

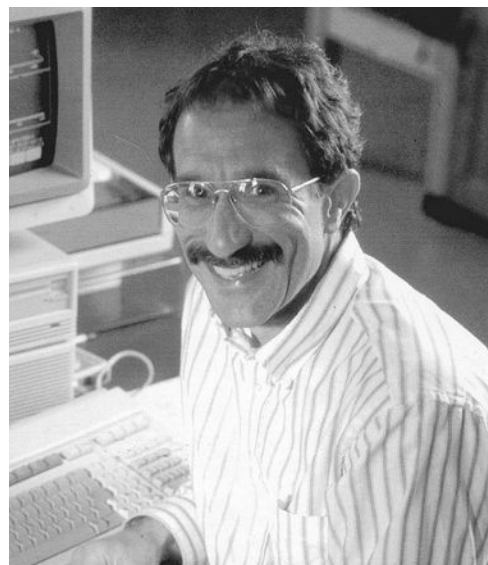
## *CUR Comment*

# What is an Appropriate Teaching Load for a Research-active Faculty Member at a Predominantly Undergraduate Institution?

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I suspect that most faculty members at predominantly undergraduate institutions (PUIs) wish there were more hours in a day. The time demands of faculty positions are sizeable when one considers the hours required to be an active teacher and scholar, fulfill service requirements, and maintain a personal life. In addition, teaching and scholarly work are not activities that lend themselves to a sense of completion. The value of research in maintaining the vitality of faculty members and providing outstanding educational opportunities for undergraduates is recognized, and argues for faculty members who are active scholars. In keeping with tenure and promotion guidelines at most institutions, ads for faculty positions at PUIs usually state that scholarly activity is necessary; and most departments require a statement of future scholarly plans as part of the application. It is increasingly common to hear people speak of the goal of having all undergraduates participate in research. Involving all undergraduates in research is a theme being considered for the next CUR national conference at Connecticut College in June of 2002. I strongly believe, therefore, that a key question to address is the amount of class and laboratory teaching time, exclusive of research assignments, that is reasonable if faculty members are to have sufficient time for scholarly activities.

An inherent difficulty in any discussion of this topic is agreeing on what it means to be "scholarly active." Since its inception, I think that CUR has been consistent in defining the activities of faculty members at PUIs who are active scholars. First, scholarly work is original and ought to be of interest to other members of a person's discipline. Faculty members at PUIs who are active scholars publish their successful research in peer-reviewed journals or other peer-reviewed works. Second, since most faculty members in the sciences need financial resources to undertake their research, active scholars



pursue external funding as appropriate for their work. Third, scholarly-active faculty members at PUIs ought to involve students in their research as appropriate. Attempting to attach specific numbers to categories such as publications, grants, or student advisees is a pointless exercise, since a smaller volume of high quality work is certainly more valuable than a larger volume of low quality work.

Since CUR values research-active faculty members, it is reasonable that CUR ought to identify barriers that inhibit faculty members from being research-active, and work to reduce those barriers. Of course, no one would argue that faculty at PUIs ought to only do research. The goal is to identify the appropriate mix of instructional classroom and lab responsibilities that provide sufficient time for scholarly work.

At the recently completed CUR National Conference at the College of Wooster, I led a workshop titled "What is an Appropriate Teaching Load for a Research-Active Faculty at a PUI?" As a prelude to the workshop, I conducted a survey over CURLS, the CUR bulletin board, to solicit faculty views about workloads and their suitability toward remaining research-active. Almost 215 responses were submitted. Some of these only provided partial information, however, so totals within the categories are slightly different.

## Results of the Survey

Respondents were asked whether, within their department or institution, instructional laboratory hours with courses were counted equivalently to classroom hours. In just over one-third of the cases (77 of 199) were the two equivalent. In no case were lab hours worth more than class hours. Lab hours

**Editor's Note:** With this issue of the CUR Quarterly, CUR is initiating a new feature: CUR COMMENT. We endeavor to publish timely, substantive opinion pieces on issues of importance to the core values and mission of the Council on Undergraduate Research. These articles are intended to lead to further discussion within the organization, possibly culminating in actions taken by CUR members individually, by their institutions, or by the Council itself.

