the course materials (and even limited classroom visits) can be suspect if not corroborated by the thousands of student-hours spent experiencing the delivery of that material.

A presentation given to Department Chairs [*Fostering Effective Peer Review of Teaching at BYU*, Department Chair Seminar, February, 2003[2]] on this subject summarized this balance between evaluations by both students and peers:

- "Students are best qualified to evaluate the teaching process from the perspective of learners."
- "Peers are best qualified to evaluate the content of a course from the perspective of the discipline. (Peers are also invited to observe teaching.)"
- "Written peer evaluations and student ratings form the core of the 'assessment of teaching' at department, college and university level."

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[2] Available online at `http://www.byu.edu/fc/pages/depchpages/peer_review/frame.htm`.

The book *Peer Review of Teaching: A Sourcebook*, by Nancy Van Note Chism[3] explains these respective roles in more detail:

> *"Colleagues* who are serving as evaluators are best suited to provide judgmental response on a person's subject matter expertise, the currency and appropriateness of their teaching materials, their assessment approaches, professional and ethical behavior, and the like."
>
> *"Students* provide the primary judgmental data about the quality of the teaching strategies employed in courses and their assessment of the personal impact of the teacher on their learning. They can also corroborate or supplement the descriptive data made by the instructor."

Our departmental process for teaching reviews reflects this two-fold emphasis: both student evaluations and peer reviews are essential to a meaningful evaluation of teaching. Thus, the peer reviews focus primarily on the teaching portfolio, especially in the following areas:

- Content Expertise
- Objectives and Content
- Learning Activities
- Learning Assessments
- Overall Alignment of Objectives, Activities, and Assessment

Much of the review may be completed based on the teaching portfolio alone, but classroom visits are often needed to gain a more complete view of how the course fits together. Student evaluations are the best assessment of an instructor's in-class performance (quality of lectures, clarity of explanations, instructor helpfulness, etc.)[4]. However, classroom visits by peer reviewers are helpful in gaining a better understanding of how in-class activities integrate with out-of-class activities to achieve the objectives of the course. This purpose can usually be accomplished in a small number of classroom visits.

In addition to student evaluations and peer review, the teaching section of the candidate's rank and status notebook also plays an important role in the review of teaching. Among other things, the teaching section may be used to document the curricular contributions made by the candidate across the various courses that they teach. The peer review process may also highlight curricular contributions made by the candidate, but time constraints make it infeasible for peer reviewers to evaluate everything that the candidate has done. The teaching section of the notebook may be used by the candidate to make a comprehensive presentation of their teaching-related contributions. For example, the teaching section might contain letters written by other faculty members who are familiar with particular contributions made by the candidate. While such evidence is very helpful in reviewing a candidate's teaching, it is beyond the scope of the peer review process described in this document.

The peer review process should not require excessive time commitments from the candidate, the peer reviewers, or the Teaching Committee. Therefore, the peer review will focus on only one of the candidate's undergraduate courses (400 level or below). The selected course should be the one that the candidate feels most effectively demonstrates their teaching abilities and contributions. An in depth evaluation of one well-chosen course will provide most of the desired information while still keeping the effort level reasonable.

The peer review should focus on the faculty member's course as delivered by that faculty member and refrain from engaging in larger curricular issues. Department-defined objectives are the standard by which required courses should be evaluated. Peer review is not the appropriate forum for debating changes to required courses. A faculty member should not be penalized for delivering a standardized course. If the faculty member has contributed to the development of the course, that should be noted where appropriate.

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[3] *Peer Review of Teaching: A Sourcebook*, Nancy Van Note Chism, Anker Publishing Company, Inc., Boltan, MA., 1999, pp. 4–5.

[4] *Student Ratings: Myths vs. Research Evidence*, Michael Theall, BYU Focus on Faculty Newsletter (vol. 10, no. 3, pg. 2), online at http://www.byu.edu/fc/pages/tchlrnpages/ratingmyths.htm

The Peer Review Process

- The peer review board is the Teaching Committee. If a peer review board member is scheduled for peer review, that member does not participate in board level activities for the peer review.

- The candidate meets with the peer review board to discuss the peer review process. This meeting is held approximately 15 months before the candidate's notebook is due to allow a full academic year for completion of the review.

- The peer review board and the candidate together select the course to be reviewed and the semester during which the review will be conducted. The course selected for review should be the one that the candidate feels most effectively demonstrates their teaching abilities and contributions. The selected course should be an undergraduate course (400 level or below) that is not a new preparation for the candidate.

- After the initial meeting with the candidate, the peer review board selects two peer reviewers. One of the reviewers must hold a higher rank than the candidate, and one should (where possible) be an expert in the subject of the course to be reviewed. The peer reviewers can be any member of the department including those on the peer review board.

- Prior to the beginning of the review semester, the candidate submits a teaching portfolio containing the materials for the course under review. The peer review board distributes copies of these materials to the peer reviewers. The exact content of the teaching portfolio is left up to the candidate, but all teaching portfolios should include at least the following:

    1. A short document (no more than two or three pages) containing the following:
        a. A summary of course objectives
        b. A summary of course learning activities explaining what the various learning activities are (labs, homework, projects, etc.) and how they work together to achieve the course objectives
        c. A summary of the assessment activities used in the course explaining what the various assessment activities are (quizzes, exams, etc.) and how they are used to measure student learning
        d. Any other items that the candidate would like to be considered in the review of the course

    2. The course syllabus, including course policies

    3. The course schedule

    4. Copies of the learning activities used in the course (labs, homework, projects, etc.) with example solutions where appropriate

    5. Copies of the assessment activities used in the course (quizzes, exams, etc.) with example solutions where appropriate

    6. A copy of the course text and readings

    7. A copy of the grade spreadsheet from the most recent delivery of the course

    8. If the course is required for CS majors, a copy of the departmental objectives for the course

- During the review semester, the peer reviewers together complete scheduled in-class evaluations of the course. Reviewers meet with the candidate before the semester starts to coordinate classroom visits and discuss expectations. The number of classroom visits is left to the discretion of the reviewers, but at least two visits are recommended.

- Each of the peer reviewers submits a detailed, written report of the course and candidate's teaching to the peer review board.

- After receiving the peer reviewer reports, the peer review board meets to discuss the results of the review. If necessary, the board may solicit or conduct additional peer reviews. Further meetings between the peer review board, peer reviewers, and candidate may be held as necessary.

    - The reviewer reports are forwarded to the Rank and Status Committee. The Rank and Status Committee is responsible for deciding the final outcome of the peer review. The Rank and Status Committee may seek further input from the peer reviewers or the peer review board at their discretion.

    - The Rank and Status Committee includes the reviewer reports in the teaching section of the candidate's notebook.

    - The reviewer reports are confidential, but the candidate is strongly encouraged to seek feedback on their teaching from the reviewers. Reviewers are strongly encouraged to share suggestions for improvement with the candidate as they feel appropriate.

Peer Review Reports

Reports written by peer reviewers are included in the candidate's rank and status notebook along with the letter written by the peer review board. Peer review reports should address the following areas:

1. Course Content
    - Does the course content reflect the current state of the discipline?
    - Does the course content appear to be accurate?
    - Is the course content appropriate for this level (student preparation, sequence in the curriculum, etc.)?

2. Course Objectives
    - Are the course objectives clear?
    - Are the course objectives focused on learning outcomes (i.e., things that the student should know or be able to do after completing the course)?
    - For required courses, do the course objectives meet the specific objectives defined for the course by the Undergraduate Curriculum Committee?
    - Do the course objectives meet overall department and university objectives?

3. Learning Activities
    - Are the in-class activities effective at achieving course objectives?
    - Are the readings effective at achieving course objectives?
    - Are the labs and/or programming projects effective at achieving course objectives?
    - Are the homework assignments effective at achieving course objectives?
    - Are other assignments such as reports, class presentations, etc. effective at achieving course objectives?
    - Are students given ample opportunity to practice new skills prior to final assessments?

4. Learning Assessments
    - Are the assessments good measures of the learning objectives for the course?
    - Do exams test more than comprehension and recall (e.g., application, analysis, evaluation and creative work)?
    - Is the level of exam questions appropriate for this course (not too easy; not too difficult)?
    - Are grading criteria for projects, assignments, and exams appropriate and clearly specified?

5. Overall Alignment of Objectives, Activities, and Assessments
    - Is there overall consistency between course objectives, learning activities, and learning assessments?