We welcome contributions to CUR COMMENT. You may submit articles through the regular CUR editorial process, but note that your article is intended as a CUR COMMENT piece. We prefer articles that propose a hypothesis, a plan of action, or both; articles including data are especially welcome.

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were apportioned at two-thirds to three-fourths of class hours in 38 cases, one half in 66 cases, and one-third in eight cases. At one institution, lab hours were not counted at all in determining teaching load. Unless faculty members in other disciplines teach discussion sections or other scheduled activities that are not counted equivalent to classroom hours, most science faculty members who teach courses with labs have more scheduled contact hours than colleagues who teach courses without labs.

Respondents were also asked whether their institution or department awarded formal teaching credit for supervising undergraduate research (49 - Yes, 157 - No) or had a formal policy for reducing the teaching load of research-active faculty members (34 - Yes, 172 - No). Many of the "Yes" responses to these questions were qualified, however. For example, some departments had a "research credit" that was rotated among faculty members. Each person eventually received the credit, but whether or not it was allotted in a term when a person could most use it was often coincidental. Other institutions had a policy in which faculty members accrued credits based on the number of research students advised. After some period of time a person would accrue enough credit to get a teaching reduction. These systems usually required sufficient numbers of advisees such that it would take most individual faculty members several semesters to accrue enough credit for a reduction. Again, the reduction might not occur at a time when it would be most useful to the faculty member. In other departments, when determining teaching loads, the chair had some discretionary credits that could be awarded to a new faculty member, or established faculty members who were research-active. Oftentimes, the availability of these credits in a particular year was dependent on other factors such as introductory course enrollments. The number of departments that had reliable and meaningful credit systems for supervising undergraduate research was quite limited.

Respondents were also asked to rate as either "Acceptable" or "Unacceptable", as related to their ability to be research-active, the adequacy of support staff (128 — Acceptable, 69 — Unacceptable), administrative and service responsibilities (131

— Acceptable, 67 — Unacceptable) and teaching contact hours (94 — Acceptable, 110 — Unacceptable). A total of 78 respondents rated two or three of the categories "Unacceptable," and they were then asked to specify which was most in need of addressing. Ten of these 78, almost all of whom were department chairs, selected administrative and service responsibilities. Reducing the number of contact hours was the most common response (47), but a substantial number (21) did select the need for additional support staff as the most pressing concern.

Figure 1 shows the respondents' weekly contact hours, defined as officially scheduled hours spent in class or lab exclusive of research credits. Twelve was the most common response, with an almost equal proportion of higher and lower

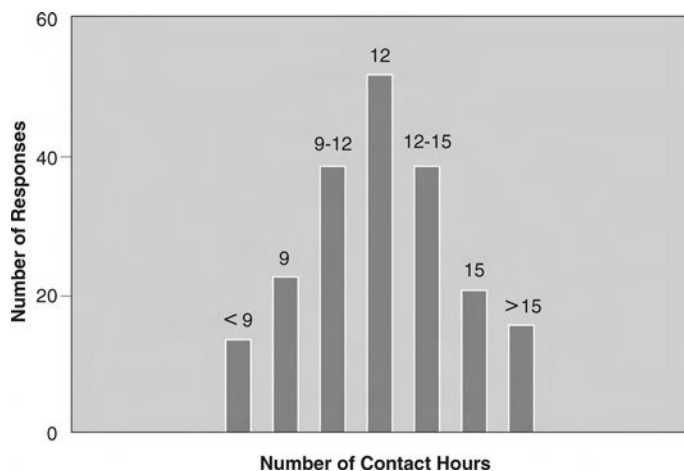


Figure 1. Weekly contact hours in class and lab exclusive of research activities.