Student Teacher Evaluations as a Metric of Quality Teaching

In regards to evaluation of teaching, both current literature [Nancy Van Note Chism, *Peer Review of Teaching,* 1999] and also the guidelines to BYU Chairs ["Fostering Effective Peer Review of Teaching at BYU", Department Chair Seminar, February, 2003, http://www.byu.edu/fc/pages/depchpages/peer_review/frame.htm], suggest the following. "Students are best qualified to evaluate the teaching process from the perspective of learners." "Peers are best qualified to evaluate the content of a course from the perspective of the discipline."

We agree that peer evaluation of content, procedures, grading, labs, tests, expectations, etc. is crucial and best done by peer review. While no measure is perfect, we agree that student evaluation of instructors is our most reliable assessment of the delivery, motivation, and in-class teaching skills of the professor. We have found student evaluations to be consistent and correlated with other measures of good teaching. Following are some common anecdotal concerns that we have heard regarding potential weaknesses of student evaluations, together with the experience we have had in our Department.

- *Evaluations can be inflated by making the class easy*. Perhaps in departments which are teaching mostly required classes for other majors this could be a problem. We have not found this to be the case. By and large our students are bright and want a quality education. Instructors who do not challenge the students usually get lower ratings, while our highest rated instructors are often those that are most demanding.
- *Evaluations can be inflated by giving generous grades or easy policies*. Besides the obvious issue that grades are not given out until after evaluations are completed, our experience is that instructor evaluations are not correlated with grades except to the point that smaller classes tend to get higher evaluations, and these are often graduate classes where grades can be higher. In addition, we find that for each student made happy by letting a policy slide, others are made unhappy about a breach in fairness and/or expectation.
- *Evaluations can be inflated by charisma and the relationship between the students and teachers*: This is correct and indeed should be. Regardless of how correct the knowledge being conveyed is, if the students are not listening then little teaching is happening. When students are motivated, excited, and energized by the instructor they have better opportunity to learn. When students feel love and real concern from the professor they tend to put in extra effort which leads to greater learning.
- *Evaluations can be inflated by charisma even though little of substance is being taught*. We have found that our students want the education they are paying for and are dissatisfied if they believe they are not being informed and educated in class. We have had consistent negative comments in the past (together with the expected low ratings) regarding faculty who entertain but do not teach.

Important to note is that many of the things that an instructor might attempt in an effort to artificially raise evaluations (e.g., giving higher than average grades, entertaining with little content, using unreasonably easy policies), are the very things that are easy to detect by out of class faculty peer review. Thus, attempts along this line (which we believe would not work anyway) would not be tolerated since they are detectable by the Department peer review.

Differences in courses (number of students, curricular level and difficulty, major vs. non-major, etc.) can have an effect on teaching evaluations, and should obviously be considered when comparing student evaluations.

We believe that while faculty in-class visits can be enlightening and can confirm the student evaluations, to assume that they could override or supplant the student evaluations is questionable. Our reasons follow. Assume conservatively that a faculty member coming up for CFS has had 5 years of teaching with four 3 credit hour classes per year with an average of 50 students per section. That gives approximately 1000 independent reviewers and 42,000 student hours of lecture. Most students desire a quality education and will give ratings based on that desire. While a percentage of students may give unjustified ratings, the large numbers involve lead to statistically reasonable results. In-class peer review by a small number of faculty in a relatively small number of sections pales by comparison. Even an extreme amount of class-room visitation by faculty would fall far short of the statistical student measure, while diminishing faculty productivity due to inordinate time spent visiting classes. In addition, it may be difficult for faculty to give as unbiased an evaluation as the students. Since the faculty member being evaluated knows the small number of faculty evaluators sitting in his or her class, and since CFS could be denied based on their evaluation, it puts extreme personal pressure on those faculty evaluators and may often bias their report. The real issue to be measured is not the ability of a faculty member to teach other faculty who already understand the topic. It is the students who are trying to learn the topic for the first time that are the real issue, and they are in the best position to judge how well the professor helped them in the learning process. In conclusion, our Department believes that a relatively small amount of faculty in-class visitation is sufficient to support the peer review effort to evaluate course content, procedures, grading, etc.

Good teaching should be measured by a positive peer review and good student evaluations. There will obviously be situations where either review might be marginal and thus require increased effort to substantiate. An unacceptable peer review coupled with reasonable student evaluations could show lack of appropriate content or expectations in class. Unacceptable student ratings coupled with a strong peer review (i.e. good class content) brings an interesting situation. Should this be a signal to increase in-class peer review in order to potentially supplant student evaluations? We want to be careful in this situation, since a small group of faculty can come to the conclusion that the teaching is “not that bad,” leading to a decision which might not be best for the students.

More information regarding student ratings can be found at http://studentratings.byu.edu/.

Professional Faculty Expectations

January 11, 2011

The Professional faculty position in the Computer Science Department is primarily a teaching position. Expectations and advancement will be based on 1) teaching, 2) citizenship, and 3) staying current in the field, without a direct research expectation.

Professional faculty will teach a standard assignment of ten 3-hour sections per academic year. This assignment may decrease during times when a larger than typical citizenship stewardship is undertaken by the faculty member. Since professional faculty will teach a large number of sections and thus influence a large number of students in the classroom, it is expected that these faculty be strong teachers in the department. Professional faculty will be assessed according to the following three criteria. While all three are essential, the majority of the assessment weight will be on teaching.

1. Teaching: The teaching assessment mechanism will be the same as for all CS faculty (see CS faculty expectations document and the university document: *University Policy on Faculty Rank and Status*). A professional teaching faculty is expected to have a teaching assessment at least in the "Good" range as specified in the CS faculty expectations document. This assessment is made by evaluating the candidate on such things as student evaluations and internal peer reviews.
2. Citizenship: The citizenship assessment mechanism will be the same as for all CS faculty (see CS faculty expectations document and the university document: *University Policy on Faculty Rank and Status*).
3. Currency in the field: It is the responsibility of the faculty member to demonstrate appropriate efforts to a) stay current and b) be a practitioner in the field in order to stay "intellectually engaged" and to support continued excellent teaching. Being a practitioner should include being an active participant in computing technology in a community outside of the Department. Participation in an outside community will aid in a) ensuring that activities are current with actual real world practice, and b) validating the quality of activities. It is the responsibility of the candidate to document and justify that these activities have helped maintain currency. The main goal of these efforts is not necessarily to demonstrate significant teaching improvements early in a career, but to invest in helping a faculty member to continue as an excellent instructor ten or more years into the career. The time commitment for this part of the effort would rarely exceed one day per week, and could be less. In addition, these efforts would not necessarily need to occur throughout the entire year, but need to be done sufficiently to accomplish the intent. The expectation for full professor advancement in this area is the same as for associate advancement. Examples of active participation include the following:

    - Programming as part of an industrial team
    - Programming in a significant open source environment where the candidate's code is being used
    - Being a member of a standards committee
    - Publishing articles in national or international trade magazines
    - Consulting in a computing area
    - Etc.

Professional Faculty being reviewed for the rank of Professor are expected to maintain currency in the field. In addition, from the time they achieve the rank of Associate professor, they need to show improvement in teaching. This improvement in teaching may not necessarily be reflected (nor is it required) in what should already be solid overall instructor student evaluations; rather the improvement is shown through other student evaluation metrics such as overall course ratings or indirectly through activities such as:

- Obtaining funding for curricular development
- Developing and/or participating in seminars on teaching
- Helping other faculty, both within the department and externally, to become better teachers

- Publishing papers on teaching and/or curricular topics
- Making curricular improvements via working with the Center for Teaching and Learning
- Studying and implementing new teaching techniques to enhance the learning process. Participating in national or international teaching conferences, such as SIGCSE can be a good source for ideas in this area.
- Demonstrating curriculum enhancement through improved course projects, improved course learning environments, etc.
- Incorporating current industry directions into the curriculum
- Creating curricula that are used by other universities
- Collaborating with faculty from other universities on curriculum development
- Sponsoring and mentoring students in capstone projects
- Writing textbooks

This list is meant to be illustrative - not comprehensive. The faculty member can tailor this requirement to his or her talents, abilities, etc. It is the responsibility of the faculty being reviewed to demonstrate how he or she has improved his or her teaching during the review period.