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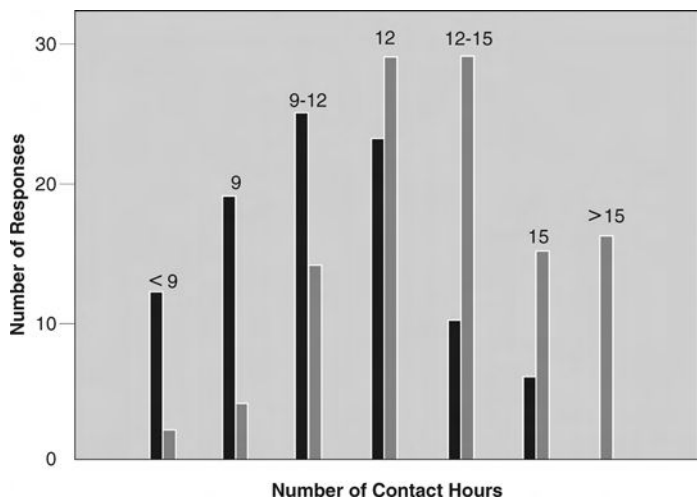


Figure 2. Number of respondents who rated their contact hours "Acceptable" (black bars) and "Unacceptable" (gray bars) as it relates to their ability to stay research-active.

Contact Hours	Percent Acceptable
Under 9	86%
Nine	83%
9-12	64%
Twelve	44%
12-15	26%
Fifteen	29%
Over 15	0%

Figure 3. Percentage of respondents who rated their number of contact hours as "Acceptable" as it relates to their ability to stay research-active.

numbers. More interesting was the respondents' assessment of whether the number of contact hours enabled them to be research-active (Figures 2 and 3). The majority of respondents with fewer than twelve contact hours felt they had enough time for research. Just under fifty percent of those with twelve contact hours thought such a teaching load was acceptable. An overwhelming majority of those with over twelve contact hours said their teaching load was too high and significantly impacted their ability to be research-active.

It is reasonable to question the value of self-assessments such as this. Those with twelve or less contact hours frequently expressed an interesting ambivalence. On the one hand, people spoke of a desire to have fewer classes and labs so more time would be available for research. On the other hand, these same people described their enjoyment with classroom and laboratory teaching and how they did not want these activities reduced to unacceptably low levels. Clearly, faculty members at PUIs value undergraduate teaching in all its forms and want a balance of activities that keep them active in classroom and lab instruction, while simultaneously enjoying enough time to maintain a research program with students.

Those who viewed their contact hours as unacceptably large were asked what number would enable them to be research-active (Figure 4). Most responses were in the nine- to twelve-hour range, although quite a few (25 responses) would desire fewer than nine contact hours a week.

## Conclusions and Recommendations

### 1. Number of classroom and laboratory contact hours

Regular weekly teaching loads with more than twelve contact hours of classroom and/or laboratory instruction make it exceedingly difficult for most faculty members to be research-active and provide quality experiences for students working with them on research projects. There will always be individuals who are exceptions to this trend, but they will be limited in number. Institutions that routinely require more than twelve contact hours a week are being unreasonable if they expect their faculty members to be research-active using the criteria described earlier. However, in many cases twelve contact hours, especially depending on how they are scheduled, are often too many. Institutions therefore ought to strive for less than twelve weekly contact hours, with a target of nine. I recommend that CUR adopt a formal position on this issue, explicitly stating that more than twelve weekly contact hours of classroom and lab instruction other than research is too high, and that nine hours is a more appropriate level for a research-active faculty.

### 2. Equivalence of lab and class time

The "inequivalency" of laboratory and classroom teaching time has a long history at many institutions. This practice may have been justified in the past when many experiments were "canned" exercises contained in published or in-house laboratory manuals. The teaching of science labs is undergoing profound changes, though, as faculty members devise investigative and discovery-based exercises. From my own experience with introductory and advanced labs, I have found that investigative exercises, while far better learning experiences for the students, are far more labor intensive for the instructor. As such, the devaluing of time spent by

science faculty members in instructional labs compared to instructional classrooms is no longer valid. CUR needs to advocate that instructional laboratory time be counted the same as class time, especially in courses in which more labor-intensive, investigative approaches are used.

### 3. Support staff

Institutions need to recognize the importance of support staff within science departments. Participants at the workshop identified tasks such as lab preparation and cleanup, ordering of chemicals and supplies, instrument maintenance, inventory maintenance, hazardous waste collection and disposal, animal and plant care, Web page development and upkeep, and computer support (many of which are unique to science departments) as ones that are best done by support rather than instructional staff. Having faculty members assume these responsibilities detracts from their ability to improve courses and lab experiences and be involved in scholarly activities. CUR needs to assume an advocacy position on the importance of support staff in science departments, and ought to have articles in the *Quarterly* and offerings at its conferences that address the topic of appropriate levels and responsibilities of support staff at PUIs.

### 4. Departmental responsibilities

Participants at the workshop stressed the important role of departments in assigning and scheduling teaching responsibilities that help promote scholarly activity. Effective communication and discussion among the members of a department are required for these to be successful. For example, a faculty member's classes and labs can be clustered either on specific days of the week or parts of the day, thereby freeing up larger blocks of time to spend on research. Departments and institutions should make it clear that faculty members can allocate open blocks of time exclusively for research, even if it means "closing their door" to other activities. Whenever possible, faculty members can teach multiple sections of the same course or lab to minimize the number of different preparations. If course responsibilities are rotated among instructors, a sequence that allows a person to teach the same course or lab for several years in a row, rather than changing every year, will often reduce the time spent preparing for classes. It may be possible to structure team-teaching arrangements so that faculty members have a portion of a semester off. Teaching loads might be split unevenly between two semesters. The semester with the lighter load ought to correspond with the faculty member's research agenda (during field season, etc.). It may also be possible to allow an individual to teach smaller classes, or classes that are less labor-intensive, during the semester when more time is needed for research.

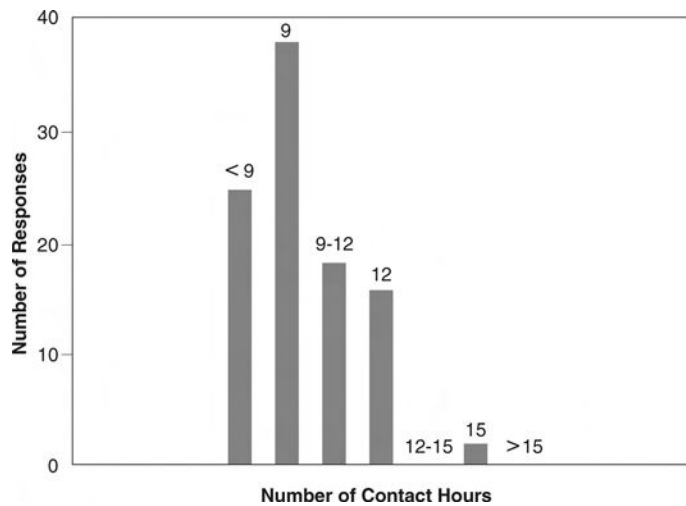


Figure 4. Recommended number of contact hours by those faculty members who rated their current number as too high to be research-active.

Sufficient time for faculty members to engage in scholarly activities necessitates a commitment from both the institution and the department. The institution must have reasonable requirements for the number of classroom and laboratory contact hours, and provide adequate levels of support staff. The department must actively discuss how to best assign teaching and other responsibilities to facilitate scholarly activity. CUR has an important role in getting the word out to institutions and departments, through its publications and conferences, about acceptable standards for contact hours and levels of support staffing. CUR also ought to highlight examples of institutions and departments that have succeeded in creating sufficient time for faculty members to be active in research.

— Tom Wenzel is a former President of CUR, and the Charles A. Dana Professor of Chemistry and member of the Environmental Studies Program at Bates College. In his free time he operates a taxi service for his two teenage children and spends a lot of time feeling uncomfortably warm at his daughter's swim meets and uncomfortably cold at his son's hockey games.

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