Sample letter for request of external review

Date
Addressee
Dear Professor ____________________:

Dr. John/Mary Doe is being reviewed to determine whether his/her performance merits continuing faculty status (similar to tenure) and rank advancement to associate professor [or, advancement to full professor].

Our policy requires evaluations from knowledgeable peers in the academic community. While our evaluation considers all aspects of performance -- citizenship, teaching, and scholarly and creative work-- we are especially interested in your assessment of his/her scholarship, particularly how the quality, originality, soundness of methodology, and productivity compare to that of other scholars at this stage of their careers. In particular could you please answer the five questions below. You are welcome to submit your evaluation either via email or as a hardcopy through standard US mail. For your information, professorial faculty in our department teach four sections per year over a 12 rather than 9 month contract.

Enclosed for your consideration is a copy of Dr. Doe's curriculum vitae and samples of his/her scholarly work. We have a letter on file stating that Dr. Doe has waived his/her rights to see your evaluation. However, if there is a negative decision and the faculty member appeals it, his/her entire file will be made available to him/her, although with names and other reviewer identification removed.

Insert statement of the candidate's research

1. Describe your relationship with the candidate and specify which part of the candidate's research area is covered by your expertise.

2. Following is a list of venues in which the candidate has published or participated in the last five years. Please rank these venues by placing a 1, 2, 3 , or ? (don't know) next to each as described below. Different subdisciplines within CS and engineering weight the relative importance of conference proceedings and journals differently. To help us evaluate the quality of a venue, we need the absolute rating of all venues on the same scale, meaning that conference proceedings and journals should be rated relative to each other. Please rate the candidate's publication venues as follows:

    1. Top quality and most influential venues in the candidate's research area.
    2. Other strong refereed venues.
    3. Other refereed venues.

Insert list of venues here.
Example - International Conference on Machine Learning: _____

3. Summarize the productivity, quality, and strengths and/or weaknesses of the candidate's work compared to that of other scholars at this stage of their careers.

4. Where applicable, summarize the impact and influence of the candidate's scholarship..

5. To the extent that you can, comment on the candidate's service in the professional community.

Please mail or e-mail me your assessment by (date). If you have any questions, please do not hesitate to contact me. Thank you for your help and consideration.

Sample letter for request of venue categorization

Dear Dr. X,

I am Chair of the Computer Science Department at Brigham Young University. To aid in the tenure and advancement process we are asking a few specific external experts to corroborate and give input regarding the best publication venues in the field of an upcoming faculty candidate. The area(s) of the faculty member is:

Insert candidate's brief area description.

We would appreciate if you would respond to the following two questions regarding the candidate's publications. Different subdisciplines within CS and engineering weight the relative importance of conference proceedings and journals differently. To help us evaluate the quality of a venue, we need the absolute rating of all venues on the same scale, meaning that conference proceedings and journals should be rated relative to each other.

1. Following is a list of venues in which the candidate has published or is considering publishing. Next to each please place a 1, 2, 3, or ? (don't know) as follows:

Category 1: The set of most prominent and influential venues in the candidate's research area regardless of whether they are journals or conferences.

Category 2: Other strong refereed venues.

Category 3: Other refereed venues.

Insert candidate's list of venues

2. Please list all venues which you would consider category 1 in the candidate's field which are not in the list above. Also please give a brief list of any pertinent category 2 venues not listed above.

Thank you very much for your help and consideration.

Timetable for the Advancement Process

Task	CFS/Advancement Date Due	3rd Year Date Due
Peer Review Scheduled	Previous August	Previous December
Notebook delivered, materials request made	Early June	Mid October
Final request for candidate's materials	Late June	Mid November
Request citizenship letter from candidate’s Committee Chairs and optional faculty feedback	Late June	Mid November
Receive candidates materials and peer teaching and committee reviews	Mid July	Mid December
Committee meets and considers initial conclusions and external reviewers	Mid July	Mid December (external reviewers NA)
Send external letter requests	Mid July	NA
1st ping on letters	Early August	NA
2nd ping on letters	Late August	NA
Receive all outside letters	Early September	NA
Committee meets and completes draft letter	Mid September	Mid January
Notebook available to faculty	Late September	Late January
Faculty Meeting	2nd Week October	2nd Week February
Committee letter finalized	Late October	Late February
Chair letter written	Late October	Late February
Notebook due to College	November 1	March 1